Chapter 8
Blended Social Skills Intervention for Students Identified as Emotionally and Behaviorally Disturbed

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ABSTRACT

The purpose of this study was to evaluate a nine-week blended learning social skills intervention for high school students identified as being at risk for emotional and behavioral disorders. Exploring how social skills interventions improve students' social and emotional deficits aids in the development of an engaging curriculum. This quantitative study utilized a pretest-posttest method. High school students identified as being at risk for emotional and behavioral disorders and their special educators were invited to complete the researcher-designed social skills intervention with a corresponding pre- and post-test. There were no statistically significant differences between the pre- and post-test scores for the students or the special educator. The SEARS' social-emotional domains were all found to be statistically significant predictors of the students' total composite score. Gender was found to be a significant predictor of the student's total composite score. Implications of the study include strategies for developing interventions at the high school level.

INTRODUCTION

Low self-concept, low self-efficacy, poor relationships with teachers and peers, and behavioral challenges can create lasting effects on the post-school personal and professional experiences of students with emotional and behavioral disorders (Tidmore, 2018). Mihalas, Morse, Allsopp, and Alvarez (2009) reported that, as compared to students without disabilities, students identified as Emotionally and Behaviorally Disturbed (EBD) "fail more courses in school, are retained more frequently, have lower grade point averages, drop out of school more frequently, and are less likely to graduate high school" (p. 109).

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Feelings of inadequacy result in the poor wellbeing of students and lead to behavioral concerns, such as persistent failure, negative social-emotional development, and aggression (Taylor, Davis-Kean, & Malanchuk, 2007).

Poor relationships between students identified as EBD and their teachers and peers often lead to undesirable classroom environments (Tidmore, 2018). Developing and delivering cohesive social skills interventions that combine social and academic skills in new and technologically innovative ways (such as online or blended learning) may help reduce emotional outbursts and behavioral concerns in students identified as EBD (Lo, Loe, & Cartledge, 2002; Morgan, 2012). Instructional social skills interventions are needed at the high school level; however, there is limited evidence on the effectiveness of current school-based social skills interventions (Lake, Al Otaiba, & Guidry, 2010).

Educators must implement additional social skills intervention strategies in conjunction with standard curriculum practices in order to effectively improve students' social, emotional, and behavioral deficits. Furthermore, educators should embrace new and engaging online programs to reach current students' interests, to support engagement and student autonomy. While initial research shows the effectiveness of social skills interventions for elementary and middle school students, current high school level interventions fail to adequately address the academic, social, and emotional needs of students identified as EBD (Bullis et al., 1993; Morgan, 2012). The purpose of this study was to evaluate the social, emotional, and behavioral impact of a nine-week blended learning social skills intervention for high school students identified as being at risk for EBD.

BACKGROUND

Emotional and Behavioral Disorders

More than 410,000 children and adolescents received services for emotional disturbances in the 2013–2014 school year alone (USDE, 2016). Students with emotional and behavioral disabilities struggle with low self-perception, poor relationships with teachers, behavioral challenges, and dropout, often leaning to a rise in incarceration and dropout (Lane et al., 2009).

Federal Definition

The United States Department of Education (USDE, 2010) federally defined EBD as a condition in which students met at least one or more of the following criteria over an extended period of time:

- An inability to build or maintain satisfactory interpersonal relationships with peers and teachers;
- Inappropriate types of behavior or feelings under normal circumstances;
- A generally pervasive mood of unhappiness or depression; or
- A tendency to develop physical symptoms or fears associated with personal or school problems" (p. 1).

Emotional and behavioral disorders include several social-emotional disabilities such as anxiety disorders, bipolar disorders, eating disorders, obsessive-compulsive disorders, conduct disorders, and psychotic disorders (IDEA, 2004).

Characteristics

The USDE (2010) notes that emotional and behavioral disorders may disturb one's physical, social, or cognitive skills through behavioral characteristics such as "hyperactivity, aggression, withdrawal, learning difficulties, distorted thinking, excessive anxiety, bizarre motor acts, and abnormal mood swings" (pp. 1-2). In their 2004 study, Cullinan and Saborni noted that students identified as emotionally disturbed frequently exhibited the distinct behavioral characteristics: an inability to learn, relationship problems, inappropriate behavior, unhappiness or depression, and physical symptoms or fears. Cullinan and Saborni's (2004) categorizations have helped teachers identify warning signs of possible EBD characteristics in their students; however, a clinical diagnosis demands medical evaluation.

Need for Intervention

There is a growing detachment between students identified as EBD and academic institutions, leading to poor academic performance and social behaviors (Tidmore, 2018). General school experiences and post-school outcomes further stressed the need for academic interventions at the high school level.

School Experiences

Negative school experiences—due to low self-perception, poor relationships with teachers and peers, and behavioral challenges—have contributed to the poor post-school outcomes for students identified as EBD (Baird et al., 2009; Mihalas et al., 2009).

Low Self-Perception. Mihalas et al. (2009) reported that, as compared to students without disabilities, students identified as EBD "fail more courses in school, are retained more frequently, have lower grade point averages, drop out of school more frequently, and are less likely to graduate high school" (p. 109). Educators should consider student self-perception when examining the reasons for low academic performance of students identified as EBD—as cognitive processes often correlate to maladaptive behaviors in the classroom (Baird et al., 2009).

Self-concept, a key part of self-perception, is defined as a student's comparative connection to identity, competency, and perception of the self as a learner (Taylor et al., 2007). Students with low self-concept often feel worthless and ineffective when facing difficult work and present noticeable effects such as persistent failure and negative social-emotional development (Chapman, 1988). Self-efficacy, a subset of self-concept based on social learning, is one's judgment of his or her own abilities to successfully participate in an activity and the effect this judgment has on participation in future activities (Bandura, 1984; Scott, 1996). Students with low self-perception often lack a feeling of control and believe they do not have the capabilities for success (Bandura, 1984). Feelings of inadequacy result in low academic motivation and engagement, as well as behavioral concerns, such as persistent failure, negative social-emotional development, and aggression (Scott, 1996; Taylor et al., 2007).

Poor Relationships. Poor relationships between students identified as EBD and their teachers and peers often lead to undesirable classroom environments. Creating a harmonious classroom culture is important when teaching students with disorders, as behavioral conflicts can create damaging learning environments and negative self-perceptions (Tidmore, 2018).

