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Choice as an Antecedent Intervention Provided to Children with Emotional Disturbances

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Abstract

It is estimated that 0.7% (349,000) of students aged three to 21 have been diagnosed with an emotional disturbance (ED; NCES, 2018). Students with ED typically demonstrate social, behavioral, and academic deficiencies within the school setting. A large part of educating students with ED is providing positive behavior interventions and supports (PBIS) embedded within the structured school day. Antecedent behavior interventions (ABI), including the provision of choice-making opportunities, are examples of effective practice within the PBIS framework. Although there have been studies addressing choice-making for students with ED, most of the literature has focused on choice-making provided during mathematics and English Language Arts (ELA) instruction. Therefore, this study employed a single-subject multiple-baseline across-participants design to examine the effect of choice-making provided in social skills instruction on both academic (i.e., correct responses) and behavioral outcomes (i.e., task engagement, disruptions) for three elementary-aged students with ED.

Results demonstrated improved behaviors of three student participants. All participants showed an increase in task engagement and a decrease in number of disruptions from baseline to intervention conditions, and one of three student participants increased the number of correct responses on social skills assignments from baseline to intervention condition. In this study, experimental control was not established and this precluded the establishment of a functional relationship. The results are inconclusive for social skills instruction. Limitations and discussion for future research in regard to choice-making for students with ED are provided.

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Introduction

It is estimated that 0.7% (349,000) of students have been diagnosed with ED (U.S. Department of Education, National Center for Education Statistics, 2018). Students diagnosed with ED have significant difficulties controlling their emotions and may present many undesirable behaviors including, but not limited to, hyperactivity, aggression, self-injurious behavior, and withdrawal. Further, when examining all students with disabilities, students with ED experience the least favorable outcomes (Jolivette, Stichter, Nelson, Scott, & Liaupsin, 2000). Specifically, 80 percent of students diagnosed with ED drop out of high school, experience a lower percentage of employment, have trouble maintaining a job, and are more likely to be arrested and/or incarcerated (Jolivette et al.). When presented with a social situation that is troubling or difficult, these students may not have the social and emotional strategies needed to cope. This is where the expertise and guidance of a special education teacher can play a pivotal role in these students' school successes.

A large part of educating students with ED is providing positive behavior interventions and supports (PBIS) embedded within the structured school day. Antecedent behavior interventions (ABI), including the provision of choice-making opportunities, are an effective practice within the PBIS framework. These types of interventions are proactive rather than reactive, meaning they occur before the student exhibits the undesirable behavior. To establish a solid understanding of ABIs it is important to understand the three-term contingency (also referred to as the ABC Contingency). The three-term contingency (ABC) stands for Antecedent, Behavior, and Consequence (Moxley, 1996). There is a correlation between the setting (antecedent), the behavior, and the consequence. Behavior can be elicited by the environment or setting. The consequences of the behavior can affect its future occurrence. As Moxley (1996)

recounts, the relationship between the three-term contingency is iterative; as behavior acts upon the environment, the changed environment can become part of the setting for future behaviors.

A good time during the school day to practice replacement behaviors is during social skills instruction. Social skills instruction is an important part of the development of a student diagnosed with an ED because these children have trouble controlling and managing their emotions. Through social skills instruction these students can be better equipped with knowledge and skills to help control their emotions, thus fostering a positive environment within the classroom that aids in school success. One ABI that can be taught during social skills instruction is choice-making.

The present study focused on one particular ABI, choice-making. Choice making is simply presenting multiple options to students. Research has shown choice-making as an ABI positively impacts student academic and behavioral outcomes. A meta-analysis conducted by Shogren, Faggella-Luby, Bae, and Wehmeyer (2004) showed there is a positive effect on both student academic outcomes (i.e., assignment completion and accuracy) and behavior outcomes (i.e., reduction in aggressive behaviors and increased adaptive behavior) when an effectively planned choice-making opportunity was presented to students. The meta-analysis reported that providing choice opportunities resulted in decreased problem behavior occurrences for 78 percent of children ages four through seven (Shogren et al., 2004). Jolivette et al. (2001) reported increased task engagement, decreased off task behavior, and decreased disruptions for elementary-aged participants in the choice condition as compared to baseline. Furthermore, Jolivette et al. (2001) suggested choice-making helps students to improve school outcomes (i.e., academic and behavior) because it (a) takes into consideration the student's preference, (b) provides a predictable environment for the student, which as a result reduces problematic

behavior, and (c) contributes to a stable teacher-student relationship. Chapter 2 provides a more in-depth literature review of relevant prior studies.

The theoretical framework for this study draws upon two theories that are based on human motivation: choice theory and self-determination theory. William Glasser's (1986) choice theory is an explanation of human behavior based on internal motivation. The essential core concept of this theory is that the only person's behavior we can control is our own. Behavior therefore is chosen to meet one or more of the five basic human needs (power, love & belonging, freedom, fun, and survival; Mishler & Cherry, 1999). Ryan and Deci's (2000) self-determination theory links personality, human motivation (that is intrinsic and extrinsic), and optimal functioning. That is, when you are able to use your unique personality to make decisions, you will be more motivated and, as a result, have a higher optimal functioning. Ryan and Deci (2000) examine two differing ways to achieve motivation: autonomous (i.e., acting independently) and controlled (i.e., acting dependently). The goal in the special education classroom is to get students functioning at an autonomous level, not at a controlled level. For example, getting students to independently make motivated choices based on their unique preferences and personality as opposed to making a choice for an external reward.

Overview of Study

The purpose of this research study is to examine the impact of an antecedent choice-making intervention implemented during social skills instruction on academic and behavioral outcomes for elementary-aged students diagnosed with ED.

The literature to date (e.g., Clarke et al., 1995; Daly, Garbacz, Olson, Persampieri, & Ni, 2006; Dunlap et al., 1994; Jolivette et al., 2001; Skerbetz & Kostewicz, 2013) has shown choice-making to be effective in mathematics and ELA. The researcher attempted to see if choice-

making is effective with social skills instruction and hypothesized that when provided with a choice of assignments, students with ED would demonstrate an increase in pro-social behaviors such as engagement and would show a decrease in anti-social behaviors such as disruption. This, in turn, has the potential to increase the number of correct responses students make on their independent seat work assignments. This study attempted to extend the literature on choice-making opportunities for students with ED into the domain of social skills instruction, and seeks to answer the follow research questions:

1. Will providing choice of assignments during social skills instruction increase student engagement for students with ED in a self-contained classroom?
2. Will providing choice of assignments during social skills instruction decrease disruptive behavior for students with ED in a self-contained classroom?
3. Will providing choice of assignments during social skills instruction increase accuracy of responses during independent seat work in students with ED in a self-contained classroom?

These research questions were addressed through direct observations of three dependent variables that are operationally defined: (a) task engagement, (b) disruption, (c) problems correct on social skills assignments. A single-subject multiple-baseline across participants design (Gast, 2010) was used to evaluate the effects of choice-making opportunities on the behavior and academic performance of students with ED.

Student subjects were selected on the basis of the following criteria: a) identified with educational diagnosis of ED, b) educated in self-contained classroom, c) ranged in age between 6-10 (i.e., the ages of a child who would be educated at the elementary level), and d) demonstrated a history of inappropriate behaviors (e.g., disruption, elopement, physical or verbal

aggression). The special education teacher and researcher worked collaboratively to select student subjects. All subjects submitted signed letters of consent from their parent/guardian, signed assent forms, and signed video releases. The participating teacher also signed a consent form and video release.

Definitions of Terms

Within the three-term contingency there are three important terms: A) setting or antecedent, B) behavior, and C) consequence (Moxley, 1996). Simply put, the setting is what is occurring before the behavior of concern, the behavior is how the child acts, and the consequence is what happens as a result of the behavior. Following this contingency, there are two types of interventions: antecedent-based and consequence-based. ABIs are seen as proactive and preventative. These interventions target students' inappropriate behaviors beforehand and as a result of this, the intervention is more likely to prompt appropriate student behaviors (Jolivette, 1999). Consequence-based interventions are interventions that occur after the inappropriate behavior and typically involve the removal of a stimuli (Jolivette, 1999). This research study addressed ABIs. Specifically, the ABI, choice-making opportunities, was examined. The dependent variables being assessed are: task engagement, disruption, and problems correct. The dependent variables used in this study are defined in Table 1-1.

Table 1-1
Dependent variables and definitions

Dependent Variable	**Definition**
Task engagement	Student engaging in or working on the independent assignment with eyes and hands on the assigned materials required to complete the assignment in accordance with the teacher's directions (Jolivette et al., 2001, p. 136)
Disruption	Student (a) distracting peers from their tasks by talking to peers about unrelated topics or asking peers for answers to the assignment; (b) elopement (leaving assigned area without permission); (c) making loud noises or verbal outbursts; (d) tantruming; and/or (e) destroying property for 3s or more consecutively (Jolivette et al., 2001, p. 136)
Correct responses	Number of attempted task problems answered correctly

The definitions of the following terms will be used in this paper:

1. Disability: According to the Individuals with Disabilities Education Act (2017) a disability is defined as:

> Child with a disability means a child evaluated in accordance with §§300.304 through 300.311 as having an intellectual disability, a hearing impairment (including deafness), a speech or language impairment, a visual impairment (including blindness), a serious emotional disturbance (referred to in this part as "emotional disturbance"), an orthopedic impairment, autism, traumatic brain injury, another health impairment, a specific learning disability, deaf-blindness, or multiple disabilities, and who, by reason thereof, needs special education and related services. (para. 1)

2. Emotional Disturbance (ED): According to the Individuals with Disabilities Education Act (2017) emotional disturbance is defined as:

> Emotional disturbance means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance: (A) An inability to learn that cannot be explained by intellectual, sensory, or health factors. (B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers. (C) Inappropriate types of behavior or feelings under normal circumstances. (D) A general pervasive mood of unhappiness or depression. (E) A tendency to develop physical symptoms or fears associated with personal or school problems. (ii) Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section. (para. 9)

3. Antecedent Behavior Interventions (ABI): "Interventions that are implemented in a proactive and preventative manner to preempt student inappropriate behaviors and to increase the likelihood of appropriate student behaviors" (Jolivette, 1999, p. 3).
4. Choice-Making: "Manipulates the context of arrangement by providing the individual with the opportunity to choose from an array of multiple stimulus options" (Jolivette et al., 2001, p. 131).

Review of the Literature

Students with ED experience significant challenges in controlling their emotions. According to the National Center for Education Statistics (NCES), during the 2014-2015 school year 349,000 children between the ages of three and twenty-one were receiving special education services for ED (U.S. Department of Education, National Center for Education Statistics, 2018).

It can be challenging for teachers to educate students with ED because of the various emotional and behavior setbacks they experience. Specifically, there is a reciprocal relationship between academic and social skills "with failure in one precipitating failure in the other" (Jolivette et al., 2000, p. 2). Therefore, teachers should provide targeted interventions to address both academics and social behaviors. One way to accomplish this is through the implementation of ABIs.

The purpose of this literature review is to summarize the extant literature on the effects of a specific ABI, providing choice-making opportunities in the classroom. Included in the literature review is a critical analysis of the effects of choice-making opportunities on academic and social behavior outcomes for students with ED. In this chapter, the methods used to conduct the literature review, the results, and other factors relevant to this dissertation will be discussed. First, a brief introduction to the intervention, choice-making opportunities, with a discussion of the theoretical framework for choice-making.

Theoretical Framework of Choice-Making

Glasser's (1986) theoretical model of choice holds that all behavior is undertaken in order to meet or satisfy one or more of the basic human needs. Bailey (2015) explains that choices provide many benefits, with the top five being: "1) fostering general well-being, 2) increasing prosocial behavior and responsibility, 3) improving academic achievement, 4) raising teacher

morale and enhancing all classroom relationships, and 5) advancing self-regulation and intrinsic motivation" (p. 201). Intrinsic motivation is when a behavior is naturally satisfying to the individual; the behavior is driven by internal rewards not external rewards such as candy or toys. The core concepts that contribute to developing intrinsic motivation are autonomy, competence, and relatedness (Irvine, 2015). These three core concepts are universally required for well-being of the individual and optimal functioning (i.e., performing at your best). Irvine (2015) defines the three core concepts as:

> Autonomy refers to the experience of choice and volition in one's behavior and to the personal authentic enforcement of one's activities and actions. Competence involves the ability to bring about desired outcomes and feelings of effectiveness and mastery over one's environment. Finally, relatedness reflects feelings of closeness and connection on one's everyday interactions. (p. 4)

ABIs are interventions that offer teachers a preventative approach to managing student behavior. ABIs are evidence-based practices that are used for addressing challenging behaviors (Wood, Kisinger, Brosh, Fisher, & Muharib, 2018). Instead of responding to students' challenging behavior after the behavior occurs (commonly called consequence-based interventions) and using punishment-based interventions (e.g., time out; removal of privileges), special education teachers can attempt to stop behavior before it occurs. When doing this, the teacher is making a change to the setting to address the problematic behavior (IRIS, 2019). This is important because it has been suggested that the use of consequence-based interventions alone are not effective for students with ED. When a teacher implements an ABI the classroom teacher is making adjustments to the routines and procedures to both eliminate possible triggers for the problematic behavior and provide more opportunities for the student to display the replacement

behavior (IRIS, 2019). Additionally, consequence-based approaches to addressing concerning behaviors limit the ability of students to exhibit control over their environment (Jolivette, 1999). The 1997 amendment to the Individuals with Disabilities Education Act (IDEA) requires functional behavior assessments and positive behavior intervention plans (including antecedent and consequence strategies) for students with ED. This policy update calls for special education teachers to develop and implement proactive or positive interventions and strategies.

ABIs are commonly taught during social skills instruction. Jolivette et al. (2000) report that social skills instruction in the classroom should involve both direction instruction and teacher mediation. The direct instruction should be specific, individualized social skills that should be taught to students with ED. The teacher plays a critical role in teaching social skills instruction across all environments (i.e., what is taught during this instruction is evidenced across all environments in school). McGinnis and Goldstein (1984) identify that social skills instruction should be part of the mainstream and special needs curriculum; "Thus, it is not enough merely to tell a student that an action is not acceptable; additional measures must be taken to teach the student what to do, as well as what not to do" (p. 3). To increase prosocial skills in children who are disabled, specifically children with ED, social skills instruction must be present in the curriculum. By teaching social skills instruction, children with ED will be taught strategies and approaches to deal with their emotions in appropriate ways. Choice-making is one ABI that can be taught during social skills instruction.

A proactive and preventative intervention is choice-making. Choice making is presenting multiple options to students. Jolivette et al. (2001) report that choice-making helps to improve student behavior and performance because: a) it takes into consideration the student's preference, b) it increases a predictable environment for the student which as a result reduces problematic

behavior, and lastly, c) choice-making contributes towards a stable teacher-student relationship. For students with disabilities, opportunities to make choices in their learning can promote positive behaviors and work on replacement behaviors. It is important that children have choices in the classroom that are based on their unique needs, values, and aspirations (Platt, 2018). When a child makes a choice that is: 1) self-driven, 2) motivated from within, and 3) lacking in coercion, they improve their goal achievement and self-regulation status, due, in part to the resultant release of dopamine and activation of the reward center in the brain (Bailey, 2015).

In the present study, the social behaviors of the research participants will be examined to see if providing a choice of assignments will make a difference in the dependent variables being assessed (i.e., task engagement, disruptions, and correct responses). A broader goal of this research is to begin to find more methods of positive behavior support interventions for use in the special education classroom that increase intrinsic motivation.

Comprehensive Review of the Literature

Multiple sources were used to conduct a comprehensive review of literature on choice-making opportunities as an ABI intended to increase positive academic and social behaviors in students with ED. The researcher conducted: a manual search of journals, a search for relevant literature reviews and meta-analyses, and lastly, an external database search using Google Scholar, Educational Resources Information Center (ERIC), EBSCOhost Academic Search Complete, ProQuest, Wiley Online Library, and Global Dissertations & Theses. The following search terms were used: choice-making opportunities, choice, deviant (or problem) behavior, emotional and behavior disorders, and emotional disturbance.