Becoming aware of students' self-perceptions can aid in the development of positive student-teacher relationships; however, teacher support in building self-efficacy is often lacking (Scott, 1996). Sutherland

and Wehby (2001) reported that the average ratio of reprimands to praise in EBD classrooms ranged from 2:1 to 4:1. Students who felt they were receiving less social and emotional support than they felt they needed noted that interactions with teachers weighed heavily in the building of a positive or a negative teacher-student relationship (Mihalas et al., 2009).

Negative interactions with teachers and other adults often carry over into negative interactions among students identified as EBD and their peers. Gottfried and Harven (2015) identified two important behaviors—exhibited by students identified as EBD—as the foundation of negative peer interactions: externalizing behaviors and internalizing behaviors. Such behaviors often led to repeated disruptions that affected all learners in the classroom, as teachers spent more time correcting behaviors than instructing students (Gottfried & Harven, 2015).

Behavioral Challenges. Students identified as EBD often exhibit a wide range of behaviors both inside and outside of the classroom. Students with behavioral disorders face higher risks of dropping out due to disciplinary action—often leading to unemployment, incarceration, and mental health issues (Lane et al., 2009).

Post School Outcomes

Low self-perception, poor relationships, and behavioral challenges can create lasting effects on the personal and professional experiences of students with emotional and behavioral disorders.

Personal Challenges. Without social skills interventions, students identified as EBD are more likely to experience personal challenges such as incarceration after leaving high school, as students with learning disabilities and emotional or behavioral disorders are "up to 4 times more likely to be committed to a juvenile justice facility than their nondisabled peers" (Cavendish, 2013, p. 41). Futhermore, juveniles with disabilities faced a higher risk of recidivism due to limited post-release support (Baltodano, Harris, & Rutherford, 2005). Considering more than 700,000 incarcerated individuals leave federal and state prisons annually, with 40% committing new crimes or violating parole within three years of their release (Davis et al., 2014), it is imperative that schools implement effective interventions that focus on personal and professional social skills.

Professional Challenges. Without social skills interventions, students identified as EBD are more likely to experience professional challenges such as unemployment, which is often a direct result of dropout and incarceration (Cumming et al., 2008). Bullis et al. (1993) reported that, in addition to dropping out of school, persons identified as EBD exhibited "the highest unemployment rate of any disability group served through special education" (p. 236). The Labor Force Statistics Current Population Survey reported that in 2015, 17.5% of the total number of unemployed disabled persons ages 16 and older responded "yes" when asked if a physical, mental, or emotional condition impacted their personal concentration, memory, and ability to make decisions (USDL, 2015).

Social Skills

Adolescents who lack proper social skills and who demonstrate aggressive tendencies are more likely to exhibit social, emotional, and behavioral difficulties (Cumming et al., 2008) than those who do not. Morgan et al. (2016) noted that failure to use social skills in school led to numerous negative outcomes including peer rejection, low academic achievement, high rates of disciplinary action, and negative interaction with teachers.

Definition

The definition of social skills is continuously evolving. Initial research conducted in the late 1970s outlined social skills in relation to one's peer acceptance, behavior, and competence (Dobbins et al., 2010). However, recent research has further defined social skills as being prosocial competencies that allow individuals to "solve problems, read social cues, and perform more competently when interacting with others" (Cumming, 2010, p. 243).

Domains

Social skills taught in classrooms are typically amalgamations of personal and professional skills found in psychological, educational, and technological domains (Cumming et al., 2008). Psychological social skills include three distinct categories: expressive skills, sensitivity skills, and controlling communicative skills (Morgan, 2012). Educational social skills include prosocial emotional and behavioral skills that students use to complete a variety of social tasks within specific environments (Morgan, 2012). Technological social skills include exhibiting appropriate behavior, understanding the impact that social situations have on other people, and determining the appropriate communicative behaviors needed in specific online situations (Morgan, 2012).

Personal Social Skills: Social Functioning

Students identified as EBD exhibit the highest unemployment rates of any disability group served through special education primarily due to social deficiencies (Bullis et al., 1993). Before students improve job-related social skills, they must first master what Cavell's (1990) classic studies identify as being imperative products and requisite skills of social functioning.

Imperative products of social functioning. The first product of social functioning is social attainments, which are comprised of several statuses: physical domain status, occupational domain status, legal domain status, and financial domain status (Cavell, 1990). The second product of social functioning is global judgments of social competence, which are not based on the performance of specific behaviors; instead, they pertain to the implicit and prototypical notion of which behaviors represent certain characteristics (Cavell, 1990). The final product of social functioning is peer acceptance, or the extent to which individuals are preferred by their peers (Cavell, 1990).

Requisite skills of social functioning. Requisite skills are considered essential to effective social functioning (Cavell, 1990; Morgan, 2012). Mastering these essential skills is critical for students identified as EBD to see improvement of post-school success rates (Tidmore, 2018). The first requisite skill of social functioning is encoding skills; the second requisite skill is decision skills; and the third requisite skill is enactment skills (Cavell, 1990; McFall, 1982). Once students master these skills individually and are able to employ them in a variety of social situations (both inside and outside of the classroom), they are ready to achieve social competence.

Professional Social Skills: Social Competence

Mastering personal social skills allows students to grasp social competence, which is useful in professional situations (Cavell, 1990). Despite the surge in research concerning social skills and social functioning, there is no widely accepted understanding of what constitutes job-related social skills (Phillips et al., 2014).

Social competence has been defined as the overall ability to interact positively within a social environment while achieving and maintaining strong interpersonal relationships and terminating negative interpersonal relationships (Cavell, 1990; Morgan, 2010; Morgan, 2012). Social adjustment includes health status, legal status, academic or occupational status, and socioeconomic status (Cavell, 1990). Social performance is the degree to which individual responses are relevant to given social situations (Cavell, 1990; McFall, 1982). Comprehending social skills allows individuals to employ the requisite skills of social functioning, as well as social cognitive skills and emotional regulation skills (Cavell, 1990; McFall, 1982).

Social Skills Instruction

Social skills instruction is the "teaching of specific behaviors believed to contribute to the success of interpersonal interactions" (Cumming et al., 2008). The mastery of social skills is crucial to the development of one's social competence and emotional wellbeing; therefore, social skills instruction should be considered as being an essential component of the curriculum (Dobbins et al., 2010; Morgan, 2010).

Currently, social skills instruction taught to students identified as EBD includes five main components: (1) discussion of the inappropriate social skill; (2) direct instruction of the new social skill; (3) modeling of the appropriate implementation of the targeted skill; (4) student role-plays of the skill with immediate feedback from the teacher and peers; and (5) assigned practice focused on the generalization of the social skill (Lane et al., 2006;). The most common approach to teaching appropriate social skills to students identified as EBD is through direct and explicit instruction of targeted skills (Rutherford, DuPaul, & Jitendra, 2008).

Social Skills Interventions

Developing and delivering cohesive social skills interventions that combine social and academic skills in new and innovative ways may help reduce emotional outbursts and behavioral concerns in students identified as EBD (Cumming et al., 2008; Lo et al., 2002; Morgan, 2012; Taylor et al., 2007). The high dropout and unemployment rates of students identified as EBD support the need for instructionally based intervention programs that emphasize personal and professional social skills (Cumming et al., 2008; Morgan, 2012; Rutherford et al., 2008). Furthermore, incorporating engaging technology into meaningful interventions gives autonomy to students and allows them to learn through being in a more familiar environment.

Importance of Interventions. Researchers have cited the implementation of instructional intervention programs focusing on social, personal, and professional life skills as being the most effective way to build social skills for students identified as EBD (Dobbins et al., 2010; Rutherford et al., 2008). However, a lack of relevant interventions, a lack of teacher preparation, and a lack of student involvement has led to few interventions taking place for high school students identified as EBD (Dobbins et al., 2010; Hafen et al., 2011; Lo et al., 2002).

Lack of relevant interventions. Social skills interventions have the potential to be highly effective, as they "improve social development and reduce behavioral problems in students with [EBD or in students at risk] for EBD" (Lo et al., 2002, p. 372). Although current forms of social skills instruction show positive results, educators still find that other intervention strategies must be used in conjunction with social skills instruction in order to effectively reduce behavioral outbursts (Rivera, Al-Otabia, & Koorland, 2006). Separating academics and job-related social skills hinders intervention strategies for students identified as EBD, since behavioral success and academic success are not mutually exclusive (Vaugn et al., 2002). The implementation of social skills instruction is important, but it must be combined with lessons and strategies that students can use in real-world employment settings in order to be truly effective (Cumming et al., 2008).

Lack of teacher preparation. Between 30% to 50% of teachers who are certified to teach students with emotional and/or behavioral disorders leave their positions within the first three years of teaching (Cheney & Barringer, 1995). Providing teachers with training in a variety of instructional methods geared towards addressing the academic, social, and emotional demands of students identified as EBD helps teachers create more meaningful instruction and may increase teachers' instructional self-efficacy (Tidmore, 2018).

Lack of student involvement. Hafen et al. (2011) hypothesized that changes in engagement levels would be seen when student perception about autonomy is increased, as "adolescents are particularly prone to seek out and thrive in environments where they are afforded structured autonomy to apply their knowledge" (p. 247). Cumming et al. (2008) investigated the improvement of social skills through multimedia coupled with teacher facilitation, and found that students identified as EBD between the ages of 11 and 14 years old were genuinely involved and more motivated during interventions that combined traditional interventions (e.g., social skills instruction) with more modern and relevant components, such as multimedia, than when participating in those that did not. This result is not typically seen in social skills instruction, as students with emotional and behavioral disabilities are often less motivated; however, when involved in their own learning, students identified as EBD appeared to be more engaged and willing to learn social skills (Cumming et al., 2008).

Online Learning

The implementation of online learning derives from a need to create a learner-centric educational platform that increases student engagement and motivation (George-Walker & Keeffe, 2010; Morgan, 2012). Incorporating technology into the curriculum adds to the limited educational tools offered to students identified as EBD and increases academic success, peer engagement, and social skills (Cumming et al., 2008; Mitchem et al., 2007; Morgan, 2010; Morgan, 2012).

Blankenship, Ayres, and Langone (2005) conducted a study to measure the impact of a cognitive mapping software tool. The results of the study demonstrated that the intervention successfully increased academic achievement—raising student test scores to 75% or higher from pre-test scores of 14% to 41% (Blakenship et al., 2005). The study additionally reported that students identified as EBD found the software to be a more engaging intervention alternative to traditional reading instruction, demonstrating they could work independently and raise their reading scores (Blakenship et al., 2005).

Mitchem et al. (2007) found that an electronic performance system (*StrategyTools*) positively impacted the academics and behaviors of students with emotional and behavioral disorders. While profitable in developing overall student performance, the intervention required teacher support and decreased the

desired level of student independence (Mitchem et al., 2007). Developing a technology-based curriculum for students identified as EBD must balance appropriate teacher support with engaging learning sequences that foster student independence (Cuming et al., 2008; Morgan, 2012).

Blended Learning

Blended learning is the seamless integration of traditional face-to-face education with online instruction (George-Walker & Keeffe, 2010; McGee & Reis, 2012). Blended learning bridges the learning curriculum with pedagogical design, in order to restructure the relationship between teaching and learning, although it is typically practiced in the higher educational sector (George-Walker & Keeffe, 2010). Adopting a blended learning curriculum for teaching social skills instruction increases student engagement and decreases disruptive behaviors (Morgan, 2012).

Importance of Blended Learning. Blended curriculum proves successful as the instructors and learners work together to present pedagogically supported learning outcomes through a variety of formal and informal delivery presentations (McGee & Reis, 2012). Developing a blended learning intervention for students identified as EBD prepares students for employment in the 21st century through the development of cognitive, affective, psychomotor, and conative skills (Eagleton, 2016).

Developing cognitive skills allows students to independently work on a number of tasks commonly encountered in the workplace—tasks such as improving affective skills prepares students to deal with workplace conflict in a professional manner (Eagleton, 2016). Evolving psychomotor skills equip students with the physical movement, coordination, and motor skills needed to work in any professional environment, (Eagleton, 2016). Cultivating conative skills permits students to "perform at the highest standard possible" (Eagleton, 2016, p. 204). Approaching education through a blended curriculum provides educators with an opportunity to create a diverse and engaging learning environment (Eagleton, 2016).