The researcher began by finding literature reviews and meta-analyses that addressed the topic of choice-making as an intervention. Two literature reviews by authors Morgan (2006) and

Royer, Lane, Cantwell, & Messenger (2017) addressed 41 studies on preference or choice-making. Additionally, a meta-analysis by Shogren et al. (2004) was examined. This meta-analysis yielded 13 studies addressing choice-making as an intervention. These reviews were used to develop a list of inclusion and exclusion criteria.

Inclusion and exclusion criteria. Articles selected for this literature review met the following criteria: a) directly measured the effects of antecedent choice-making opportunities within a classroom setting, b) student participants were diagnosed with ED (also referred to as emotional/behavior disorders), c) dependent variables included academic and/or social behavior (e.g., disruptions, task engagement), and d) studies were published in English, in peer reviewed journals. Articles that were excluded from this literature review include studies that only examined choices of consequence/reinforcement, studies that did not take place in a school (e.g., residential facilities, juvenile justice centers), and studies that included student participants with disabilities other than ED (or E/BD) without disaggregating the results. The researcher excluded research studies that took place in settings outside of the classroom because the focus of this paper is on effective strategies that special education teachers can use within their classrooms.

Literature search. The manual and digital literature searches yielded two studies (Dunlap et al., 1994; Jolivette et al., 2001) that were included in the meta-analysis by Shogren et al. (2004) and five studies (Clarke et al., 1995; Daly et al., 2006; Dunlap et al., 1994; Jolivette et al., 2001; Skerbetz & Kostewicz, 2013) from the literature reviews by Morgan (2006) and Royer et al. (2017). The meta-analysis and literature reviews included two overlapping studies (Dunlap et al., 1994; Jolivette et al., 2001), therefore, a total of five research studies will be used for this literature review. Each research study met the inclusion criteria provided above.

Reviewed studies. A synthesis of the five reviewed studies will be reported including: a) participants, b) setting, c) dependent variables, and d) research method and design. Additionally, a synthesis of the results, reliability and social validity, and limitations of the reviewed studies will be examined. Table 2-1 includes a summary of the reviewed studies.

Table 2-1
Summary of Reviewed Studies

Studies	Participants	Setting	Dependent Variables	Research Method & Design
Clarke et al., 1995	4 students; Ages 5-11; Diagnosis of ASD, ADHD, and SED	Self-contained special education classroom during handwriting instruction	Disruptive and desirable behaviors	ABAB multiple-baseline across participants design with a reversal design
Daly et al., 2006	2 students; Aged 13; Diagnosis of behavioral disorder	Small private room during reading intervention	Correct read words (CRW) and errors per 30s	Multiple-probe across tasks design
Dunlap et al., 1994	3 students; aged 5-11; Diagnosis of Emotionally Handicapped and severe emotional disturbance	Self-contained special education classroom for students with EH during English, spelling, and reading instruction	Task engagement and disruptive behaviors	ABAB with a reversal design
Jolivette et al., 2001	3 students; Aged 6-10; Diagnosed E/BD	Self-contained special education classroom during mathematics instruction	Task engagement, off-task behavior, disruption, attempted task problems, and problems correct	Single subject, multiple-baseline across participants design with a withdrawal of treatment component
Skerbetz & Kostewicz, 2013	5 students; Aged 13; Diagnosis of ED or at-risk for diagnosis of ED	8th grade classroom, public charter school during language arts lessons	Task engagement, non-engagement, task accuracy, amount of time spent on task	Single-subject reversal (A1-B1-A2-B2) experimental design

Participants. The number of participants in the five included studies totaled 17. The majority of the students were male (n = 13, 76.47%). All participants ranged in age from five to 13 years of age. All of the student participants either had a diagnosis of ED (also, referred to as emotional/behavioral disorder, severe emotional disturbance, or emotionally handicapped), or were in the process of receiving an educational evaluation for an ED. One participant had a secondary diagnosis of Autism Spectrum Disorder accompanying the primary diagnosis of ED (Clarke et al., 1995).

Setting. The settings for the studies were in public schools (n = 5, 100%); one of the public schools was a charter school (Skerbetz & Kostewicz, 2013). The interventions were conducted in a variety of classroom settings including: self-contained special education classrooms (n = 3, 50%), general education classrooms (n = 1, 16%), and a private classroom used primarily for tutoring (n = 1, 16%). Academic subject areas varied across studies: Jolivette et al. (2001) conducted research during mathematic instruction, while the remaining studies (i.e., Clarke et al., 1995; Daly et al., 2006; Dunlap et al., 1994; Skerbetz & Kostewicz, 2013) conducted research in ELA topics ranging from reading to spelling and handwriting.

Dependent variables. Two of the five studies reviewed focused on addressing both academic and social behavior outcomes (Jolivette et al., 2001; Skerbetz & Kostewicz, 2013). The dependent variables measured across the five studies consisted of: disruptive behaviors (n = 2, 33%), task engagement (n = 2, 33%), off-task behavior for social behaviors (n = 1, 16.7%), attempted problems (n = 1, 16.7%), and correct problems (n = 1, 16.7%). Two studies (Clarke et al., 1995; Dunlap et al., 1994) addressed social behaviors only, measuring task engagement and disruptive behavior and another study (Daly et al., 2006) addressed academics only, measuring words read correctly and errors per 30s.

Research method and design. The methodology of the studies included in the literature review were all single-subject research designs (n = 5, 100%). The primary design of the studies were multiple baseline across participant designs (n = 4, 66.7%; Clarke et al., 1995; Dunlap et al., 1994; Jolivette et al., 2001; Skerbetz & Kostewicz, 2013). Daly et al. (2006) employed a multiple-probe across task design.

Results of the literature reviewed. Overall, positive results were seen when using choice making as an intervention from the reviewed studies. However, the effects of choice-making varied depending on the procedure for implementing the student participant's individual preference into choice-making. Specific results from each study follow.

Results for behavior and academic measures. Jolivette et al. (2001) reported an increase in the mean percentage of task engagement from the no choice condition to the subsequent choice condition for all three participants (i.e., ranging from a 7.2% increase to a 301% increase). The researchers reported a decrease in the percentage of off task behavior from the no-choice condition to the subsequent choice condition for two out of the three participants (i.e., 72% decrease and 73% decrease). Additionally, from the no choice condition to the subsequent choice condition, two of the three participants showed an increase in both problems attempted (i.e., 37% increase and 103% increase) and mean problems correct (i.e., 37% increase and 105% increase).

Skerbetz and Kostewicz (2013) reported that during the intervention condition, two students showed immediate percent increases in task engagement of 31% and 20% from the averages for baseline, achieving mean engagement in the treatment condition of 95% and 98% respectively. Two additional students showed percentage increases in task engagement of 7% and 25% (respectively) from baseline to treatment where they were engaged 89% and 94% of the

time, respectively. The final participant showed no change in task engagement between baseline and intervention.

Results for behavior measures. Dunlap et al. (1994) reported positive results for two of three participants, although they did not explicitly report mean scores. In the first analysis, when presented with a choice, one student participant exhibited high levels of task engagement and evidenced a decrease in disruptive behaviors. For the second student participant, data were variable but results also indicated an increase in task engagement and a decrease in disruptive behaviors when provided with choice. Clarke et al. (1995) reported mean percent decreases in problem behavior for three of the four participants (ranging from 358% to 600% decrease), and mean percent increases in desired behaviors across three of the four participants (ranging from 71% to 163% increase).

Results for academic measures. Daly et al. (2006) reported that during the choice condition, one student participant improved her performance on reading fluency (i.e., correctly read words) for all four of the reading passages (ranging from 10% to 55% increase) while the second participant also improved his reading fluency for all four reading passages (ranging from 28% to 66% increase). Maintenance data collected indicated that the first student participant maintained or increased her oral reading fluency in all but the fourth reading passage (M = 70, 70, 72, 57) and the second student participant also maintained or improved his oral reading fluency (M = 110, 94, 92, 99).

Reliability and validity in literature reviewed. Each research study reviewed used inter-observer agreement (IOA) when measuring the observed student behaviors and academic work. Overall, the results indicate high levels of agreement between independent coders for inter-observer agreement. The quality indicator for IOA in single-subject research is at least 80%

(Horner, 2005). Each of the reviewed studies met the quality indicator of IOA of 80% or higher (n = 5, 100%). In addition to IOA for student behaviors and academic work, three of the studies (n = 3, 60%) reported fidelity of implementation (FOI) scores of 100%. Additionally, there was an IOA of treatment fidelity. Ledford and Gast (2018) report that procedural fidelity data should be collected for 20-30% of sessions in all conditions. The specific reliability and validity components will be examined for each reviewed study.

Inter-observer agreement results. Jolivette et al. (2001) reported the mean IOA for task engagement was 96.61%, disruption 100%, and off-task behavior 92.50%. IOA for problems attempted and problems correct were both 100%. Skerbetz and Kostewicz (2013) reported IOA for three of the four dependent variables in the study: task engagement M = 95%, time to complete assignments M = 95%, and collected assignments M = 97%. Dunlap et al. (1994) reported IOA in the first analysis for both participants; Student participant 1 (M = 95% for task engagement, M = 99% for disruptive behavior) and Student participant 2 (M = 99% for task engagement, M = 80% for disruptive behavior). In the second analysis, IOA was conducted for the participant (M = 96% for task engagement, M = 97% for disruptive behavior). Daly et al. (2006) reported IOA of 98%. Lastly, Clarke et al. (1995) reported IOA conducted for problem behavior (Student participant 1 M = 92%, Student participant 2 M = 91%, Student participant 3 M = 88%, Student participant 4 M = 82%) and desired behaviors (Student participant 1 M = 84%, Student participant 2 M = 86%, Student participant 3 M = 97%, Student participant 4 M = 95%).

Treatment fidelity results. Jolivette et al. (2001) reported FOI was 100% across all conditions for each participant. Skerbetz and Kostewicz (2013) reported FOI score of 100%. Daly et al. (2006) reported FOI score of 94%. Dunlap et al. (1994) and Clarke et al. (1995) did

not report FOI. The IOA for treatment fidelity for each study was coded by a secondary, independent coder for 100% of the recorded sessions.

Social validity of literature reviewed. Social validity is a quality indicator within single-subject research. When social validity is addressed the researchers can determine if the dependent variable is socially important, if the magnitude of change is socially important, and if the intervention is both practical and cost effective (Horner, 2005). Of the reported social validity results, the reviewed studies revealed teachers and student participants favored the interventions used. Social validity was addressed in three of the reviewed studies (n = 3, 60%). The primary means of collecting social validity scores were from questionnaires rendered on a Likert scale.

Jolivette et al. (2001) gave a modified Treatment Acceptability Rating Form-Revised (TARF-R) to the special education teacher to complete on each student participant. The TARF-R is a 20-question form that is completed by the special education teacher who rates the accessibility and feasibility of implementing choice-making in the classroom by answering the questions on a Likert scale. The questionnaire was filled out on two separate occasions (i.e., at the beginning and end of the study).

Additionally, Skerbetz and Kostewicz (2013) addressed social validity by giving two surveys (one for the student participants and one for the general education teacher). Their surveys also used a Likert scale that asked if the student participants liked having choices and assessed the feasibility of implementing choice-making in the classroom.

Clarke et al. (1995) gave a student and teacher questionnaire that used a Likert scale to assess student's interest levels during the intervention. Dunlap et al. (1994) and Daly et al. (2006) did not explicitly address social validity in their studies**.**

Limitations of literature reviewed. Jolivette et al. (2001) reported three limitations for their study: (1) choice-making was implemented in only one special education classroom (i.e., the behavior change seen could be explained because of the teacher or classroom characteristics), (2) greater effects of choice-making on student behavior were seen during the reimplementation of the intervention (i.e., within-subject replication was not strong), and (3) there was a lack of empirically validated equivalent math worksheets. Additional limitations of this study include: lack of criteria for phase change, no baseline data collected, and several instances of fewer than five data points per condition. Dunlap et al. (1994) discussed a limited number of participants, sessions, and experimental replications as limitations to their study. Additionally, the duration of sessions was brief, and there are some ethical concerns with this study as the concluding condition for each student participant was when choice was removed. Ethically, this relates to the principle of beneficence. If choice-making is seen as a positive or proactive intervention and shown to increase student engagement then the authors should have concluded the experiment with participants being in the condition receiving choice.

Skerbetz and Kostewicz (2013) reported four potential limitations to their study. First, the participants were introduced to the intervention at the same time. Because of this, not all participants showed decreasing or stable data points before entering a new condition. Furthermore, this needed to be replicated across at least three tiers and demonstrate at least three concurrent start points for introducing the intervention. A second limitation involved a change in normal classroom seating to put the student participants in a cluster so they could be videotaped. Third, the researchers did not establish equivalency across assignments, and fourth, as the study went on, students in the intervention condition longest had more time to practice the work than did other students.

Daly et al. (2006) discussed a difficult element to control for in the research design; the task of separating the effects of choice from motivational variables used and opportunities to respond as the main limitation of their study. The researchers explained that it is difficult to determine the effects of choice because there is no certainty that the choice was what caused the difference in behavior; it may have been that the reward and feedback component (i.e., earning points to spend on both edible and tangible items such as candy and pens) was the cause for the change in behavior. Clarke et al. (1995) did not report any limitations; however, they failed to set forth a criterion for condition changes, and visual inspection of data for one of the participants shows considerable variability.

In summary, the reviewed studies suggest that choice-making can have a positive result on improving academic (i.e., increased number of correct responses) and social behaviors (i.e., increase task engagement, decreased off-task behavior, decreased rate of disruption). This review of the literature on choice making as an intervention revealed a gap in the research: choice-making as an intervention has not been measured during social skills instruction. Therefore, in this study the researcher extended the literature surrounding choice-making as an ABI by applying it to social skills instruction. Methodological limitations of prior studies, including failure to report criterion for condition changes, and having less than the appropriate number of data points within conditions, are addressed in the present study.

Methodology

This chapter describes: a) research design, b) participation selection (teacher and students), c) setting, d) independent variable (intervention), e) dependent variables, f) data collection procedures, g) reliability and validity concerns that include specific procedures for inter-observer agreement (IOA) and social validity, and h) limitations of the study.

Experimental Design

This study employed a single-subject multiple-baseline, across-participants design (Ledford & Gast, 2018) to evaluate the effects of choice-making opportunities on the behavior and academics of students with ED. Multiple-baseline across-participants design is the most commonly used variation of multiple baseline (MB) and multiple probe (MP) designs (Ledford & Gast, 2018). This type of research design offers many advantages. MB designs are helpful in identifying instructional programs and intervention strategies that can be effective with different individuals. A small sample size is appropriate for the multiple-baseline, across-participants design being used in the study; Gast and Ledford (2018) report that MB and MP designs across participants are appropriate for student participants that exhibit similar behaviors and are in need of intervention. Horner et al. (2005) reports that in single-subject designs, there can be as few as one participant but typically there are between three to eight participants in a single study. This type of experimental design was chosen by the researcher because of the inter-subject replication within the design and the ability to collect maintenance data while one participant is in the intervention condition and the others are in the baseline condition.

In the present study, student engagement level was observed to see if an increase in engagement levels occurred when choice-making opportunities were provided. Additionally, the number of disruptions during independent seat work was assessed, as was the number of correct

responses of independent work on social skills assignments. Implementation of the design began with gathering baseline data for all participants. When engagement baseline data of the first participant was stable for at least five sessions or showed a counter-therapeutic trend, the intervention was introduced to the first participant only while data was continuously collected on the other participants. When the first participant reached the specified criterion of at least five data points of an increasing level or trend and the baseline data was stable for the second participant (or showed a counter-therapeutic trend), the intervention was applied to the second participant while data was continuously collected on the third and fourth participant. When the second participant reached the specified criterion of at least five data points of an increasing level or trend and the baseline data was stable for the third participant (or showed a counter-therapeutic trend), the intervention was applied to the third participant while data was continuously collected on the fourth participant. When the third participant reached the specified criterion of at least five data points of an increasing level or trend and the baseline data was stable (or showed a counter-therapeutic trend) for the fourth participant, the intervention was applied to the fourth participant.