Blended learning requires the integration of cognitive, affective, psychomotor, and conative skills, all of which play an integral part in the shaping of maladaptive behaviors (Eagleton, 2016; IDEA, 2004). However, very little research has delved into implementation of blended learning in the high school classroom with students diagnosed as EBD, even though numerous studies have demonstrated the usefulness of embedding technology into the curriculum (Morgan, 2012; Lane et al., 2006). Failing to devote adequate research to adolescent students with emotional and learning difficulties may have serious repercussions regarding behavior, peer relationships, and post-school success (Lane et al., 2006).

BLENDED LEARNING INTERVENTION

The target populations of this non-random, quasi-experimental research study were high school students legally identified as EBD and their special educators. Due to sample size limitations, the study population was comprised of (1) students who were identified as being at risk, and who exhibited EBD characteristics, and (2) their special educator. At-risk students were identified as such by their school psychologist, as they exhibited similar EBD characteristics as described by USDE (2010) and IDEA (2004). Such characteristics exhibited by the at-risk students included: social-emotional difficulties; aggression or self-injurious behavior; withdrawal; learning difficulties; and bizarre motor acts. Five participating students had at least one behavioral goal on their Individual Education Program (IEP).

A purposive sample population of 7 students and one teacher was drawn from a local high school in the Eastern Maryland area. The independent treatment variable was the researcher-designed blended learning social skills curriculum. The study's dependent variables were derived from the self-report surveys completed by both the students and the teachers. Specifically, the *Social Emotional Assets and Resilience Scales* (*SEARS;* Merrell, 2011a) measured four distinct social emotional domains (self-regulation, social competence, empathy, and responsibility). Demographic independent variables included student age and gender.

Instrumentation

Educators tasked with serving students identified as either having EBD or being at risk for EBD in the high school setting were invited to teach the nine-week blended social skills intervention. The researcher-created social skills intervention curriculum and online learning course represented the study's treatment variables. The intervention began during the third week of the first nine-week grading period and ended on the last day of the first grading period. To reduce researcher bias, the participating special education teacher implemented the study's intervention. The participant high school special education teacher completed a half-day training session during the summer, led by the researcher.

The *SEARS* instrument was utilized as the study's pre- and post-test survey. Students were measured by how they assess their own social/emotional ability; while teachers were measured by how they assess their students' social/emotional ability. Participant teachers administered the *SEARS-Adolescent (SEARS-A)* survey to participant students during one instructional class period. Participant teachers self-administered the *SEARS-Teacher (SEARS-T)* survey during one planning period.

After completing the pre-test survey, the classroom teachers implemented the study's prescribed intervention strategies. The instructional intervention strategies were taught during one instructional period per day, 2–3 days per week (on the school's "block scheduling"), for a total of nine weeks. Upon the conclusion of the intervention, the participant teachers re-administered the *SEARS-A* survey to students as a post-test during one instructional period. Similarly, participant teachers repeated the self-administered *SEARS-T* survey during one planning period as their post-test measure. Data from participating student and teacher responses to the study's respective research instruments at the pre- and post-test conditions of the study were then compiled and recorded in *Excel* in preparation for analysis, interpretation, and reporting purposes.

SEARS Validity

The *SEARS* instrument was developed using "a rational-theoretical approach to item development and a psychometrically driven factor analytic approach to scale construction" (Merrell, 2011a, p. 53). The *SEARS-A* convergent validity was demonstrated by comparing the relationship between the *SEARS-A* and two strength-based rating scales: Huebner's (1991) *Student Life Satisfaction Scale* (*SLSS*), and Gresham and Elliot's (1990) *Social Skills Rating System* (*SSRS*). The *SEARS-T* convergent validity was demonstrated by comparing the relationship between the *SEARS-T* and two strength-based rating scales: Gresham and Elliot's (1990) *Social Skills Rating System* (*SSRS)* and Merrell's (2002) *School Social Behavioral Scales*, *Second Edition* (*SSBS-2*). Overall, the *SEARS* scales demonstrate appropriateness for their intended uses, measure their intended constructs, and prove useful "for a variety of research, clinical, and educational purposes" (Merrell, 2011a, p. 77).

SEARS Reliability

Merrell (2011a) utilized two methods when testing the reliability of *SEARS*: internal consistency reliability, and test-retest reliability. The internal consistency coefficients for the four domains range from .92 to .98, while the scale score internal consistency coefficients ranged from .80 to .95, and the short form internal consistency coefficients ranged from .82 to .93 (Merrell, 2011a). Merrell (2011a) conducted temporal stability studies and found that "the results of the test-retest reliability studies at various intervals indicate that the *SEARS* assessment system has adequate to strong temporal stability over short periods of time" (Merrell, 2011a, p. 56).

Research Questions

The following research questions and hypotheses were posed to address the stated research problem of the study:

Research Question 1: Does a blended social skills intervention for high school students identified as EBD increase self-reported scores of social/emotional development as measured by the *SEARS-A*?

Research Question 2: Does a blended social skills intervention for high school students identified as EBD increase high school teachers' perceptions of the EBD student's social/emotional development as measured by the *SEARS-T*?

Research Question 3: Which of the four domains (self-regulation, social competence, empathy, and responsibility) exhibited the greatest mean of perceptual change as measured by the *SEARS-A*?

Research Question 4: Which of the four domains (self-regulation, social competence, empathy, and responsibility) is the most robust predictor of a student's overall total composite *SEARS-A* score?

Research Question 5: Which of the four domains (self-regulation, social competence, empathy, and responsibility) is the most robust predictor of the likelihood of student participants' achieving an average/high-functioning status level?

Research Question 6: Considering student participants' gender, were there statistically significant differences within the domain scores by participants' gender on the *SEARS-A*?

Research Question 7: Was student participants' gender a robust and statistically significant predictor of the *SEARS-A* total composite score?

ANALYSIS

Preliminary Analysis

The *SEARS-A* and *SEARS-T* raw scores were converted into percentile ranks and composite *T*-scores using the *SEARS* Raw Score to *T*-Score and Percentile Conversions table. The composite *T*-scores "were developed using a linear transformation of raw scores, based on a mean of 50 and a standard deviation of 10" (Merrell, 2011a, p. 33).

Considerations

Evaluation of the *T*-scores required two considerations. First, *SEARS'* items were positively worded; higher ratings indicated a higher level of the measured domains. Thus, higher scores were deemed as good, while lower scores were indicative of social-emotional deficits (Merrell, 2011a). Second, the *SEARS* normative *T*-scores were distributed like that of a bell-shaped curve (normal distribution); however, the end-result did not follow this pattern. Merrell (2011a) notes, "the standard deviation units based on a value of 10 may instead only be close approximations to 10 (e.g., 9.89)" (p. 34).

Data Analysis by Research Question

The research questions were addressed through a combination of both descriptive and inferential statistical techniques. Study analysis, interpretation, and reporting were conducted using IBM SPSS (Version 25).

Research Question 1

To determine whether a statistically significant difference exists, a *t*-test of dependent means was conducted to compare the pre- and post-test composite scores on the *SEARS-A*. Cohen's *d* was used as the means of effect size interpretation. A probability level of $p < .05$ was used as the threshold for evaluating the statistical significance of the first research question.

Research Question 2

To determine whether a statistically significant difference exists, a *t*-test of dependent means was conducted to compare the pre- and post-test composite scores on the *SEARS-T*. Cohen's *d* was used as the means of effect size interpretation. An alpha level of $p < .05$ was used as the threshold for evaluating the statistical significance of the second research question.

Research Question 3

To determine whether a statistically significant different exists, the researcher compared the dependent *t*-test mean scores on the *SEARS-A* pre- and post-test. Cohen's *d* was used as the means of interpreting the effect size. An alpha level of $p < .05$ was used as the threshold for evaluating the statistical significance of the third research question.

Research Question 4

The researcher used multiple linear regression to simultaneously evaluate the predictive ability of a student's overall total composite score on the *SEARS-A*. The adjusted R^2 was utilized as the basis of effect size interpretation. The assumption of multicollinearity was assessed through the interpretation of the tolerance values of the respective predictor variables. A probability level of $p < .05$ was used as the threshold for evaluating the statistical significance of prediction for the fourth research question.

Research Question 5

In light of the binary nature of the outcome or dependent variable in the predictive model, an ROC curve analysis was selected for its ability to provide added sensitivity and specificity to the predictive process. A probability level of $p < .05$ was used as the threshold for the statistical significance of the variable predictive ability commensurate with the respective independent predictor variable area under the curve (AUC) value for the fifth research question.

Research Question 6

Both descriptive and inferential statistical techniques were employed to determine the impact of gender on *SEARS-A* domain scores. Mean scores and standard deviations represented the primary descriptive statistical techniques used to address the question. A *t*-test of independent means represented the inferential test statistic and was used to assess the statistical significance of mean score comparisons inherent in the research question. The probability level of $p < .05$ represented the threshold for statistical significance for the mean score comparisons for the sixth research question. Hedges *g* was used to assess the magnitude of difference (effect size) in mean scores, in light of its utility with unequal sample size comparisons.

Research Question 7

The researcher used a simple linear regression test statistic to assess the statistical significance of the independent variable of participants' gender. The probability level of $p < .05$ represented the threshold for the statistical significance of the prediction of the seventh research question. The predictive model's R^2 value was used as a means of assessing the independent variable's contribution to the explained variance in the dependent variable. The magnitude of predictive effect (effect size) was evaluated using the formula $R^2 / 1 - R^2$.

RESULTS

Research Question 1

The statistical significance of the difference in mean scores was analyzed using the *t*-test of dependent means. Considering the total *SEARS-A* composite score, participating students did not manifest increases in self-reported scores from the pre-test to the post-test condition of the study. Furthermore, the data show a decline in the overall *SEARS-A* mean score (-3.85) between the pre- and post-test.

Table 1 contains a summary of findings for Research Question 1:

H_0^1: There is no statistically significant difference between the *SEARS-A* pre- and post- composite *t*-test scores of high school students identified as being at risk for EBD after a nine-week blended social skills intervention.

In light of no statistically significant finding for the increase of self-reported *SEARS-A* scores, the null hypothesis (H_0) for Research Question 1 is **accepted**.

Table 1. Pre-test/post-test comparison of students' perceptions as assessed by the SEARS-A

Study Condition	Mean	SD	*t*
Pre-Test	49.71	12.50	-1.37[a]
Post-Test	45.86	11.35	

[a]p = .22

Research Question 2

The statistical significance of difference in mean scores was analyzed using the *t*-test of dependent means. Considering the Total *SEARS-T* composite score, participating teachers did not observe manifest increases in scores from the pre-test to the post-test condition of the study. Moreover, the data show a decline in the overall *SEARS-T* mean score (-1.57) between the pre- and post-test.

Table 2 contains a summary of findings for Research Question 2:

H_0^2: There is no statistically significant difference between the *SEARS-T* pre- and post- composite *t*-test scores of teacher ratings of high school students identified as being at risk for EBD after a nine-week blended social skills intervention.

In light of there being no statistically significant finding for the increase of teacher-reported *SEARS-T* scores, the null hypothesis (H_0) for Research Question 2 is **accepted**.

Research Question 3

The domain area of self-regulation manifested the greatest standardized mean score increase (+ 0.14) as measured by student self-report on the *SEARS-A*; however, the mean score increase from the pre-test to the post-test condition of the study was not manifested at a statistically significant level.

Considering students' perceived status level (at-risk or average/high-functioning) on the *SEARS-A* instrument, two specific areas were positively impacted. The domain of responsibility manifested an increase in student participant perception of achieving average/high-functioning status (+ 28.6) from the pre-test to the post-test condition of the study. Moreover—from the pre-test to the post-test condition of the study—student participants manifested a similar perceptual increase of 28.6% in their status as average/high-functioning (according to their *SEARS-A* total composite score).

Table 3 contains a summary of findings for Research Question 3:

H_0^3: None of the four domains exhibit a statistically significant mean change from the *SEARS-A* pre- to post-conditions.

In light of there being no statistically significant finding of a singular *SEARS-A* domain change, the null Hypothesis (H_0) for Research Question 3 is **accepted**.

Table 2. Pre-test/post-test comparison of students' perceptions as assessed by the SEARS-T

Study Condition	Mean	SD	*t*
Pre Test	45.00	8.64	-0.84[a]
Post Test	43.43	7.83	

[a]p = .43

Table 3. Pre-test/post-test comparison of students' perceptions for Self-Regulation

Study Condition	Mean	SD	*t*
Pre-Test	44.57	8.90	0.06[a]
Post-Test	44.71	13.33	

[a]p = .95

Research Question 4

All four *SEARS-A* domains represented statistically significant predictors of the *SEARS-A* total composite score. A multiple linear regression test statistic was used to evaluate the predictive abilities of all four domains simultaneously. As such, the domain of empathy appears to be the most robust of the three statistically significant predictors of the total composite *SEARS-A* score in light of its superior contribution to the explained variance (R^2 = 19%) within the overall predictive model.