Participants

According to the policies and procedures set forth by Bellarmine University Institutional Review Board (IRB), participant (teacher and student) consent forms were obtained for the participating teacher and students. The teacher participant signed two forms: one consent form agreeing to partake in the research study and a signed video release consent form (see Appendix A). Each student participant agreed to be part of the study by signing an assent form (see Appendix B). Each student participant also had a signed letter of consent from their

parent/guardian (see Appendix C). Additionally, each student's parent/guardian signed a video release form (see Appendix D).

Participant selection. There was a total of five participants (one special education teacher, four students) for this study. Initially, the researcher emailed the director of special populations for the school district for a recommendation of a special education teacher. The researcher met with the special education teacher to explain the research study and she agreed to be in the study. Throughout this manuscript, the special education teacher will be referred to as Ms. Smart to maintain confidentiality. Ms. Smart and the researcher worked collaboratively to select student participants. Student participants were selected on the basis of the following criteria: a) identified with educational diagnosis of ED, b) educated in self-contained classroom that was taught by Ms. Smart, c) ranged in age between 6-10, and d) demonstrated a history of inappropriate socialization (externalizing and internalizing behaviors – disruption, elopement, aggression-physical or verbal). Ms. Smart and the researcher looked at student discipline logs that were collected by the classroom para-professional to determine which students had the highest levels of inappropriate socialization.

Participant demographics. Ms. Smart was in her ninth year of teaching and in her second year of teaching in a self-contained special education setting. She received her Bachelor of Arts in Special Education (K-12) and her Master of Arts in Elementary Education. Additionally, she has a Master of Business Administration. In Ms. Smart's classroom, she had twelve students that were diagnosed with ED or Autism Spectrum Disorders (ASD). The students were placed in her classroom, a separate setting from the general education classroom, due to behavior deficiencies that impeded their learning and the learning of other students. There were two para-professionals that provided assistance to the students in Ms. Smart's class on a

daily basis. Both para-professionals were in their second year of assisting in a self-contained classroom.

In the interest of confidentiality, the four students in this study will be referred to using pseudonyms. Ten students met the criteria to participate in the study; two were excluded because they had primary diagnoses of ASD. Forms were sent home with each of those ten children to participate in the study. Four students returned forms to participate in the study and those were the students that were chosen to partake in the research. Table 3-1 provides a summary of student characteristics (i.e., grade, age, gender ethnicity, disability status).

Table 3-1
Summary of Student Characteristics

Student Subject	Grade	Age	Gender	Ethnicity	Disability
Lewis	1st	6 years 9 months	Male	African-American	ED (primary) Language Impairment (secondary)
Lincoln	4th	8 years 8 months	Male	Caucasian	ED (primary)
Joslyn	5th	10 years 11 months	Female	African-American	Cognitive Disability – Mild (primary) ED (secondary)
Ace	2nd	7 years 5 months	Male	Caucasian	ED (primary)

Lewis is on a reduced day due to significant behavior challenges. He attends school for one hour each day and works one-on-one with a para-professional during this time. His behavior intervention plan (BIP) addresses physical aggression and task completion. Lincoln attends school all day and receives 60 minutes of direct special education support in the self-contained setting. This means he begins and ends his day for 30 minutes in the self-contained classroom.

During that time, he receives social skills instruction and gets help with organizing himself for the day. He attends general education classes for core academic areas. His BIP addresses attention to tasks and staying in assigned areas. Joslyn is in the foster care system and during the duration of this study her maternal parent went through the court system to gain her parental rights back. Joslyn receives general education in special areas (i.e., gym, art, music, and library) but receives all core academics in the self-contained setting. Joslyn's behavioral deficiencies that are addressed in her BIP are related to task attention. Joslyn struggles to complete academic tasks without the help of a classroom para-professional. Lastly, Ace is on a reduced day of 3 hours. His BIP addresses self-regulation and non-preferred task attention. That is, when presented with a task that is non-preferred, Ace struggles to complete the task.

Setting and Existing Social Skills Program

Setting. The setting for this research study was in a self-contained special education classroom within a public elementary school in the Midwest. To address confidentially, the school will be known by the pseudonym, Ridgefield Elementary School.

Social skills program. The special education teacher used a curriculum titled, *The MindUP Curriculum: Grades PreK-2: Brain-Focused Strategies for Learning and Living.* Specifically, unit I and unit II were covered in the lessons. The content for these units were on getting the brain focused and sharpening the senses. Essentially, the content focused on ways the students can self-regulate through strategies that used the five senses. The researcher planned eight weeks of lessons (see Appendix E) including no-choice activities for baseline and three pre-planned choices for the choice condition (intervention condition). The lessons, including the choice and no choice activities, were designed with content from the curriculum. The differing

choices included but were not limited to: puzzles (e.g., crosswords, search and finds), hands on activities and games, arts and crafts, sorting and pasting activities.

Independent Variable

The independent variable, or the intervention, for this research study was choice-making opportunities. Choice-making opportunities "manipulate the context of arrangement by providing the individual with the opportunity to choose from an array of multiple stimulus options" (Jolivette et al., 2001, p. 131). Prior to data collection, the researcher, in collaboration with Ms. Smart, designed social skills independent work, with three activities. The work was based on the individual student's IEP goals, current level of academic achievement, and the *MindUP Curriculum*. Additionally, the student's unique preferences were taken into consideration. For example, Joslyn enjoyed puzzles so the researcher made sure choices were included that aligned with her likes and preferences.

Procedures for implementing choice-making opportunities. Prior to data collection, the researcher and dissertation chair trained the special education teacher on how to present choice-making as an opportunity by delivering "a verbal statement or gesture from the teacher that identifies two or more response options an individual may make under specific conditions" (Jolivette et al., 2001, p. 132). Training materials were based on research by Sigafoos, Roberts, Couzens, and Kerr (1993) and Jolivette et al. (2001). During the choice condition training, the researcher presented an agenda (see Appendix F). The purpose of the training was included on the agenda along with the goals. The purpose of the choice condition training session was to train the special education teacher, Ms. Smart on how to deliver the choices to her students. During this training session, the researcher reviewed six steps of how to provide a choice: "1) Offer the individual two or more options, 2) Ask the individual to make a choice, 3) Provide wait

time for the individual to make his or her choice, 4) Wait for the individual's response, 5) Reinforce with the option chosen (i.e., give the item to the individual), and 6) If the individual does not make a choice, prompt the individual to choose from the provided options" (Jolivette et al., 2001, p. 134). Through the use of modeling and role playing, the special education teacher trained until 100% of the steps were implemented correctly (see Appendix G).

Dependent Variables & Data Collection Procedures

The dependent variables assessed were: 1) task engagement, 2) disruption, and 3) problems correct. The dependent variables used in this study are defined in Table 1-1. The dependent variables were assessed through two conditions in the study: 1) baseline/no-choice condition and 2) intervention/choice condition.

Baseline/no-choice condition. During the baseline condition of the research, the special education teacher followed a no-choice procedure. Specifically, the teacher explained the assignment at her round table and assigned the students' work. She then asked the students to go to their seats to complete the assigned activity. This was done for all students in the class that participated in the social skills lesson for the day.

Intervention/choice condition. During the intervention phase of the research, the special education teacher altered instruction in only one way: providing assignment choices. This was done when the student participant entered the intervention condition of the research. When assigning students entering the intervention condition their seatwork, she laid out three different options of work on her round table in the classroom. She explained each activity and followed the six-step method for presenting a choice.

Data collection procedures. During the first fifteen minutes of the social skills seatwork, the special education teacher implemented procedures for the choice-making intervention.

During this time, the researcher observed the teacher to assess treatment fidelity (i.e., that she was following the choice and no-choice procedures). During the data collection period, treatment fidelity of 100% was reached. Each session was then video recorded to observe student behaviors at their desk during independent seat work. The time for these video recordings ranged each session depending on how long each student participant took to complete their assignment.

Each day after morning announcements when the special education teacher assigned the activity or gave choices, the researcher positioned herself in an area of the classroom that was not a disruption to the learning environment and set up a video camera at such as angle that it would capture all student participants. The student participants knew that the researcher was recording them doing their work and occasionally, the researcher had to ask participants to move so she could see them better (i.e., clear vision of their faces and hands). The video recordings ended each day when the last participant was finished with his/her work. These sessions typically lasted between 5-15 minutes in duration.

The researcher coded all video recordings daily using the behavior frequency chart (see Appendix H) and duration per occurrence recording sheet (see Appendix I). Ledford and Gast (2018) recommend using duration recording to measure time when measuring how long a behavior occurs. For this research study, time per occurrence was used. While coding the videos daily, a timing device (i.e., timer on the video application) was used to count the number of seconds the participants were engaged. From this information, the number of occurrences (i.e., the occurrence was the duration of engagement until there was a disruption) and total duration were calculated; the duration per occurrence was calculated by taking the total duration divided by the number of occurrences. Student participants were seen as being engaged with their task when: “Engaging in or working on the independent assignment with eyes and hands on the

assigned materials required to complete the assignment in accordance with the teacher's directions" (Jolivette et al., 2001, p. 136). To measure disruptions, frequency recording was used. While coding the videos daily, tally marks were recorded each time a student participant was disruptive. Student participants received tally marks for disruptive behaviors defined as: "Student (a) distracting peers from their tasks by talking to peers about unrelated topics or asking peers for answers to the assignment; (b) elopement (leaving assigned area without permission); (c) making loud noises or verbal outbursts; (d) tantruming; and/or (e) destroying property for 3s or more consecutively" (Jolivette et al., 2001, p. 136). After coding the videos, the researcher would input the data into an Excel spreadsheet to keep track of the data points. This helped the researcher know when to begin the intervention for the individual participants. Additionally, the researcher uploaded the video each day to a secure computer database for the dissertation chair to access for inter-observer coding.

Supplemental data was also collected during this research study. The classroom para-professional kept a checklist with anecdotal notes addressing setting events for the student participants. Examples of setting events include but are not limited to: arriving late to school, time-out, seclusion, emergency safety physical intervention (ESPI), and/or complaining of being sick.

Reliability and Validity

For this research study, the researcher was the main data collector. For inter-observer reliability, a secondary data coder, the dissertation chair, was used. The researcher had no prior experience with single subject research data collection; this was her first experience collecting data in the classroom of this nature. The secondary data coder has her doctoral degree and has previous experience with data collection and coding.

Inter-observer Agreement (IOA). Inter-observer agreement of the dependent variables (i.e., engagement and disruption) was conducted for 20% of the overall observations. The point-by-point method of agreement was used to determine the dependent variable reliability by dividing the sum of agreements + disagreements by the number of agreements and multiplying the quotient by 100.

Prior to data collection, the researcher met with the secondary coder to complete training for inter-observer agreement. The researcher and second coder used modules from the IRIS center to practice coding for the two variables, task engagement and disruption. The IRIS center is a nationally recognized center that is run by Vanderbilt University's education department. The center provides modules for special education teachers that address improving education outcomes for all children but focus on children with disabilities (IRIS, 2019). For frequency recording, which was used to measure the variable of disruptions, the original IOA definition was that the two independent observers agreed within (+/-) 2 of one another's rate of disruption. For the dependent variable disruption, IOA was 100% between the two coders (see Appendix J) during the training session. For duration per occurrence recording, which was used to measure the variable of task engagement, the original IOA definition was that the two independent observers agreed within a (+/-) 5 second window of one another's observations. IOA of 93% was researched for the training session (see Appendix K).

Percentages for inter-observer agreement for the research study are reported in Table 3-2. Overall, inter-observer agreement was conducted for 14 of the 70 student observations (M = 20%). For the baseline condition, inter-observer agreement was conducted for seven of the 34 student observations (M = 20.6%) and inter-observer agreement was conducted for eight of the 36 intervention conditions (M = 22.2 %). The point-by-point method of agreement was used to

determine the dependent variable reliability by dividing the number of agreements by the sum of the number of agreements + disagreements and multiplying the total by 100. The percentage of agreement across the variable task engagement, measured with duration recording, was 42.86% during baseline condition, 87.50% during the intervention condition, and 66.67% overall. The percentage of agreement across the variable disruption, measured with frequency recording, was 85.71% during baseline condition, 75.00% during the intervention condition, and 80.00% overall.

Table 3-2
Inter-Observer Agreement Data

	Percentage of Agreement		
	BL	**INT**	**Overall**
Task Engagement	42.86	87.50	66.67
Disruption	85.71	75.00	80.00

Note: BL = Baseline Condition; INT = Intervention Condition

Fidelity of implementation (FOI). Reliability data on the independent variable, provision of choice-making opportunities, was collected each day by the primary researcher. A fidelity of implementation (FOI) checklist was used (see Appendix L) for every intervention session. During the fidelity observation, the observer marked if each step was completed (+), not completed (-), or not applicable (N/A). The number of occurrences was divided by the sum of the number of occurrences and non-occurrences and the quotient was multiplied by 100. Results showed the teacher, Ms. Smart implemented the intervention faithfully across 100% of the observed sessions.

Threats to validity. Single subject research should demonstrate a functional relationship between the independent variable and dependent variables. Threats to validity include attrition, maturation effects, and history effects. In this study, the researcher attempted to limit the impact

of attrition by selecting research participants with low levels of absenteeism. To control for maturation threats, the researcher limited the length of the study and did not go beyond one quarter of the school year. Lastly, to control for history effects, the special education teacher was asked to let students' behavior occur with minimal verbal and non-verbal corrections during the observed independent social skills activity times.

Social validity. To address social validity, the special education teacher, Ms. Smart, was given a questionnaire at the conclusion of the study. The purpose of this questionnaire was to elicit the teacher's ideas and opinions regarding the feasibility of implementing choice-making opportunities in her classroom (see Appendix M for the teacher questionnaire) Additionally, a social validity questionnaire was given to each student participant at the end of the study (see Appendix N for the student questionnaire). Questionnaires consisted of multiple choice and open-ended questions.

Data Analysis

Visual analysis was the primary method used for analyzing the results of the research study. According to Ledford and Gast (2018), "Visual analysis involves systematic procedures used to evaluate specific characteristics of data patterns and evaluate the presence of a functional relation" (p. 180). This approach to data analysis is both practical and reliable for single subject research and offers several advantages. First, data can be evaluated on an individual basis or small group. As a result, the data is frequently analyzed. The advantage of this is data-based decision making that "ensure participants benefit from their involvement" (Ledford & Gast, 2018, p. 180). Additionally, with the focus on individual findings, a potential for finding additional results that are not directly related to the research question is possible.

The researcher used within condition analyses to discern patterns within the conditions during the research study. The researcher looked at analyses of level, trend, and variability/ stability to determine when to move the participant from baseline to intervention. The researcher determined trend lines for the graphs using the regression trend line function (y = mx+b) in Microsoft Excel where the value of m was the slope of the graph. The researcher also calculated the mean and median level for task engagement, disruptions, and correct responses (Lane & Gast, 2014). To quantify stability, the researcher calculated a stability envelope. The level of stability was determined using the 80%-30% criteria of the stability envelope (Ledford & Gast, 2018). If 80% of the data points fell on or within the 30% of the stability envelope, then the data was considered stable. The variability of the data were classified as having slight, moderate, or high variability. The researcher also used between condition visual analyses to see if there was a behavior change between conditions. This helped to determine if there was a functional relationship between the independent and dependent variables. As the researcher looked at the data between conditions, the researcher calculated the percentage of non-overlapping data to help estimate level change between adjacent conditions. These values were calculated by dividing the number of data points that fell outside the range of data point values of the baseline condition by the number of data points in the intervention condition and multiplying by 100 (Ledford & Gast, 2018). Additionally, when looking at data across adjacent conditions, the researcher calculated the mean and median level change (Lane & Gast, 2014). This was important because the researcher wanted to see how if there were substantial level changes when the intervention was introduced.

Limitations of the Study

The small number of student participants in this study was the biggest limitation and is a common limitation in single-subject research designs. The threat of attrition was another limitation in this study.

Attrition. Behavioral data was collected for participant 1, Lewis, on seven occasions throughout the research study. The researcher was present for a period of 25 sessions. Lewis missed sessions due primarily to absenteeism and/or behavioral challenges. The setting event checklist show that Lewis missed social skills instruction due to time-out (5), seclusion (2), speech therapy (1) or absenteeism (7). For this reason, Lewis was excluded from the research study. Ledford and Gast (2018) state that when attrition occurs you should explicitly report it, discuss why it occurred, and include any data collected for the participant.

In regards to Lewis' absenteeism, he was on a reduced school day. Therefore, when there were 1 or 2-hour school delays, Lewis did not come to school as he would be there less than one hour and then would have to leave again. Additionally, midway through the research study, Lewis began wraparound services with a local mental health facility. He was absent every Monday for those wraparound services. When Lewis was present at school he struggled with challenging behaviors. These behaviors prevented him from being able to join the group of students who attended the social skills lesson. He frequently completed work in the time-out room with a para-professional. There were also many instances in which Lewis came off the bus and went straight into seclusion and/or time-out. Throughout the research study there were times when Lewis participated in the social skills lesson but was removed from the group lesson before individual seat work was assigned. This information contributes to why attrition occurred for this participant.

Throughout the research data collection period, anecdotal notes were collected from observations of the researcher in regards to Lewis' behavior in the classroom. Lewis required one-on-one assistance at all times throughout the lessons and during individual seat work to stay focused on his task. He would frequently zone-out (i.e., stare off into space) and get out of his seat. He was very hyperactive and this prevented him at times from engaging in his task. Figure 3-1 and 3-2 are visual representations of data for Lewis.

Due to inconsistency with his participation in the research study, five stable or decreasing data points were unable to be recorded by the researcher. Therefore, baseline was never established for Lewis and the intervention was not introduced.

With four participants in this research study, the participant loss (attrition) of Lewis has less of an impact on the analysis of the independent variable generality (Ledford & Gast, 2018). This is because the researcher started the research study with four participants and it is recommended to have a minimum of three participants for single-subject research designs. Moving forward, a full data analysis on the remainder of the participants will be reported in the next chapter.

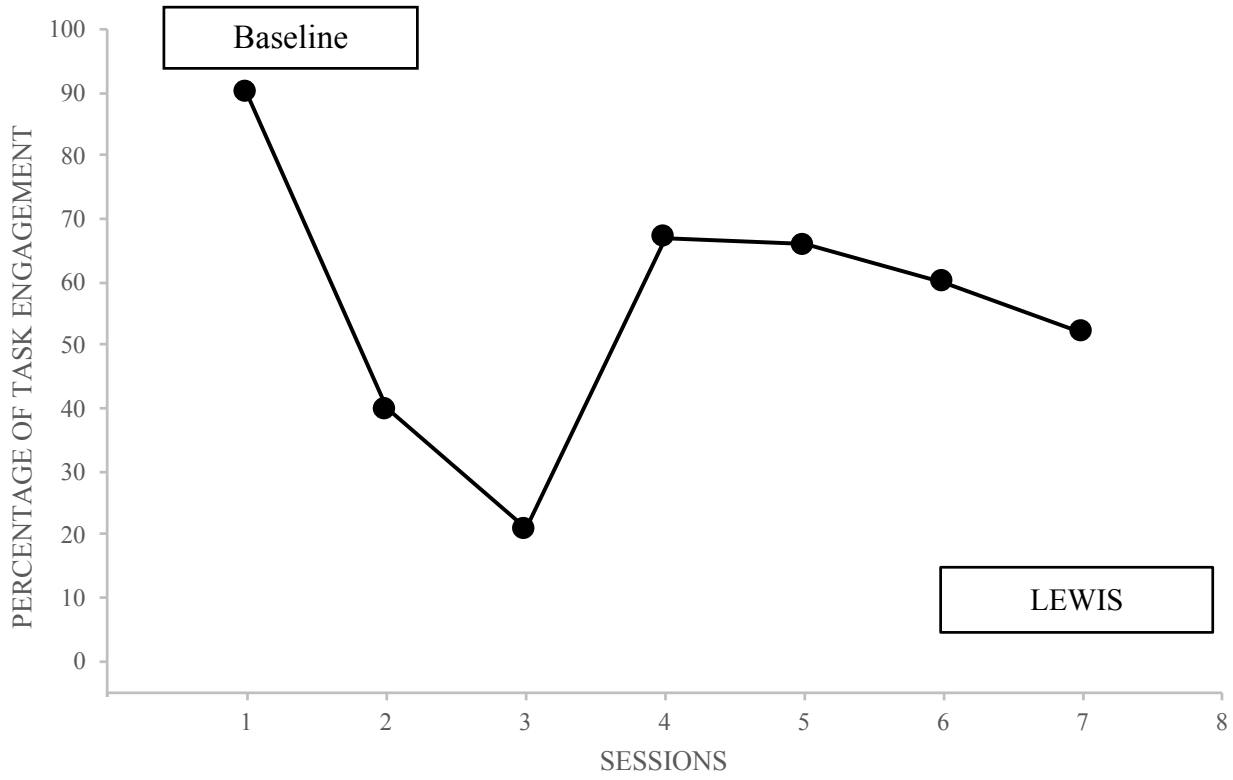

Figure 3-1. *Lewis Task Engagement Data*

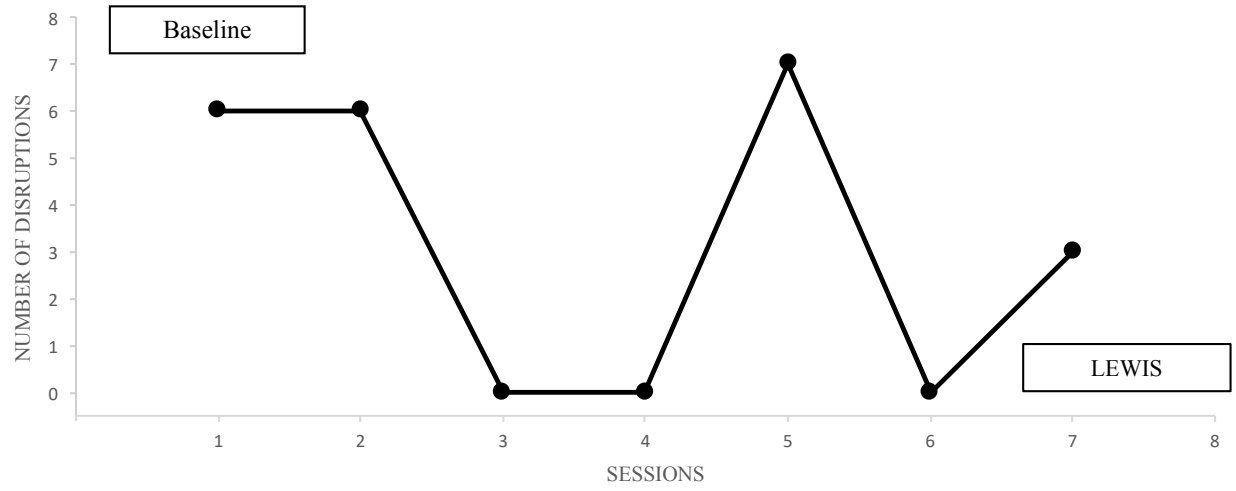

Figure 3-2. *Lewis Disruption Data*

Results

The purpose of this research study was to examine if a specific ABI, choice-making could improve student behavior and academic outcomes within a self-contained classroom for students diagnosed with ED. Specifically, this study examined if giving choice-making opportunities would increase student task engagement, reduce disruptive student behavior, and increase correct responses on social skills assignments. Behavioral data for the participants were collected during social skills independent seat work using a multiple-baseline, across-participants design. Data were recorded after each session and inputted into a graph for visual analysis.

This chapter reports the results from 25 sessions of observations for three participants (total of 70 recorded sessions) that took place during social skills independent seat work. Specifically, this chapter describes intervention results for: a) participant task engagement, b) participant disruptive behaviors, and c) participant correct responses. In addition, social validity results for the teacher and student participants will be reported.

Intervention Results

A summary of mean percentages of student task engagement, rate of student disruptive behavior, and student correct responses on social skills assignments is reported for each participant in Table 4-1. The mean and median level changes for task engagement, disruptions, and correct responses are reported in Table 4-2. Data were plotted on graphs regularly to aid in the evaluation in level, trend, and variability of the task engagement data which determined each phase of the design. The level of stability was determined using the 80%-30% criteria of the stability envelope (Ledford & Gast, 2018). If 80% of the data points fell on or within the 30% of the stability envelope, then the data was considered stable. The researcher determined trend lines for the graphs using the regression trend line function in Microsoft Excel. Also, the percentage of

non-overlapping data (PND) values were calculated to compare baseline data to intervention data. These values were calculated by dividing the number of data points that fell outside the range of data point values of the baseline condition by the number of data points in the intervention condition and multiplying by 100 (Ledford & Gast, 2018).

Task engagement. Participant task engagement was measured using duration recording and was calculated as a percentage (seconds on task). Task engagement is defined as "student engaging in or working on the independent assignment with eyes and hands on the assigned materials required to complete the assignment in accordance with the teacher's directions" (Jolivette et al., 2001, p. 136). As reported in Table 4-1, all three participants demonstrated a higher percentage of task engagement during the intervention condition as compared to the baseline condition. The mean percentage of task engagement for all of the participants was 59.44% during the baseline condition and 72.80% during the intervention condition. There were moderate to high percentages of overlapping data points between conditions for all participants. During the intervention condition, moderate to high percentages of data were variable for all participants with 78.95% (Joslyn), 58.33% (Lincoln), and 60% (Ace) respectively falling on or within the stability envelope. As reported in Table 4-2, there was an improving level change between conditions for task engagement.

Table 4-1

Mean Percentage [and Range] of Participant Task Engagement, Frequency of Participant Disruptions, and Number of Correct Participant Responses

Participant	Task Engagement		Disruptions		Correct Responses	
	BL	**INT**	**BL**	**INT**	**BL**	**INT**
Joslyn	75.08 [67.00 – 94]	80.23 [27.00 – 100.00]	11.50 [3 – 19]	4.16 [0 – 13]	4.17 [1 – 10]	4.05 [1 – 17]
Lincoln	45.74 [11.90 – 95.00]	64.36 [15.50 – 87.40]	3.45 [0 - 9]	3.00 [1 - 7]	4.00 [0 – 11]	3.33 [1 – 8]
Ace	57.50 [0 – 100.00]	73.80 [34.54 – 100.00]	2.82 [0 – 10]	2.40 [0 – 6]	3.12 [0 – 12]	4.00 [1 – 8]
TOTAL	59.44 [0 – 100.00]	72.80 [15.50 – 100.00]	5.92 [0 – 19]	3.19 [0 – 13]	3.76 [0 – 12]	3.79 [1 – 17]

Note: BL = Baseline Condition; INT = Intervention Condition

Table 4-2

Mean and Median Level Changes of Participant Task Engagement, Frequency of Participant Disruptions, and Number of Correct Participant Responses Between Conditions

Participant	Task Engagement		Disruptions		Correct Responses	
	Mean Level Change	**Median Level Change**	**Mean Level Change**	**Median Level Change**	**Mean Level Change**	**Median Level Change**
Joslyn	+ 5.15 Improving	+ 16.88 Improving	- 7.34 Improving	- 8.5 Improving	- 0.11 Deteriorating	0.00
Lincoln	+ 18.62 Improving	+ 31.10 Improving	-0.45 Improving	+ 0.5 Deteriorating	- 0.67 Deteriorating	+ 1.00 Improving
Ace	+ 16.3 Improving	+ 20.90 Improving	- 0.42 Improving	0.00	+ 0.88 Improving	+ 11.00 Improving
TOTAL	+ 13.37 Improving	+ 22.96 Improving	- 2.74 Improving	-2.67 Improving	+ 0.03 Improving	+ 0.67 Improving

Participant 1 - Joslyn. Visual analysis of the data showed a slight change in level of task engagement from the last data point in the baseline condition (67.22%) to the first data point in the intervention condition (79.88%). The mean percentage of task engagement for Joslyn increased 5.15% from the baseline condition (M = 75.08%) to the intervention condition (M = 80.23%). During the intervention condition, there was a deteriorating trend in task engagement (y = -0.2351x + 83.994). The data had moderate variability with 78.95% of data points falling on or within the stability envelope (75.66-102.36). There was also a low percentage of non-overlapping data points between conditions (PND = 21.05%).

Participant 2 - Lincoln. Visual analysis of the data showed an immediate change in level of task engagement from the last data point in the baseline condition (44%) to the first data point in the intervention condition (28.40%). The mean percentage of task engagement for Lincoln increased 18.62% from the baseline condition (M = 45.74%) to the intervention condition (M = 64.36%). During the intervention condition, there was an accelerating trend in task engagement (y = 1.9338x + 28.261). The data had moderate variability; 58.33% of data points fell on or within the stability envelope (63.84 - 86.37). Additionally, there was 100% overlapping data points between conditions (PND = 0%).

Participant 3 - Ace. Visual analysis of the data showed an immediate change in level of task engagement from the last data point in the baseline condition (34.67%) to the first data point in the intervention condition (92.64%). The mean percentage of task engagement increased 16.30% from the baseline condition (M = 57.50%) to the intervention condition (M = 73.80%). During the intervention condition, there was an accelerating trend in task engagement (y = 6.6293x - 73.345). The data had moderate variability with 60% of data points falling on or within

the stability envelope (77.80 - 105.52). There were also a high percentage of overlapping data points between conditions (PND = 20%).

Despite higher levels of task engagement from the baseline condition to the intervention condition, the overlapping data points between conditions and variability of the data were moderate to high for all three participants. Therefore, a functional relationship could not be established between choice-making and task engagement during social skills instruction. Visual representation of percentage of task engagement is presented in Figure 4-1.

Disruption. Participants' disruptive behaviors were measured through frequency recording. A disruptive behavior was defined as, "student (a) distracting peers from their tasks by talking to peers about unrelated topics or asking peers for answers to the assignment; (b) elopement (leaving assigned area without permission); (c) making loud noises or verbal outbursts; (d) tantruming; and/or (e) destroying property for 3s or more consecutively" (Jolivette et al., 2001, p. 136). Visual representation of the number of disruptive behaviors is presented in Figure 4-2.

As seen in Table 4-1, the mean number of disruptions for all participants was 5.92 during the baseline condition and 3.19 during the intervention condition. The non-overlapping data points between conditions were moderate to high, ranging from 0% to 63.16%. Variability of the data were low to moderate during the intervention condition, ranging from 8.33% to 40% falling on or within the stability envelope. As reported in Table 4-2, there was an improving level change between conditions for number of disruptions.