Table 4 contains a summary of findings with regard to Research Question 4:

H_0^7: None of the four domains are statistically significant predictors of the *SEARS-A* total composite score.

In light of the statistically significant findings of all four *SEARS-A* domains, the null hypothesis (H_0) for Research Question 4 is **rejected**.

Research Question 5

Using the ROC curve test statistic for heightened sensitivity and specificity to the predictive process involving binary outcome measures, both social competence and responsibility were found to be predictive at statistically significant levels. Of the two characteristics, responsibility has a slight advantage in predicting the likelihood of student participants' achievement of an average/high-functioning status by virtue of its AUC value (.844) and probability level (p = .04).

Table 5 contains a summary of findings with respect to Research Question 5:

H_0^{11}: None of the four domains are statistically significant predictors of the likelihood of student participants' achieving an average/high-functioning status level.

In light of the statistically significant finding for the domain of responsibility, the null hypothesis (H_0) for Research Question 5 is **rejected**.

Table 4. Predicting SEARS-a total composite by domains

Model	β	SE	*Standardized* β
Intercept	11.05	0.77	
Self-Regulation	0.34	0.02	.40**
Social Competence	0.33	0.02	.26**
Empathy	0.38	0.01	.43***
Responsibility	0.18	0.02	.17*

*p = .02 **p = .003 ***p < .001

Table 5. ROC curve Analysis of domain predictive sensitivity/specificity with sears-a composite

Variables	AUC	SE	*p*
Self-Regulation	.678	0.15	.29
Social Competence	.833	0.12	.05
Empathy	.733	0.14	.16
Responsibility	.844	0.11	.04*

*p < .05

Research Question 6

Although gender did not significantly impact the four domains from the pre- to the post-test, there was a statistically significant finding at the post-test level. Considering the domain comparison of the *SEARS-A* listed by participants' gender, the comparison within the domain of empathy was manifested at a statistically significant level favoring male participants (mean score difference = 21.00) using the *t*-test of independent means test statistic. Moreover, the magnitude of effect (effect size) is considered to be very large (Hedges $g = 2.24$).

Table 6 contains a summary of findings for Research Question 6:

H_0[15]: There are no statistically significant differences in the *SEARS-A* total composite score for participants' gender on any of the domain comparisons.

In light of the statistically significant difference in *SEARS-A* scores between male and female participants in the domain of empathy, the null hypothesis (H_0) for Research Question 6 is **rejected**.

Research Question 7

Using the simple linear regression test statistic, student participants' gender may be considered to be a robust ($R^2 = .49$), statistically significant predictor of *SEARS-A* total composite score—but at the more liberally interpreted value of $p < .10$. The magnitude of the predictive effect of gender (.96) in the predictive model is considered to belarge (≤ .35).

Table 7 contains a summary of findings for Research Question 7:

Interpreting the above table, it is noted that with one full unit of increase in student participants' gender (from female to male), it is predicted that a concomitant increase of 14.92 will be manifested in the *SEARS-A* total composite score.

Table 6. Comparison of empathy domain mean scores, listed by student participants' gender

Gender	Mean	SD	*t*	*g*
Male (n = 5)	49.00	9.00	2.90*	2.24[c]
Female (n = 2)	28.00	7.07		

*p = .03 [c] Very Large Effect Size (g ≤ 1.30)

Table 7. Predicting SEARS-A total composite score, listed by student participants' gender

Model	*β*	*SE*	*Standardized β*
Intercept	37.33	5.11	
Gender	14.92	6.76	.70[b]

[b]p .07 (< .10)

H_0[16]: Student participants' gender was not a statistically significant predictor of the *SEARS-A* total composite score.

In light of the statistically significant finding in favor of there being a predictive ability of participants' gender in Research Question 7, the null hypothesis (H_0) for Research Question 7 is **rejected**.

DISCUSSION (ORGANIZED BY RESEARCH QUESTION)

The research questions were addressed through a combination of both descriptive and inferential statistical techniques. The following information represented how each research question was addressed analytically.

Research Question 1

When analyzing the decline in students' self-reported scores, it is important to consider the role of student motivation. When students feel comfortable taking ownership of their learning through engagement strategies, their involvement in school increases. However, when students feel inadequate and are more focused on the outcome of a task rather than on the task itself, they may experience negative social-emotional development (Hafen et al., 2011; Scott, 1996; Taylor et al., 2007).

During the intervention, students were tasked with blended learning activities that aimed to broaden their understanding of core social-emotional concepts. Several students consistently approached the online learning activities with apathy, choosing not to answer the discussion questions, or—if answering—doing so in one- or two-word responses. If students felt unable to complete the designated tasks, they may have experienced low engagement and low emotional wellbeing, thereby ultimately leading to a decrease in self-reported scores.

Research Question 2

When examining the decline in the teacher's assessment of the students, it is important to reflect on the nature of student-teacher relationships and how they progress throughout the semester. While there are no direct observations of the dialogues spoken during the lessons, negative feedback was provided to the researcher through the form of email correspondence with the special educator. Through one such communication, the special educator stated, "these 9th graders are so very much immature and they take nothing [seriously]. It is very hard to get [through] a lesson with them" (personal communication, October 24, 2017). Follow-up conversations appear to support this statement, as two weeks later the special educator noted, "Things are going well. They are still very immature" (personal communication, November 6, 2017).

The professional literature on the topic is replete with findings in support of the notion that negative perceptions of students identified as EBD can lead to negative student-teacher relationships (Mihalas et al., 2009; Scott, 1996). When analyzing the cause of the decline in overall *SEARS-T* scores, one must consider any preconceived notions that the special educator had prior to, and during, the implementation of the intervention (Tidmore, 2018).

Research Question 3

When measuring for self-regulation, students were asked to rate themselves on statements concerning self-awareness, metacognition, self-management, and direction (Merrell, 2011b). Sample statements from the *SEARS-A* included: "I stay calm when there is a problem or argument"; "I stay in control when I get angry"; and "I think about my problems in ways that help" (Merrell, 2011a, p.16). During the intervention, students were asked to watch a short video discussing personal behavior and to write a brief summary of personal behaviors they would like to change. Responses included "When [I'm mad, I'd like to] take control of the problem and try to find a solution [to] anger," and "One thing I think I can change about [myself] is how I react to things." Such responses demonstrate that students understand the need for self-management and direction.