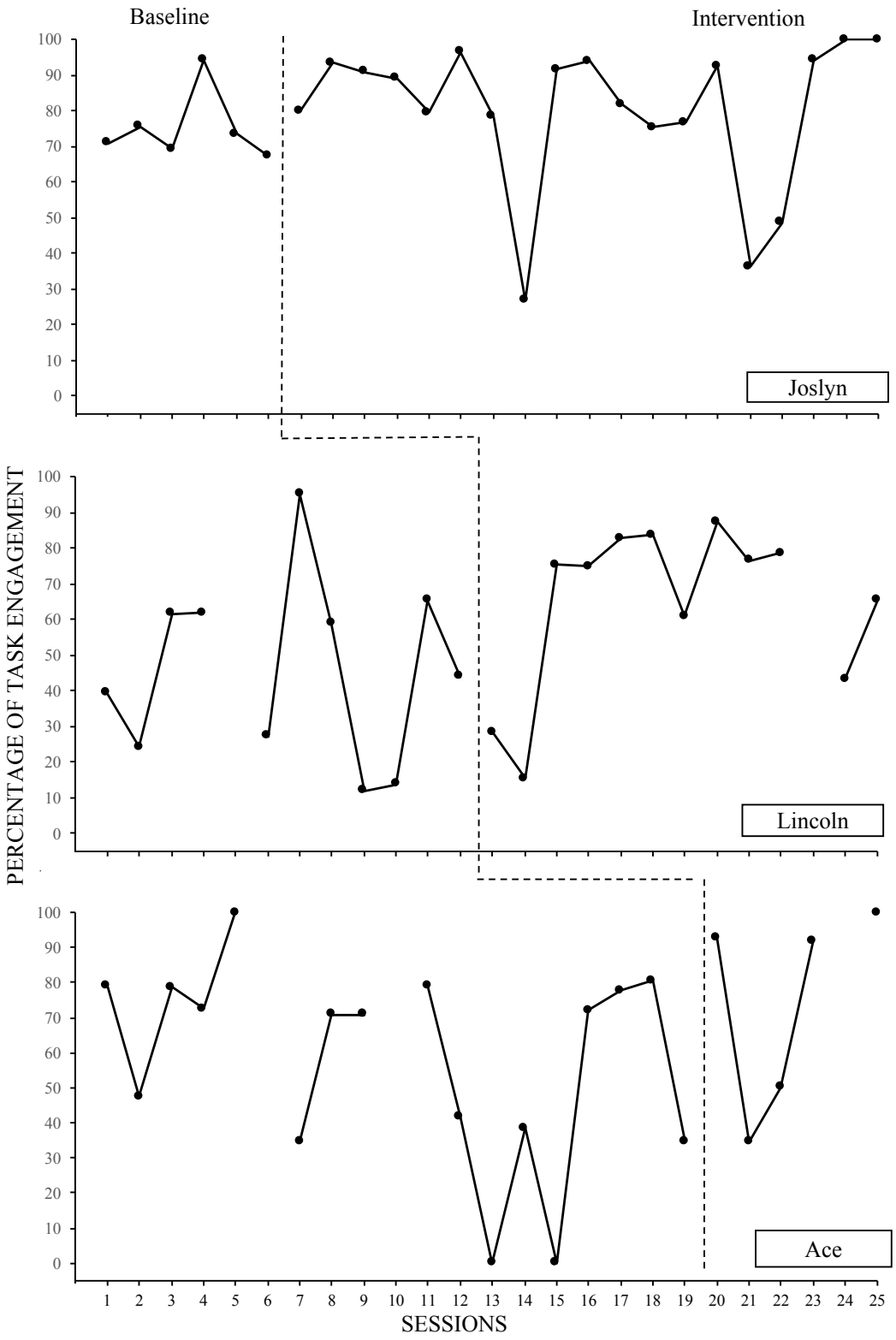

Figure 4-1. *Percentage of Task Engagement*

Participant 1 - Joslyn. There was an immediate drop in the number of disruptions from the last data point of the baseline condition (19) to the first data point in the intervention condition (13). Joslyn's mean number of disruptions decreased by 7 from the baseline condition (M = 11.50) to the intervention condition (M = 4.16). During the intervention condition, there was an accelerating trend in disruptions (y = -0.0246x + 4.5509) and data had low variability with 21% of data points falling on or within the stability envelope (2.55 - 3.45). The percentage of non-overlapping data points between conditions was moderate (PND = 63.16%).

Participant 2 - Lincoln. There was an immediate increase in the number of disruptions from the last data point of the baseline condition (2) to the first data point in the intervention condition (7). Lincoln's mean number of disruptions showed a slight decrease (.45) from the baseline condition (M = 3.45) to the intervention condition (M = 3.00). During the intervention condition, there was an accelerating trend in disruptions (y = -0.0789x + 4.4737) and data had very high variability with 8% of data points falling on or within the stability envelope (2.125 - 2.86). There was also 100% overlapping data points between conditions (PND = 0%).

Participant 3 - Ace. There was an immediate drop in the number of disruptions from the last data point of the baseline condition (3) to the first data point in the intervention condition (0). Ace's mean number of disruptions showed a slight decrease (.42) from the baseline condition (M = 2.82) to the intervention condition (M = 2.40). During the intervention condition, there was a decelerating trend in disruptions (y = 0.0405x + 1.5) and the data had moderate variability with 40% of data points falling on or within the stability envelope (1.7 - 2.3). There was also a high percentage of overlapping data points between conditions (PND = 20%).

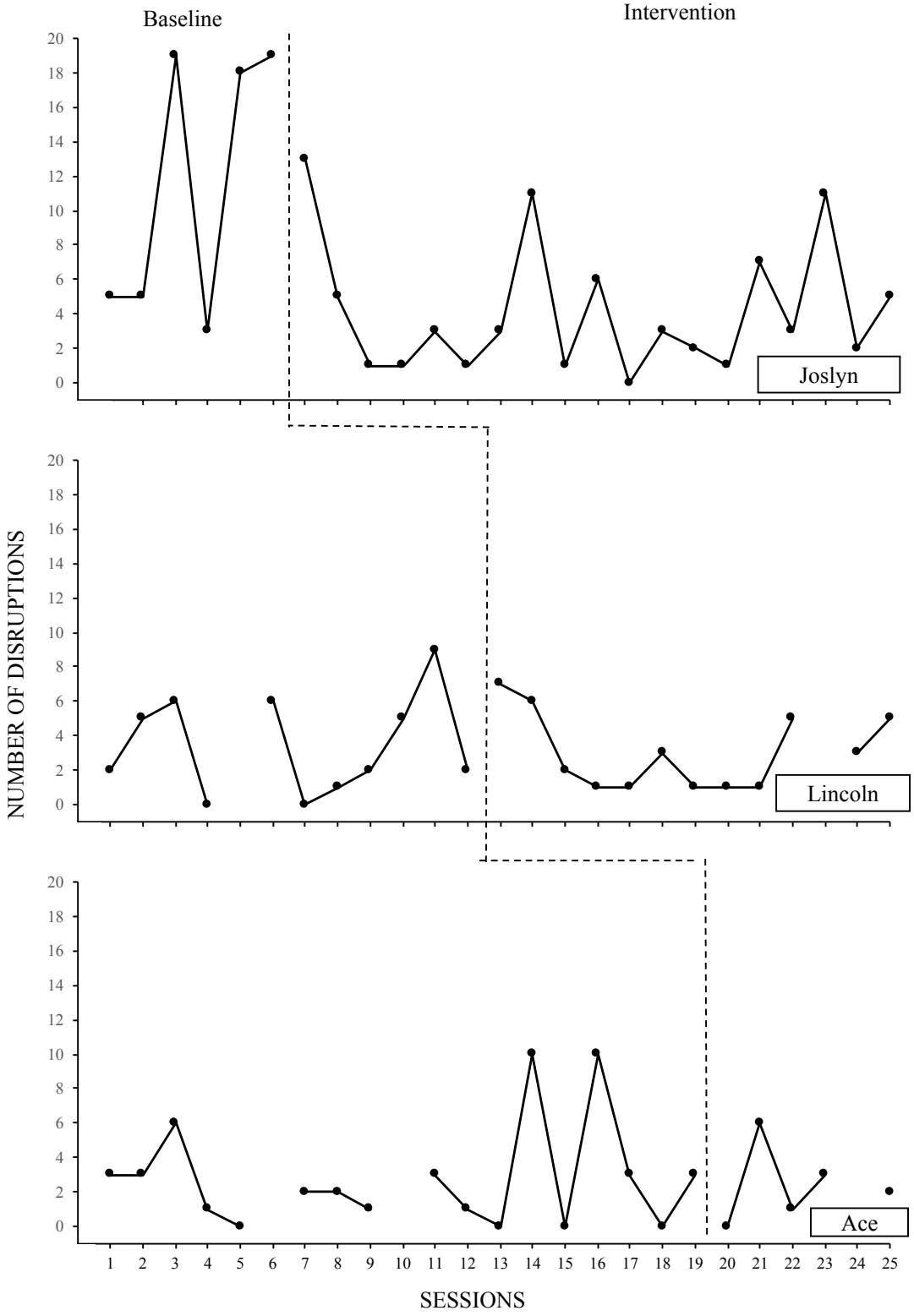

Figure 4-2. *Number of Participant Disruptions*

The mean number of disruptions for all participants decreased from the baseline condition to the intervention condition. However, there were low to moderate levels of variability and overlapping data points between conditions, so a functional relationship could not be established between choice-making and number of disruptions during social skills instruction.

Correct Responses. Social skills assignments were collected by the research and coded by number of attempted responses and number of correct responses. Correct responses was defined as, number of attempted task problems answered correctly. Visual representation of the number of responses is presented in Figure 4-3.

During the baseline condition, the mean number of correct responses for all participants was 3.76 and 3.79 during the intervention condition. The non-overlapping data points between conditions ranged from 0% to 10.53%. Variability of the data were moderate to high during the intervention condition, ranging from 17% to 40% falling on or within the stability envelope. As reported in Table 4-2, there was an improving mean level change between conditions but no median level change.

Participant - Joslyn. There was an immediate drop in the number of correct responses from the last data point in the baseline condition (10) to the first data point in the intervention condition (2). Additionally, the mean number of correct responses for Joslyn decreased 0.12 from the baseline condition ($M = 4.17$) to the intervention condition ($M = 4.05$). During the intervention condition, there was a slight deteriorating trend in correct responses ($y = -0.1175x + 5.9333$). The data had moderate variability with 21% of data points falling on or within the stability envelope (2.55 - 3.45). There was also a very high percentage of overlapping data points between conditions (PND = 10.53%).

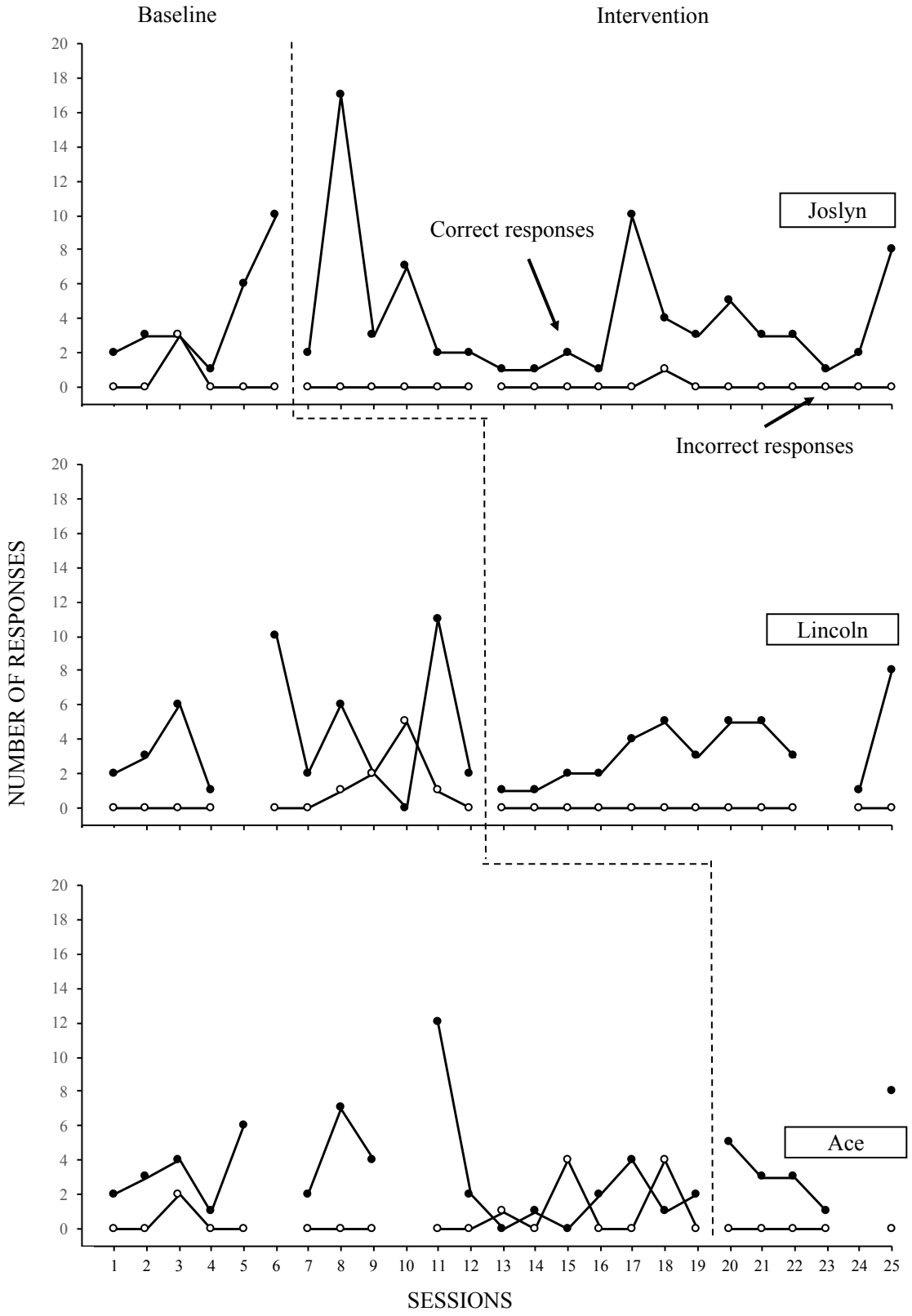

Figure 4-3. *Number of Participant Responses*

Participant 2 - Lincoln. There was an immediate drop in the number of correct responses from the last data point in the baseline condition (2) to the first data point in the intervention condition (1). The mean number of correct responses for Lincoln decreased 0.67 from the baseline condition (M = 4.00) to the intervention condition (M = 3.33). During the intervention condition, there was an accelerating trend in correct responses (y = 0.3178x - 2.5992) and the data had high variability with 7% of data points falling on or within the stability envelope (2.55 - 3.45). There was also 100% overlapping data points between conditions (PND = 0%).

Participant 3 - Ace. There was an immediate increase in the number of correct responses from the last data point in the baseline condition (2) to the first data point in the intervention condition (5). The mean number of correct responses for Ace slightly increased 0.88 from the baseline condition (M = 3.12) to the intervention condition (M = 4.00). During the intervention condition, there was an accelerating trend in correct responses (y = 0.5405x - 8) and the data had moderate variability with 40% of data points fell on or within the stability envelope (2.55 - 3.45). There was also 100% overlapping data points between conditions (PND = 0%).

In regard to correct responses, there was a slight increase in correct problems from the baseline condition to the intervention condition. However, the data had a moderate to high level of variability and there were overlapping data points between conditions. As such, a functional relationship could not be established between choice-making and correct responses during social skills instruction.

Social Validity Results

Social validity is a distinctive quality in establishing external validity. Essentially, a study is socially valid if it produces "findings that will be of use to practitioners who work with similar subjects in other settings" (Beaudry & Miller, 2016, p. 185). To address social validity, the

special education teacher was given a questionnaire at the conclusion of the study. Additionally, a social validity questionnaire was given to each student participant at the end of the study. Results from the student and teacher participant's social validity questionnaire are reported next.

Teacher participant. The special education teacher was given a questionnaire that consisted of three multiple choice and six open-ended questions (see Appendix N for the Teacher Questionnaire). Overall the responses of the teacher were positive; she felt like choice-making opportunities were beneficial. Specifically, the teacher liked being able to provide her students with a choice in their assignments, thought that providing choice in assignments helped her students complete their work better than having no choice. The teacher would like to provide her students with a choice in assignments in other subject areas. In response to her students' behaviors, she thought that giving her students choice increased their engagement, increased their effort, and decreased their disruptions. Overall, she felt that it was rewarding to be able to give her students choice and it was easy to implement.

Student participants. The student participants were given a questionnaire that consisted of three multiple choice and one open-ended question (see Appendix M for the Student Questionnaire). Overall the responses of the student participants were positive indicating they liked having a choice in their assignments.

Question 1. In response to whether they liked having a choice in assignments for social skills, all three student participants answered yes.

Question 2. In response to whether they thought having a choice helped them complete their work, all three student participants answered yes.

Question 3. In response to whether they would like for their teacher to continue to provide them a choice in assignment, all three student participants answered yes.

Question 4. In response to what they liked best about being providing a choice with their assignments the student participants responded, “Because it made it fun”, “happy”, and “It was fun. It made me happy, not sad.”

Summary

Replicating the effects of a condition and similar levels and trends within and across conditions between all participants need to be confirmed for the presence of a functional relationship. Furthermore, “at least three opportunities to demonstrate behavior change contingent on condition change” need to be demonstrated (Ledford & Gast, 2018, p. 194). In the present study, the moderate to high percentages of variability in the data and the amount of overlap between baseline and intervention conditions for task engagement, number of disruptions, and correct responses precluded the determination of a functional relationship.

The reported results of the participants’ data for task engagement suggest a functional relationship between choice-making and student engagement could not be determined. Three of three students demonstrated a higher mean percentage of task engagement during the intervention condition. However, there were a moderate to high percentage of overlapping data points between adjacent conditions and moderate to high percentages of variability in the data.