Focusing on such areas of personal understanding is important, as students with low self-concept often experience negative social-emotional development when faced with difficult tasks (Chapman, 1988; Taylor et al., 2007). While the overall results were not statistically significant, an increase in self-regulation shows that students may be learning to improve their overall perceptions of self-worth (Tidmore, 2018).

Research Question 4

Understanding how specific social-emotional domains contribute to a student's overall performance is imperative to understanding the type and level of intervention needed for each student. Interventions that strengthen emotional and behavioral self-regulation aid in the promotion of social-emotional competencies and enhance social-emotional and academic learning—thereby further increasing school success (Daunic et al., 2013). All four domains of the *SEARS-A* test were significant predictors of students' overall composite score. Lessons throughout the online instruction included activities that strengthened student understanding of cooperation, engagement, responsibility, aggression reduction, stress reduction, and prejudice reduction. Thus, activities focusing on self-regulation, social competence, empathy, and responsibility are essential for teaching and developing social skills (Tidmore, 2018).

Research Question 5

Testing in the average/high-functioning status level is important, as students in this tier are "likely to have adequate to excellent relationships with peers, teachers, and others[;] to have appropriate self-regulation skills[;] to demonstrate age-appropriate levels of personal responsibility[;] and to show appropriate empathy towards others" (Merrell, 2011a, p. 34). While social competence and responsibility were found to be statistically significant predictors of student participants' achieving an average/high-functioning status level as measured by the *SEARS-A*, responsibility was found to be the most robust predictive characteristics.

Social competence and responsibility are two important social-emotional domains for students identified as EBD (Cullinan & Saborni, 2004). Social competence measures "the adolescent's assessment of his or her ability to maintain friendships with peers, engage in effective verbal communication, and feel comfortable around groups of peers"; while responsibility measures "the adolescent's assessment of his or her ability to accept responsibility, [ability to] behave conscientiously, and ability to think before acting" (Merrell, 2011a, p. 4). Sample *SEARS-A* questions relating to social competence include: "I am comfortable talking to other people"; "I make friends easily"; and "Other kids respect me" (Merrell, 2011a, p.16). Sample *SEARS-A* questions relating to responsibility include: "I am good at making decisions"; "I think before I act"; and "I am someone you can rely on" (Merrell, 2011a, p.16).

Research Question 6

The finding related to Research Question #6 is unremarkable, given that the study consisted of five male participants and only two female participants. Furthermore, most research concerning gender in studies of students identified as EBD leads to similar conclusions—as male students served under IDEA outnumber IDEA-served female students approximately 3.5 to 1; with males representing 93% of the total number of students with learning disabilities and total number of students identified as EBD (Cavendish, 2013).

The results of this research question align with the online empathy unit, as the two female participants were the only students who did not complete the unit activities. When asked how empathy can be found in everyday life, male participants' answers varied. One participant noted that he used empathy to relate to a classmate whose family member died, because he too has suffered loss in his own family. When asked what role empathy plays in society, one male participant said, "There is no empathy anywhere in our society." Further responses noted the lack of empathy in today's society, as "people [are] bullying each other, fighting others, [and] hitting another person."

Research Question 7

As stated in the discussion of Research Question #6, the results of gender's ability to predict one's final score is expected—as male students have higher rates of learning disorders, emotional disorders, and behavioral disorders. Cavendish (2013) noted that, of the 4,066 students released from a Florida juvenile justice commitment program in 2001, males were overrepresented at 86% of the total sample, while females represented 13% of the population. Due to a small sample size and a large predictive effect size (.49), male participants are expected to perform at higher rates than those at which female participants perform.

LIMITATIONS

While this study provided additional research to the field of social skills interventions for high school students identified as being at risk for EBD, three notable limitations included fidelity of instruction, sample population and size, and participant indifference.

Fidelity of Instruction

Before the implementation of the study, the researcher met with the special educator to review the course materials and intervention curriculum. During the training session, the special educator often appeared distracted, which led to moments of confusion during the intervention. At several points during the nine-week course, the special educator reached out to clarify the purpose of specific assignments. One such email asked about the culminating course project, stating, "I am not understanding the eportfolio [sic] … what are they supposed to be doing with this" (personal communication, October 24, 2017). Follow-up emails demonstrated a lack of technological understanding needed for teaching specific lessons.

Furthermore, several activities in the online course were left incomplete. Students did not follow instructions; assignments were not uploaded properly; and several discussion forums were not answered. Implementing a blended learning intervention taught by an instructor who did not fully understand the types of assignments may have negatively impacted the level of instruction needed for the intervention—thus leading to a decrease in post-test scores.

Sample Population and Size

The high school selected for participation in the study was purposive in nature and located in a primarily urban setting in Eastern Maryland. Therefore, the sample may not be a comprehensive representation of the nation's high school demographics. Furthermore, only one special educator out of five agreed to teach the intervention course—thus decreasing the student participant sample size from approximately 43 to 7.

Participant Indifference

Another limitation warranting consideration is the possible intervening effect of student indifference. Students are expected to complete the *SEARS-A* test in approximately 20 minutes (Merrell, 2011a). However, the longest test completion time in the study's intervention was 8 minutes, and the shortest test completion time was 1 minute.

Table 8 details the time duration of each student's completion of the pre- and post-test.

While some students ultimately increased their time from the pre- to the post-test, no student spent more than eight minutes on the *SEARS-A* test.

Table 8. Pre-test/post-test comparison of students' test completion, in minutes

Student	Pre-Test	Post-Test
Student 1	5:00	7:00
Student 2	3:00	4:00
Student 3	3:00	8:00
Student 4	3:00	6:00
Student 5	5:00	4:00
Student 6	2:00	2:00
Student 7	2:00	1:00

IMPLICATIONS

This study focused on the effect of a blended learning social skills intervention for high school students identified as being at risk for EBD. Given the dearth of research available concerning high school students identified as EBD—as well as the scarcity of research concerning blended learning interventions, specifically at the high school level—the study contributed to the existing research concerning social skills interventions. While additional research is needed, there are implications for practice that can be drawn from this study.