The reported results of the participant’s data for rate of disruptions also suggest a functional relationship between choice-making and rate of disruption could not be determined. Three of three students demonstrated a lower mean percentage of disruptions during the intervention condition. However, there were a moderate to high percentage of overlapping data points between adjacent conditions and moderate to high percentages of variability in the data.

Results for correct responses were mixed. Only one participant demonstrated an increase in score from the baseline to intervention condition. There were also moderate to high percentage

of overlapping data points between conditions and moderate to high percentages of variability in the data. A functional relationship between choice-making and correct responses of social skills independent seat work could not be established.

Discussion

In this chapter, the results of the research study will be explained and interpreted by the researcher. The purpose of the study was to examine if an ABI, choice-making, can improve student outcomes for three student participants diagnosed with ED within a self-contained educational setting during social skills instruction. Specifically, this study attempted to answer the following research questions:

1. Will providing choice of assignments during social skills instruction increase student engagement for students with ED in a self-contained classroom?
2. Will providing choice of assignments during social skills instruction decrease disruptive behavior for students with ED in a self-contained classroom?
3. Will providing choice of assignments during social skills instruction increase the correct responses answered during independent seat work in students with ED in a self-contained classroom?

Key Findings

There are several key findings identified in this research study. The discussion of the key findings will be centered on the three research questions of the study. Each research question will be discussed in further detail with an interpretation of the results and an explanation of how the results can be incorporated into the current literature for choice-making as an ABI.

Task engagement. The first research question asked in this study was, "Will providing choice of assignments during social skills instruction increase student engagement for students with ED in a self-contained classroom?" By asking this question, the researcher attempted to find out if the student participants, when provided a choice in social skills assignments, increased their attention to the assigned activity or task. The operational definition of task engagement

used in this research study was, “Student engaging in or working on the independent assignment with eyes and hands on the assigned materials required to complete the assignment in accordance with the teacher’s directions” (Jolivette et al., 2001, p. 136).

Results indicated that the three participants showed a mean increase in task engagement from the baseline condition (M = 59.44%) to the intervention condition (M = 72.80%). However, a functional relationship could not be established between choice-making and task engagement during social skills instruction due to variability, overlapping data points, and a low level of immediate change between conditions. Results indicated a moderate to high level of variability in data points for the participants. Additionally, overlapping data points between conditions indicated inconsistency and a low level of change between conditions.

In this study, one reason experimental control may not have been achieved was because of inconsistent effects within the research. Specifically, only one participant met the criteria for introducing the intervention (i.e., five data points of stable or decreasing trend). Joslyn baseline data demonstrated five out of six data points that were stable, meeting the criteria. The data wasn’t stable when the researcher began to introduce the intervention for the second and third participants. Therefore, the researcher made the decision to introduce the intervention once Ace and Lincoln had one additional data point that gave a decreasing trend. Ledford and Gast (2018) report, “When behavior change occurs for some participants in the context of MB or MP across participant designs, we cannot confidently attribute causality for any participants” (p. 269). Therefore, because the criterion for introducing the intervention was only followed for one participant, experimental control was influenced. Additionally, two participants (i.e., Lincoln and Ace) had overlapping data points across the adjacent conditions. The low percentage for these

two participants indicate inconsistent and low level change between baseline and intervention conditions

In summary, Ledford and Gast (2018) report that in order for a potential demonstration of effect (i.e., a functional relationship) that there needs to be "at least three opportunities to demonstrate behavior change contingent on condition change" (p. 194). Across the three participants, behavior change upon condition change was not indicated from the data. Therefore, a functional relationship was not established between choice-making and task engagement.

Disruptions. The second research question asked in this study was, "Will providing choice of assignments during social skills instruction decrease disruptive behavior for students with ED in a self-contained classroom?" The researcher was seeking to find out if, when provided a choice in assignments during social skills instruction, the student would demonstrate a lower level of disruptive behavior. The operational definition for disruptions that was used in this research study was, "Student (a) distracting peers from their tasks by talking to peers about unrelated topics or asking peers for answers to the assignment; (b) elopement (leaving assigned area without permission); (c) making loud noises or verbal outbursts; (d) tantruming; and/or (e) destroying property for 3s or more consecutively" (Jolivette et al., 2001, p. 136).

The mean number of disruptions for all participants decreased 2.74% on average from the baseline condition to the intervention condition. Due to the range of overlapping data points and the variability, a functional relationship between choice-making opportunities and decreasing disruptive behaviors during social skills instruction could not be established.

The results were not definite regarding the effectiveness of choice-making on decreasing disruptive behaviors during social skills instruction. The overall decrease in disruptive behaviors for all three student participants is beneficial as this is more conducive to a learning environment.

It is important to note that two participants (i.e., Joslyn and Lincoln) had multiple sessions of zero disruptions during the intervention condition.

Correct responses. The last research question asked in this study was, "Will providing choice of assignments during social skills instruction increase the correct responses answered during independent seat work in students with ED in a self-contained classroom?" Social skills assignments were collected by the researcher and coded by number of attempted responses and number of correct responses. The operational definitions for correct responses was defined as, number of attempted task problems answered correctly.

The mean number of correct responses for all participants increased 0.03% from the baseline to the intervention condition. The range of overlapping data points between conditions ranged from 0% to 10.53% and the variability of the data was moderate. A functional relationship between choice-making opportunities and number of correct responses could not be established.

The results were not clear regarding the effectiveness of choice-making on increasing correct responses on social skills assignments. Although the assignments were attainable and could be completed at an independent level for all participants, the assignments were not equivalent between participants because of the differing choices. Therefore, student preference of assignment may have played a role in the number of attempted and correct responses. One student participant, Ace, scored zero on two assignments due to refusal to work. Through the research study, all the student participants had multiple sessions when they missed zero problems. It has been determined that more research is needed in regard to the effectiveness of choice-making on increasing correct responses on social skills assignments.

To summarize, the key findings of this research study do not fully provide evidence of the effectiveness of choice making opportunities in the domain of social skills instruction for elementary school students with ED. These results do not support the current literature on choice-making as an ABI. However, results of the present study do include mean increased task engagement (ranging from 59.44% to 72.80%) and mean decrease in disruptive behaviors (ranging from 5.92 to 3.19).

The researcher speculates that the potential positive outcomes associated with choice-making interventions were not seen in this research study for several reasons. First, social skills are an area of particular struggle for students with ED. With major deficiencies in this area, instruction in social skills may need to be explicit (Jolivette et al., 2000). Being provided with choices during social skills instruction could be too overstimulating. Secondly, setting events played a role in the behavior of these students. When the students were experiencing events that set up their behavior for that day, it was seen that choice-making had no effect. For example, during the intervention condition Joslyn experienced outlier data points for sessions 15 and 16 that coincided with a setting event. Researcher notes reflected she was in the middle of a court hearing for her foster family and on sessions 15 and 16 her family was in court.

Despite inconclusive results, the findings from this study do extend the literature in the field. It is important for researchers to know that choice-making as an ABI in social skills instruction was not found to be as effective as in mathematics and English language arts. Although a functional relationship could not be established between choice-making opportunities and the dependent variables in the study (i.e., task engagement, disruptions, correct responses) it is important to not disregard the positive effect choice making has on different academic areas. Furthermore, it is important to note that there was a mean increase in task engagement from the

baseline to intervention condition for all participants, a mean decrease in disruptive behaviors for all participants, and an increase in correct problems for two of three participants. Experimental control was not achieved in this study; however, these results indicate that choice-making may have a positive outcome on social behaviors in the classroom. Further studies are needed to determine if a functional relationship can be established.

Implications

According to National Center for Education Statistics (NCES), during the 2014-2015 school year there were 349,000 children between the ages of three and twenty-one were diagnosed with an ED (NCES, 2018). Children with ED are children who present significant challenges in controlling their emotions. To combat this issue, ABIs are used in classrooms in which children with ED are educated. This study specifically looked at the ABI of choice-making opportunities within the context of social skills instruction. Most of the literature on choice-making is applied within the context of mathematics or English language arts instruction provided to elementary students with ED. Within the literature (i.e., during mathematics and English language arts instruction), positive outcomes were seen for students with ED in regard to increased social and academic outcomes. However, results from this study are inconclusive. This has implications for students with ED and for the general and special education teachers that provide direct instruction to these students.

Implications for instruction. Social skills instruction presents challenges for special education teachers who teach students diagnosed with ED because many students with ED do not have a knowledge base of appropriate behaviors (McGinnis & Goldstein, 1984). When being taught appropriate social skills or learning about ways to improve their social skills deficiencies, students with ED may not be eager to participate in this instruction. In the special education

profession, we are tasked with finding effective strategies to reach special education students. Special education teachers acknowledge that all humans behave to have their needs met (Mishler & Cherry, 1999). If students diagnosed with ED have a need of power or control, they will seek out ways to meet this need that aren't always desired. However, from the theoretical framework of this study, Glasser's last basic premise is, "given the opportunity/guidance humans can alter their behavior to more acceptable levels" (Mishler & Cherry, 1999, p. 20). With this being said, special education teachers can provide support and strategies to students with ED to help these students achieve more acceptable levels of behavior**.**

Implications for teachers. The findings from this study suggest that providing students with a choice in social skills assignments did not result in consistently improved engagement, reduced disruptions, or increased correct answers. Bailey (2015) and Platt (2018) reference the fact that choice-making alone, without the consideration of student interests and goals, is not enough to increase student motivation. Special education teachers need to address student's individual preferences by giving student interest surveys or preference quizzes. The implication for this is that while choice-making opportunities can be helpful, the choices need to be accompanied with motivators such as tangibles, edibles, or other rewards. Additionally, student preference needs to be included in the choices being provided and the rewards the students can earn. When students have rewards (i.e., tangibles and edibles) students with ED will likely be more motivated.

Implications for students. Task engagement is very important; students need to demonstrate task engagement in the classroom in order to fully gain the knowledge needed to succeed in school. Some of the characteristics of children with ED such as hyperactivity, aggression or self-injurious behavior, withdrawal, immaturity, and learning difficulties (Jolivette

et al., 2000) contribute to a lack of task engagement. Literature has shown that for students with disabilities, opportunities to make choices in their learning can promote positive behaviors which in turn have an increase on task engagement (Jolivette et al., 2001).The implication for students diagnosed with ED is to acknowledge the importance of staying engaged. When students are engaged, they are less likely to act out and become disruptive. The increase in engagement will help improve school outcomes for students with ED (Jolivette et al., 2000).

Limitations and Future Research

The limitations of this study should be considered when interpreting the results and when attempting to further the research in the area of choice-making opportunities as an ABI. The small number of student participants (n = 3) in this study was the main limitation and is a common limitation in single-subject research designs. The researcher began the study with four student participants. The threat of attrition was another major limitation in this study. The researcher had to exclude one student participant (i.e., Lewis) as a stable baseline was never established.

Another major limitation to this study was inconsistent effects. One reason experimental control may not have been not achieved was because of inconsistent effects within the research. Specifically, only one participant met the criteria for introducing the intervention (i.e., five data points of stable or decreasing trend). The criterion for introducing the intervention was only followed for one participant, experimental control was influenced.

In this research study, the long baseline condition for Joslyn constituted a maturation threat. Joslyn was the only participant that was present for all of the research sessions. She was the first participant to receive the intervention thus she remained in the intervention condition for the longest period of time. During this time, a history event played a big role in behavior change

as well. She was in the middle of a court hearing to have her placed in a different foster home. This played a significant role in explaining the decreasing data points in her task engagement and number of disruptions during the intervention condition.

History effects were another limitation to this study in particular to the loss of sessions. The researcher was present for 25 sessions over the span of seven weeks. Events that were uncontrollable for the researcher during that time include: teacher absences, student absences, student discipline (including seclusion, time-out, and restraint), school field trips, mental health related services, speech therapy, and teacher IEP conferences.

Another limitation to this research study had to do with the choices that were provided to the student participants. It is possible that the students could have responded better to choice-making if the choices of activities were different. The researcher asked Ms. Smart about the student participants' preferences in assignments and chose puzzles (i.e., word searches and crossword puzzles), cutting and pasting activities, and hands-on file folder activities. However, an interest survey or preference assessment was not given directly to the students. This could have affected the study and is therefore a limitation. Additionally, there is a noted scarcity in evidence-based social skills curriculum. The researcher had to design many activities or purchase designed materials. These activities were not evidence-based. This is a limitation to the study.

The low inter-observer agreement percentage for task engagement (M = 66.67%) was another limitation to the study. Ledford and Fast (2018) report that the average agreement for IOA is 80% or better. The results from the IOA indicate that we were not reliable. A possible reason for the low IOA is in regard to the IOA training that was conducted before data collection. The researcher and secondary coder trained solely from online video sources. Therefore, the training was not similar to the actual coding. This could account for the high percent agreement

in training but not in practice. In the future, it would be more beneficial for the researcher and secondary coder to train in a classroom. During the data collection period, the researcher coded the video-taped sessions daily. For IOA, the secondary coder waited until after the researcher was done with data collection before coding. This is another limitation of the study; it would have been more beneficial to code independently during the data collection period. When comparing, if the researcher and secondary coder noticed low IOA percentages we could have gotten together and re-trained. Additional limitations in regard to IOA is that an agreement was not measured for the FOI. Ledford and Gast (2018) recommend IOA for at least 80% of sessions to measure the implementation of treatment.

Lastly, although the research study contributes in building external validity for multiple-baseline, across-participants design, intra-subject replication could not be established. Ledford and Gast (2018) defines direct intra-participant replication as "repeating the experimental effect with the same participant more than once in the same study" (p. 80). During this process, Ledford and Gast (2018) report that you gain confidence in a demonstrated "reliability of the effect" (p. 81). Future research studies are needed with direct replication in order to increase external validity and increase the reliability of choice-making opportunities within social skills instruction.

The extant literature on choice making suggests that when students with ED are provided choice-making opportunities, positive outcomes are reported. The positive outcomes are related to academic success (Shogren et al., 2004) and behavioral success (Jolivette et al., 2001) within mathematics and English language arts instruction. However, no previous studies have examined the effects of choice-making within the context of social skills curriculum. Therefore, the results from this study contribute toward extending the literature in regards to choice-making as an ABI.

More studies need to be conducted to assess the effectiveness of choice-making in different curriculum areas other than mathematics and English language arts.

In summary, although results indicated a mean increase in task engagement along with a mean decrease in disruptive behaviors for three students with ED participating in social skills instruction with choices of assignments provided, failure to establish experimental control precluded establishment of a functional relationship. The study suggests that while choice-making opportunities have been linked to increasing behavior and academic outcomes in mathematics and English language arts, choice-making opportunities are not yet shown to be effective in social skills instruction. Future studies should investigate different social skills curriculum could be effective with choice-making as an intervention.

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Appendix A. Video Release Consent Form (Teacher) and Subject Informed Consent (Teacher)

Video Release Consent Form (Teacher)

I _____, agree to be video
(print name of teacher agreeing to be video recorded)
recorded as part of the study entitled Choice as an Antecedent Intervention Provided to Children with Emotional Disturbance conducted by Amy Lein, PhD and Alexandra Taylor, PhD Candidate.

I understand that the video recording will occur in my classroom and be focused on recording student behaviors after given a choice of social skills assignments during independent seat work.

I understand that each day after Alexandra Taylor views and codes the video recording, the recording will be deleted. The only exception is when Amy Lein codes 20% of the total number of videos to check for inter-observer-agreement. After Amy Lein watches and codes the video, then it will be deleted immediately.

I understand that no video recordings or still images of me will ever be published.

_____ _____
Signature of Teacher Agreeing to be video recorded Date Signed

Subject Informed Consent (Teacher)

Introduction and Background Information

You are invited to participate in a research study. The study is being conducted by Amy Lein, Ph.D from Bellarmine University (principal investigator) and Alexandra Taylor, Ph.D. candidate (co-investigator). The study is sponsored by Bellarmine University. The study will take place in your self-contained classroom at Parkwood Elementary School within the Greater Clark County School District. Approximately four student subjects will be invited to participate. Your participation in this study will last for approximately 6-8 weeks during the social skills block of instruction for 15-25 minutes of student independent work time. This equates to 500 hours in your classroom.

Purpose

The purpose of this research study is to examine if an antecedent intervention, choice-making opportunity, can improve academic and behavioral outcomes during social skills instruction for students with emotional disturbance. By examining choice-making opportunities, the greater goal is to equip special education teachers with a preventative measure that they can use to address externalizing behaviors in children with an emotional disturbance within a self-contained setting.

Procedures

In this study, you will be asked to deliver choice-making opportunities to your students during social skills instruction. Prior to implementation, you will be trained on how to deliver the choice-making opportunities. Following the training, you will implement choice-making opportunities. As part of the study design, you will begin and end implementation of the choice making intervention with each child at a different time as directed by Alexandra Taylor (co-investigator). This process of waiting to implement until after establishment of steady baseline, and until after at least five data points of an increasing trend in previous student helps to establish causality in the study. The duration for the choice and no choice implementation will last approximately 6-8 weeks for 15-25 minutes of social skills instruction. Procedures for implementing the choice-making opportunity will include a six-step method including: 1) offer the individual two or more options, 2) ask the individual to make a choice, 3) provide wait time for

the individual to make his or her choice, 4) wait for the individual's response, 5) reinforce with the option chosen (i.e., give the item to the individual, and 6) if the individual does not make a choice, prompt the individual to choose from the provided options. Additionally, you will be asked to fill out a questionnaire for each student on two separate occasions. You are free to decline to answer any particular questions that make you feel uncomfortable.

Additionally, a video recording will take place in your classroom and be focused on the students in your classroom that are partaking in the research study. Specifically, we are focused on recording student behaviors during independent seat work that takes place during social skills, immediately after choice-making opportunities. A researcher will watch the video to code for behaviors and then delete it immediately. The only exception is when a second researcher codes 20% of the total number of videos to check for inter-observer-agreement. After the second researcher watches the video, then it will be destroyed immediately. No video recordings or still images will ever be published.

Potential Risks

There are no reasonably foreseeable risks involved with this study.

Benefits

The possible benefits of this study include learning a preventative measure that you can use to address externalizing behaviors in children with an emotional disturbance within a self-contained setting. In addition, if your students are responsive towards choice-making opportunities you could see a reduction in externalizing behaviors in your classroom. The data collected in this study may not benefit you directly. However, the information learned from this research may be helpful to others in the future.

Confidentiality

Although absolute confidentiality cannot be guaranteed, confidentiality will be protected to the extent permitted by law. The study sponsor or the Institutional Review Board may inspect your research records. Should the data collected in this research study be published, your identity will not be revealed.

Voluntary Participation

Your participation in this research study is voluntary. You may refuse to participate or withdraw your consent at any time without penalty or losing benefit to which you are otherwise entitled.

Your Rights as a Research Subject and Contact Persons

If you have any questions about your rights as a research subject, you may call the Institutional Review Board Office at 502.272.8032. You will be given the opportunity to discuss any questions, in confidence, with a member of the Board. This is an independent committee composed of members of the University community and lay members of the community not connected with this institution. The Board has reviewed this study.

You acknowledge that all your present questions have been answered in language you can understand. If you have any questions about the study, please contact Dr. Amy Lein (502- 272-8707) or Alexandra Taylor (502-727-8245).

Consent

You have discussed the above information and hereby consent to voluntarily participate in this study. You have been given a signed copy of this consent form.

_____ _____
Signature of Subject or Legal Representative (teacher) Date Signed

_____ _____
Signature of Investigator Date Signed

_____ _____
Signature of Person Explaining Consent if other than Investigator Date Signed

Appendix B. Subject Informed Assent (Student)

Subject Informed Assent (Student)

Introduction and Background Information

You are invited to participate in a research study. The study is being conducted by Amy Lein, Ph.D. from Bellarmine University (principal investigator) Alexandra Taylor, Ph.D. candidate (co-investigator). You are invited because your teacher indicates that you may need more help with social skills instruction.

At the beginning of the study, you will be taught as usual: for independent seat work time, your teacher will give you a social skills assignment and you will work on what you are assigned. Then after you work this way for a while, the teacher will start asking you to choose between 2-3 different assignment choices. When you have the chance to make a choice, your teacher will present you with 2-3 social skills assignments and ask you to choose which one to work on. You will be able to make your choice and be given the item that you chose to complete. During the study, some students will be given choices while others work as usual (being asked to complete the work the teacher gives them), but eventually, by the end of the study, each student will have a chance to choose between 2-3 assignments. Also, you will take a student learning survey at the beginning of the study so the researcher can learn about you and how you like to learn best.

If you agree to be in this study, you will be video recorded when you are working on your reading assignments at your desk. No video recordings or still images will ever be published.

Your family knows that you are in the study. If other information is given about you, your name will be kept secret. A number or initials will be used instead of your name.

If you begin to feel bad while you are in the study, you can tell your teacher or Alexandra Taylor, Ph.D. Candidate. You can stop the study at any time, this is your choice.

If you have any questions throughout the study, you can ask your teacher or Alexandra Taylor, Ph.D. Candidate. You may also ask your parent or guardian about any questions that you have.

After you have read this paper (or the paper has been read to you), you can decide if you want to be in the study or not. If you decide to be in the study, you can sign the paper. This choice is up to you, no one will be mad if you do not sign this paper. When you sign this paper, you have been told about the study including why it is being done and what you are to do.

_____ _____

Signature of Person Agreeing to be in the Study Date Signed

Appendix C. Subject Informed Consent (Parent)

Subject Informed Consent (Parent)

Introduction and Background Information

Your child is being invited to participate in a research study. Your child is invited for this study because their teacher felt that they could be helped by this research study. Not all students in the classroom will participate in this research study. The study is being conducted by Amy Lein, Ph.D from Bellarmine University (principal investigator) and Alexandra Taylor, Ph.D. candidate (co-investigator). The study is sponsored by Bellarmine University. The study will take place in your child's self-contained classroom at Parkwood Elementary School within the Greater Clark County School District. If your child takes part in this study, your child will be one of approximately four children to do so. Your child's participation in this study will last for approximately 6-8 weeks during the social skills block of instruction for 15-25 minutes of student independent work time.

Purpose

The purpose of this research study is to examine if providing a choice between 2-3 social skills assignments can improve academic and behavioral outcomes during social skills instruction for students who have been diagnosed with an emotional disturbance. By examining choice-making opportunities, the greater goal is to equip special education teachers with a preventative measure that they can use to address externalizing behaviors in children with an emotional disturbance within a self-contained setting.

Procedures

At the beginning of the study, all of the students will be taught as usual: for independent seat work time, the teacher will give them a social skills assignment and they will work on what they are assigned. Then after this baseline is established, each participating student, one at a time will be provided with 2-3 assignment choices, while the other students continue as usual: being asked to complete the assignment their teacher gives them. When your child has the chance to make a choice, your student's teacher will present your child with two or more social skills assignments and ask your child to make a

choice. Your child will be able to make his or her choice and be given the item that they chose to complete. In addition, your child will take a preference assessment at the beginning of the study to gauge their learning preferences.

It is important to note that part of the design of this study requires that each student starts without receiving the choice making opportunity, then one by one, each student is introduced to the choice making opportunity. Therefore, at different times in class, some students will be provided with choices and others will not. Ultimately, all participating students will be provided with choices of assignments.

Your child will be video recorded while working on their social skills assignments at his or her desk. A researcher will watch the video to code for behaviors and then delete it immediately. The only exception is when a second researcher codes 20% of the total number of videos to check for inter-observer-agreement. After the second researcher watches the video, then it will be destroyed immediately. No video recordings or still images of your child will ever be published.

Potential Risks

There are no reasonably foreseeable risks involved with this study.

Benefits

The possible benefits of this study for your child include the ability to make choices in their learning that could contribute toward a reduction of externalizing behaviors. The data collected in this study may not benefit you directly. However, the information learned from this research may be helpful to others in the future.

Confidentiality

Although absolute confidentiality cannot be guaranteed, confidentiality will be protected to the extent permitted by law. The study sponsor or the Institutional Review Board may inspect your research records. Should the data collected in this research study be published, your child's identity will not be revealed.

Voluntary Participation

Your child's participation in this research study is voluntary. Your child may refuse to participate or withdraw their consent at any time without penalty or losing benefit to which they are otherwise entitled.

Your Rights as a Research Subject and Contact Persons

If you have any questions about your child's rights as a research subject, you may call the Institutional Review Board Office at 502.272.8032. You will be given the opportunity to discuss any questions, in confidence, with a member of the Board. This is an independent committee composed of members of the University community and lay members of the community not connected with this institution. The Board has reviewed this study.

You acknowledge that all your present questions have been answered in language you can understand. If you have any questions about the study, please contact Dr. Amy Lein (502-272-8707) or Alexandra Taylor (502-727-8245).

Consent

You have discussed the above information and hereby consent to let your child voluntarily participate in this study. You have been given a signed copy of this consent form.

_____ _____
Signature of Subject or Legal Representative (parent) Date Signed

_____ _____
Signature of Investigator Date Signed

_____ _____
Signature of Person Explaining Consent if other than Investigator Date Signed

Appendix D. Video Release Consent Form (Parent)

Video Release Consent Form (Parent)

I _____, permit my child to be video
(print name of parent/guardian agreeing for their child to
recorded as part of the study entitled Choice as an Antecedent Intervention Provided to Children with Emotional Disturbance conducted by Amy Lein, PhD and Alexandra Taylor, PhD Candidate.

I understand that the video recording will occur in my student's classroom and be focused on recording his or her behaviors after given a choice of social skills assignments during independent seat work.

I understand that each day after Alexandra Taylor views and codes the video recording, the recording will be deleted. The only exception is when Amy Lein codes 20% of the total number of videos to check for inter-observer-agreement. After Amy Lein watches and codes the video, then it will be deleted immediately.

I understand that no video recordings or still images of my child will ever be published.

_____ _____
Signature of Parent/Guardian Agreeing for their child to be video recorded | Date Signed

Appendix E. MindUP Curriculum Lesson Plans

Week 1: October 22-26 **Unit 1:** Getting Focused **Lesson 1:** How Our Brain Works			
Goals: 1. Children identify the amygdala, the hippocampus, and the prefrontal cortex (PFC) on a diagram of the brain. 2. Children will give a simple definition of these three parts of the brain.			
	Chunk/Content 9:30-9:45 a.m.	**Independent Activity** 9:45-9:55 a.m. **No Choice**	**Choice**
Monday	Linking to brain research & clarify for the class	Model of how the brain processes – water bottle craft	N/A
Tuesday	Getting ready, MindUP warm-up & discuss	Writing prompt – discussion questions	N/A
Wednesday	Leading the lesson: Engage & explore	Brain power activity sheet (p.152)	N/A
Thursday	Leading the lesson: Reflect & MindUP in the real world	Gluing & pasting activity – label brain parts and match with function	N/A
Friday	Extend: Journal Writing	Writing prompt # 2	N/A

Week 2: October 29 – November 2 **Unit 1:** Getting Focused **Lesson 1:** How Our Brain Works			
Goals: 1. Children identify the amygdala, the hippocampus, and the prefrontal cortex (PFC) on a diagram of the brain. 2. Children will give a simple definition of these three parts of the brain.			
	Chunk/Content 9:30-9:45 a.m.	**Independent Activity** 9:45-9:55 a.m. **No Choice**	**Choice**
Monday	Extend: Connecting to curriculum – science	That's scary, no it's not sorting activity	1) That's scary, no it's not sorting activity 2) Writing prompt 3) Scary or not scary rating scale with stickers

Tuesday	Extend: Connecting to curriculum – math	Count to 10 thoughts	1) Count to 10 thoughts 2) Make a calm down fan 3) Read *I Know How to Keep Calm – A Social Story*
Wednesday	Extend: Literature link	Reading response sheet	1) Reading response sheet 2) Read *Sometimes, I'm Bomaloo* by Rachel Vail 3) Read *On Monday When It Rained* by Cherryl Kachenmeister
Thursday	Extend: Journal Writing	Journal prompt # 1	1) Journal prompt # 1 2) Journal prompt # 3 3) Journal prompt # 4
Friday	Extend: Connecting to the curriculum – language arts	What's my role quiz	1) What's my role quiz 2) What's my role matching activity 3) What's my role seek and find

Week 3: November 5-9 **Unit 1:** Getting Focused **Lesson 2:** Mindful Awareness			
Goals: 1. Children define and describe the difference between mindful and unmindful thoughts and actions. 2. Children apply the concept of mindful awareness to their own lives.			
	Chunk/Content 9:30-9:45 a.m.	**Independent Activity** 9:45-9:55 a.m. **No Choice**	**Choice**
Monday	Linking to brain research & clarify for the class	Writing prompt – discussion questions	1. Writing prompt – discussion questions 2. Counting to 10 finger practice mat 3. Angry stop light
Tuesday	No School		
Wednesday	Getting ready, MindUP warm-up & discuss	A celebration of mindful behaviors	1. A celebration of mindful behaviors 2. Mindful listening walk

			3. What can I hear all around me?
Thursday	Leading the lesson: Engage & explore	Mindful or unmindful? activity sheet (p. 153)	1. Mindful or unmindful? activity sheet (p. 153) 2. Compare and contrast – mindful & unmindful chart 3. Draw a picture of a mindful and unmindful behavior
Friday	Leading the lesson: Reflect & MindUP in the real world	Career connection discussion questions	1. Career connection discussion questions 2. Evaluate a memorable action that was mindful or unmindful 3. Career interest survey (how can you be mindful?)

Week 4: November 12-16 **Unit 1:** Getting Focused **Lesson 2:** Mindful Awareness			
Goals: 1. Children define and describe the difference between mindful and unmindful thoughts and actions. 2. Children apply the concept of mindful awareness to their own lives.			
	Chunk/Content 9:30-9:45 a.m.	**Independent Activity** 9:45-9:55 a.m. **No Choice**	**Choice**
Monday	Extend: Journal Writing	Journal prompt # 1	1. Journal prompt # 1 2. Journal prompt # 2 3. Journal prompt # 4
Tuesday	Extend: Connecting to curriculum – science	Taking care of earth – writing prompt	1. Taking care of earth – writing prompt 2. Reuse, reduce, recycle 3. Read *Environment Book – Taking Care of the Earth*
Wednesday	Extend: Connecting to curriculum – social studies	Discussion: A mindful person who works in the school	1. Discussion: A mindful person who works in the school 2. My role model 3. Mindful word web

Thursday	Extend: Literature link	Reading response sheet	1. Reading response sheet 2. Read *Cool Cats, Calm Kids* by Mary Williams 3. Read *Baby Rattlesnake* by Lynn Moroney
Friday	Extend: Connecting to curriculum – language arts	Vocabulary drawing	1. Vocabulary drawing 2. Mindful vs. unmindful behavior list 3. Focus and attention word webs

Week 5: November 19-20 **Unit 1:** Getting Focused **Lesson 3:** Focused Awareness: The Core Practice			
Goals: 1. Children learn an exercise that combines listening and breathing to calm and focus their minds. 2. Children discover the importance of practicing focusing exercises regularly.			
	Chunk/Content 9:30-9:45 a.m.	**Independent Activity** 9:45-9:55 a.m. **No Choice**	**Choice**
Monday	Linking to brain research & clarify for the class	Starfish breathing	1. Starfish breathing 2. Mindful breathing practice 3. Deep breathing flipbook
Tuesday	Getting ready, MindUP warm-up & discuss	I take a break and breathe when	1. I take a break and breathe when 2. Breathe like a flying fish 3. Breathing discussion
Wednesday	No School		
Thursday	No School		
Friday	No School		