Social Skills Domains

Self-regulation was incorporated through lessons on self-control and units covering stress reduction techniques. Social competence was incorporated through lessons on communication, assertion, cooperation, and engagement. Empathy was incorporated through units covering prejudice reduction techniques. Finally, responsibility was incorporated through units covering aggression reduction techniques. The four social/emotional domains featured in the *SEARS* test demonstrated a significant impact on the students' overall pre- and post-test performance. Therefore, all four domains should be considered as being essential components of effective social skills interventions (Tidmore, 2018).

Teacher Perceptions

Recognizing and understanding teacher perceptions of students identified as EBD is an important first step in developing an effective intervention. The overall feedback from the special educator of this study was negative, in that the teacher often felt the students were too immature to complete the various discussions and assignments. Given that emotional and behavioral disorders may affect one's physical, social, or cognitive skills, the teacher seemed unprepared to effectively teach the student population (Tidmore, 2018).

Implementing social skills interventions should be tasked to educators who are willing to work with hyperactive, aggressive, and/or immature students—as negative interactions with teachers and other adults often carry over into negative interactions among students identified as EBD and their peers, often resulting in disciplinary issues (Tidmore, 2018).

RECOMMENDATIONS

Researchers have cited the implementation of instructional intervention programs focusing on social, personal, and professional life skills as being the most effective way to build social skills for students identified as EBD. However, these instructional interventions are lacking (Dobbins et al., 2010; Morgan, 2012; Rutherford et al., 2008). Therefore, there is still much to be learned about the merging of blended learning and social skills strategies into cohesive, meaningful lessons.

Increase Sample Size and Population

Future research in this area should include a broader, more stratified student population from which to sample. Researchers should implement this study across the United States, in order to gain a comprehensive representation of the nation's high school demographics. Additionally, student and special educator participant numbers should be higher and should aim to include a greater balance of male and female students.

Conduct Mixed-Method Studies

While this study employed a quantitative, quasi-experimental study methodology, future studies should consider qualitative or mixed-method approaches. Hearing directly from the students in an interview or journaling experience, for instance, would allow the researcher to further understand the population of students identified as EBD. Furthermore, mixed-method studies could also be conducted in order to understand how general and special education teachers approach students identified as EBD. Employing a phenomenological or ethnographic study would delve further into understanding the meaning behind the behaviors, language, interactions, and experiences of students identified as EBD—and teacher perceptions of those students. Once researchers have adequate information regarding such areas, they can begin to build more cohesive interventions that not only target the four social-emotional domains, but also focus on teacher shortcomings expressed by the students (Tidmore, 2018).

Increase Instructor Fidelity

Future studies should develop a more rigorous training program for educators leading a blended learning intervention. Offering a series of online training videos demonstrating how to teach the curriculum, use the blended learning materials, and understand the student population, would allow educators the opportunity to refresh their understanding of the intervention and answer questions they may not feel comfortable asking. Face-to-face training programs should include demonstrations of how to teach the online portions of the intervention, such as walking students through the setting up of their ePortfolio page and template. Further increases in fidelity could include biweekly check-ins between the instructor and the researcher in order to assess how the intervention is going and to discuss student participation and engagement (Tidmore, 2018).

Increase Participant Engagement

Future studies should aim to increase both student and instructor participation.

Student Engagement

For the purposes of this study, the school board would not allow the intervention to count as a graded course. Therefore, students were not motivated to complete assignments, as there was no penalty in the gradebook for not doing so. Treating the intervention as an actual course may increase student engagement (Tidmore, 2018).

Researchers may also consider widening the scope of activities designed to increase student engagement. While the online portion of the intervention allowed students numerous opportunities to view video segments and participate in discussion boards, answer analysis questions, create infographics, complete personal reflections, and develop ePortfolios, increasing the types of activities offered in the face-to-face portion of the intervention may increase academic motivation (Tidmore, 2018).

Instructor Engagement

Offering teachers incentives for teaching the intervention could increase the number of instructors willing to teach it. One incentive could include allowing the intervention to count towards a credit in the certification renewal process. Should county and state legislators not approve this option, administrators could count the teaching of the intervention as a professional development credit in the end-of-year evaluation (Tidmore, 2018).

CONCLUSION

Instructional interventions are important, but to be truly effective they must include strategies that aid in the development of personal and professional social skills in order to be truly effective (Cumming et al., 2008). Although current research is limited, past studies have revealed that creating and implementing blended learning interventions at the high school level increases student success (Cumming et al., 2008; George-Walker & Keeffe, 2010; Mitchem et al., 2007; Morgan, 2010; Morgan, 2012). Blended learning prepares students for employment in the 21st century. Therefore, when interventions combine personal and professional social skills with online instruction, students identified as EBD will be better equipped to combat low self-perception, behavioral challenges, incarceration, and unemployment (Tidmore, 2018).

The focus of this study was on the social, emotional, and behavioral impact of a blended learning social skills intervention for high school students identified as being at risk for EBD. The intent of the study was to explore if and how a social skills curriculum would improve students' social, emotional, and behavioral deficits. Specifically, the social-emotional domains of self-regulation, social competence, empathy, and responsibility were evaluated. Completing a nine-week blended learning social skills intervention yielded varying results for students identified as being at risk for emotional and behavioral disorders. On the whole, the four social/emotional domains were found to be significantly effective predictors of the students' overall performance on the *Social Emotional Assets and Resilience Scales* pre- and post-test survey. Thus, the author notes the importance of blending a set of strategies that aid in the development of personal and professional social skills with those that support students in real-world settings.

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KEY TERMS AND DEFINITIONS

Blended Learning: Combining traditional face-to-face learning activities with online instruction.

Emotional and Behavioral Disorders: A condition in which students exhibit inappropriate types of behavior in otherwise normal settings, often resulting in negative relationships with teachers and peers.

Empathy: The ability to identify, acknowledge, and share the feelings of one's peers.

Responsibility: The capability to appropriately tailor one's behavior to the situation at hand.

Self-Concept: One's connection to a sense of self identity and perception as a person.

Self-Efficacy: One's judgement of his or her own success in social situations.

Self-Regulation: One's own self-awareness of behavior in social situations.

Social Competence: One's ability to engage with others and feel comfortable in social situations.

Social Skills: One's ability to competently read social cues and solve problems in social situations.