Week 6: November 26-30 **Unit 1:** Getting Focused **Lesson 3:** Focused Awareness: The Core Practice			
Goals: 1. Children learn an exercise that combines listening and breathing to calm and focus their minds. 2. Children discover the importance of practicing focusing exercises regularly.			
	Chunk/Content 9:30-9:45 a.m.	**Independent Activity** 9:45-9:55 a.m. **No Choice**	**Choice**
Monday	Leading the lesson: Engage & explore	Core practice questions	1. Core practice questions 2. Deep breathing visual 3. Mindful listening match
Tuesday	Leading the lesson: Reflect & MindUP in the real world	Career connection questions	1. Career connection questions 2. Deep breathing counter 3. Importance of listening and breathing skills
Wednesday	Extend: Journal Writing	Journal prompt # 1	1. Journal prompt # 1 2. Journal prompt # 2 3. Journal prompt # 3
Thursday	Extend: Connecting to curriculum – science and art	Inhaling and exhaling picture coloring	1. Inhaling and exhaling picture coloring 2. Paint a relaxing or calming picture 3. Dragon breathing craft
Friday	Extend: Connecting to curriculum – physical education	Benefits of deep breathing – coloring sheet	1. Benefits of deep breathing – coloring sheet 2. Lung coloring 3. Paper bag lungs

Week 7: December 3-7 **Unit 2:** Sharpening Your Senses **Lesson 4:** Mindful Listening			
Goals: 1. Children train their attention on specific sounds and try to identify those sounds. 2. Children learn how mindful listening skills can help them communicate more successfully.			
	Chunk/Content 9:30-9:45 a.m.	**Independent Activity** 9:45-9:55 a.m. **No Choice**	**Choice**

Monday	Linking to brain research & clarify for the class	RAS model of the brain	1. RAS model of the brain 2. Discussion questions 3. Strainer prompt pg. 19
Tuesday	Getting ready, MindUP warm-up & discuss	Mindful and unmindful words	1. Mindful and unmindful words 2. Create two puppets and role play 3. Discussion questions
Wednesday	Leading the lesson: Engage & explore	Discussion Questions pg. 18	1. Discussion Questions pg. 18 2. Sea of emotions activity 3. RAS file folder games
Thursday	Leading the lesson: Reflect & MindUP in the real world	Career connection questions	1. Career connection questions 2. Mindful listening scenarios pg. 9 3. Mindful listening scenarios pg. 10
Friday	Extend: Journal Writing	Journal prompt # 1	1. Journal prompt # 1 2. Journal prompt # 2 3. Journal prompt # 3

Week 8: December 10-14 **Unit 2:** Sharpening Your Senses **Lesson 4:** Mindful Listening			
Goals: 1. Children train their attention on specific sounds and try to identify those sounds. 2. Children learn how mindful listening skills can help them communicate more successfully.			
	Chunk/Content 9:30-9:45 a.m.	**Independent Activity** 9:45-9:55 a.m. **No Choice**	**Choice**
Monday	Extend: Connecting to curriculum – science	Auditory discrimination sorting	1. Auditory discrimination sorting 2. Auditory discrimination matching 3. Auditory discrimination – following directions
Tuesday	Extend: Connecting to curriculum – math	Skip counting dot to dot	1. Skip counting dot to dot 2. Skip count maze 3. Counting by 2's cut and paste
Wednesday	Extend: Literature link	Reading response sheet	1. Reading response sheet

			2. The cat who wore a pot on her head coloring sheet 3. Ten cats journal prompt
Thursday	Extend: Connecting to curriculum – social-emotional learning	Emotions emergent reader	1. Emotions emergent reader 2. Emotions matching cards 3. Emotions clip cards
Friday	Extend: Connecting to the curriculum – language arts	Sequencing activity	1. Sequencing activity 2. Emergent reader 3. Matching file folder game

Appendix F. Choice Condition Training Agenda

Choice Condition Training Agenda

Date: Tuesday, September 18, 2018
Topic: Choice condition training

Attendee(s):

- Ms. Smart – Special Education Teacher / research participant
- Ali Taylor – PhD Candidate / trainer
- Amy Lein – PhD Committee Chair / trainer

Purpose: The purpose of the choice condition training session is to train the special education teacher (research participant) on how to provide a choice to her students.

Goal(s):

1. Review steps of how to provide a choice
2. Discuss appropriate wait time & number of prompts (if needed) per the student's abilities to use in order to make choices
3. Role play how to deliver the intervention with different scenarios
    a. Ali will model multiple scenarios playing the role of teacher, while Amy acts as student (Ms. Smart observes)
    b. Debrief after each scenario, referring to the fidelity checklist. Answer any questions Ms. Smart may have after each scenario.
        i. Show Ms. Smart the fidelity form and let her track the role playing so she knows how she will be assessed
    c. Ms. Smart will role play as teacher, while Amy acts as student (Ali will observe for accuracy using fidelity form).
    d. Ali will provide feedback and answer any questions Ms. Smart may have after each scenario, with Ms. Smart repeating a scenario if needed.

Time	Item	Materials
> 5 minutes	Introductions	
> 5 minutes	Present agenda	Agenda
20-40 minutes	Choice condition procedure training	-Implementation fidelity form -Choice vs. no choice condition procedure form -Materials for implementing choice

Appendix G. Choice vs. No Choice Condition Procedure (Teacher Training)

Choice vs. No Choice Condition Procedure (Teacher Training)

Step 1: Review the steps of how to provide choice-making

Six-step method (Sigafoos et al., 1993): 1) Offer the individual two or more options, 2) Ask the individual to make a choice, 3) Provide wait time for the individual to make his or her choice, 4) Wait for the individual's response, 5) Reinforce with the option chosen (i.e. give the item to the individual), and 6) If the individual does not make a choice, prompt the individual to choose from the provided options

Step 2: Discuss appropriate wait time & number of prompts (if needed) per the student's abilities to use

Participant 1	
Participant 2	LG – needs extended wait time; trouble focusing – needs between 2-3 prompts
Participant 3	
Participant 4	AC – defiance and refusal to do work

Step 3: Role play how to deliver the intervention with different scenarios (Ali will model the role of teacher, while Amy acts as student for Ms. Smart, and answer questions Ms. Smart may have. Then Ali will observe Ms. Smart acting as teacher, while Amy acts as student.)

Scenario 1: Student makes a choice Teacher: Now it is time for you to complete an activity about what we learned today. Here are three choices (pause – show each choice with gesture… choice 1, choice 2, choice 3). I need for you to pick one activity to complete. Take a moment to make your choice. (provide wait time) Student: I want this one (pointing to the activity in the middle). Teacher: (give student the activity chosen) I want you to complete the activity at your desk. If you have any questions, you can ask one of us.

Scenario 2: Student makes a choice and then changes his/her mind, wanting to change choice

Teacher: Now it is time for you to complete an activity about what we learned today. Here are three choices (pause – show each choice with gesture… choice 1, choice 2, choice 3). I need for you to pick one activity to complete. Take a moment to make your choice. (provide wait time)

Student: I want this one (pointing to the activity in the middle).

Teacher: (give student the activity chosen) I want you to complete the activity at your desk. If you have any questions, you can ask one of us.

Student: I changed my mind. I want this one (pointing to the activity to the right and placing his/her chosen activity back on table).

Teacher: (give student choice that is chosen at that time and take away other choice) Okay, you have now made your choice. Please go sit down at your desk and complete this activity.

Scenario 3: Student refuses to make choice

Teacher: Now it is time for you to complete an activity about what we learned today. Here are three choices (pause – show each choice with gesture… choice 1, choice 2, choice 3). I need for you to pick one activity to complete. Take a moment to make your choice. (provide wait time)

Student: (glaring at teacher) I don't want to do this.

Teacher: Remember, if we do our work then we earn a reward (will change to match classroom reward system). I need for you to pick one activity to complete and then you will be all done with you work.

Student: I want this one (pointing to the activity in the middle).

Teacher: (give student the activity chosen) Thank you for choosing an activity. That was a great choice. I want you to complete the activity at your desk. If you have any questions, you can ask one of us.

Scenario 4: Delayed wait time or response from student

Teacher: Now it is time for you to complete an activity about what we learned today. Here are three choices (pause – show each choice with gesture… choice 1, choice 2, choice 3). I need for you to pick one activity to complete. Take a moment to make your choice. (provide wait time)

Student: (long pause – making no decision)

Teacher: Do you know which choice you want? Can I answer any of your questions?

Student: I want this one (pointing to the activity in the middle).

Teacher: (give student the activity chosen) I want you to complete the activity at your desk. If you have any questions, you can ask one of us.

Scenario 5: NON-EXAMPLE

Teacher: Now it is time for you to complete an activity about what we learned today. Here are three choices (do not lay out each choice – put in a pile on table). I need for you to pick one activity to complete. Take a moment to make your choice. (provide wait time)

Student: I want this one (pointing to the activity on the top).

Teacher: (give student the activity chosen but leave all activities on the table) I want you to complete the activity at your desk. If you have any questions, you can ask one of us.

Choice vs. No Choice Condition Procedure

Six-step method (Sigafoos et al., 1993):

1) Offer the individual two or more options,
2) Ask the individual to make a choice,
3) Provide wait time for the individual to make his or her choice,
4) Wait for the individual's response,
5) Reinforce with the option chosen (i.e. give the item to the individual), and
6) If the individual does not make a choice, prompt the individual to choose from the provided options

Date: _____

Participants – NO CHOICE	Participants - CHOICE

Implementation Fidelity – Teacher Training

Date: September 18, 2018 Trainer: Ali Taylor and Amy Lein
Data Collector: Ali Taylor and Amy Lein Location: Ridgefield Elementary School

Total # of trainees at start	3	Total # of trainees at end	3
Start time	4:20 PM	End time	4:45 PM
Agenda presented	Yes No	Trainer introduced self	Yes No
Training purpose identified	Yes No	Trainer introduced trainees	Yes No
Handouts provided	Yes No	Trainer describes handouts	Yes No

Training Objectives / Skills	**Skill / Obj. described**	**Handout shown**	**Skill modeled**	**Prompt to practice skill**	**Feedback provided**	**Skill mastery evaluated**	**Ttl correct steps**	**Ttl steps possible**
Objective / Skill 1:	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	6	6
Objective / Skill 2:	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	6	6
Objective / Skill 3:	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	6	6
Objective / Skill 4:	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	5	6
Objective / Skill 5:	Yes No N/A	Yes No N/A	Yes No N/A	Yes No N/A	Yes No N/A	Yes No N/A	6	6
						TOTALS	29	30

Objective/Skill 1: Offers the individual three choices.
Objective/Skill 2: Lays out the three choices so each is visible and gestures to each.
Objective/Skill 3: Asks the individual to make a choice (and provides appropriate wait time).
Objective/Skill 4: After individual chooses, reinforces with choice (hands individual the activity, while taking away the other two choices).
Objective/Skill 5: Prompts the individual if/when they do not make a choice.

# of questions asked by trainees	3	**# of questions answered correctly**	2
		# of questions answered incorrectly	0

		# of questions redirected/delayed	1

Trainer provided a break	Yes No N/A	Trainer reviewed purpose of training	Yes No
Trainer asked if trainees had additional questions	Yes No	Trainer identified next steps	Yes No

Implementation Fidelity Score	
(a) Total correct steps:	29
(b) Total incorrect steps:	1
Total a/(a+b)*100:	96.7%

Appendix H. Behavior Frequency Chart

Behavior Frequency Chart – VARIABLE DISRUPTION

Participant Number/Initials: _____

Behavioral Definition: Student (a) distracting peers from their tasks by talking to peers about unrelated topics or asking peers for answers to the assignment; (b) elopement (leaving assigned area without permission); (c) making loud noises or verbal outbursts; (d) tantruming; and/or (e) destroying property for 3s or more consecutively (Jolivette et al., 2001, p. 136)

Date	Baseline (B) or Intervention (I)	# of Disruptions (tally marks)	Total # of Disruptions	Start Time / End Time	Total Time
Week 1					
10/22/18	B I				
10/23/18	B I				
10/24/18	B I				
10/25/18	B I				
10/26/18	B I				
Week 2					
10/29/18	B I				
10/30/18	B I				
10/31/18	B I				
11/1/18	B I				
11/2/18	B I				
Week 3					
11/5/18	B I				
11/7/18	B I				
11/8/18	B I				

11/9/18	B I				
Week 4					
11/12/18	B I				
11/13/18	B I				
11/14/18	B I				
11/15/18	B I				
11/16/18	B I				
Week 5					
11/19/18	B I				
11/20/18	B I				
Week 6					
11/26/18	B I				
11/27/18	B I				
11/28/18	B I				
11/29/18	B I				
11/30/18	B I				
Week 7					
12/3/18	B I				
12/4/18	B I				
12/5/18	B I				
12/6/18	B I				
12/7/18	B I				

Appendix I. Duration per Occurrence Recording Sheet

Duration per Occurrence Recording – VARIABLE TASK ENGAGEMENT

Circle One: Primary observer Secondary observer (IOA)

Participant Number (or initials): _____

Event	Start	Stop	Duration
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Behavioral Definition and Onset/Offset Rules:

Task Engagement: Student engaging in or working on the independent assignment with eyes and hands on the assigned materials required to complete the assignment in accordance with the teacher's directions (Jolivette et al., 2001, p. 136)

Notes:

Number of occurrences _____ Total duration: _____ (add number of seconds)

Duration per occurrence = Total duration/Number of occurrences = _____

IOA for this session (attach completed form): _____

Procedural fidelity for this session (attach completed form): _____

Appendix J. Behavior Frequency Chart – Variable Disruption IOA

Behavior Frequency Chart – VARIABLE DISRUPTION
Interobserver Agreement (IOA) Training Material

IOA Training Observer: Amy Lein

Participant Number/Initials: Joyce

Target/Problem Behavior: During journal writing activities, Joyce makes comments to herself or to others (e.g., "This is boring") or gestures (e.g., heavy sighing) unrelated to the academic material (IRIS, n.d.).

Date	Baseline (B) or Intervention (I)	# of Disruptions (tally marks)	Total # of Disruptions	Start Time / End Time	Total Time
Week 1					
10/8/18	B I	1 1 1 1 1 1 1	7	0.00 5 min 20 sec	5 min 20 sec

IOA Training Material Information

Training Date: October 8, 2018
Session Observers: Amy Lein and Alexandra Taylor
IOA for Training: 100% reliability

Behavior Frequency Chart – VARIABLE DISRUPTION
Interobserver Agreement (IOA) Training Material

IOA Training Observer: Alexandra Taylor

Participant Number/Initials: Joyce

Target/Problem Behavior: During journal writing activities, Joyce makes comments to herself or to others (e.g., "This is boring") or gestures (e.g., heavy sighing) unrelated to the academic material (IRIS, n.d.).

Date	Baseline (B) or Intervention (I)	# of Disruptions (tally marks)	Total # of Disruptions	Start Time / End Time	Total Time
Week 1					
10/8/18	B I	1 1 1 1 1 1 1	7	0.00 5 min 20 sec	5 min 20 sec

IOA Training Material Information

Training Date: October 8, 2018
Session Observers: Amy Lein and Alexandra Taylor
IOA for Training: 100% reliability

Appendix K. Duration per Occurrence Recording – Variable Task Engagement IOA

Duration per Occurrence Recording – VARIABLE TASK ENGAGEMENT
Interobserver Agreement (IOA) Training Material

IOA Training Observer: Amy Lein

IOA Definition: The two observers agree within a (+/-) 5 second window of one another's observations.

Target/Problem Behavior: During independent math activities, Kailyn engages in off-task behaviors, which refers to any behavior lasting 5 seconds or longer that deviates from teacher instruction (e.g., looking around the room, playing with her hands or other objects (IRIS, n.d.).

Circle One: Primary observer Secondary observer (IOA)

Participant Number (or initials): Kailyn

Event	Start	IOA	Stop	IOA	Duration	IOA
1	:29	- 1	1:03	+ 1	34 sec	0
2	1:33	- 2	1:55	0	22 sec	+ 2
3	2:42	- 3	3:17	+ 6	35 sec	- 3
4	3:40	- 4	4:01	- 1	21 sec	+ 5
5	4:34	0	4:57	+ 1	23 sec	+ 1

Notes:
-Prompt at 1:30

Number of occurrences: 5 Total duration: 135 sec (add number of seconds)

Duration per occurrence = Total duration/Number of occurrences = 135 / 5 = 27 sec

IOA for this session (attach completed form): 14 / 15 = 93 %

Procedural fidelity for this session (attach completed form): _____

Duration per Occurrence Recording – VARIABLE TASK ENGAGEMENT
Interobserver Agreement (IOA) Training Material

IOA Training Observer: Alexandra Taylor

IOA Definition: The two observers agree within a (+/-) 5 second window of one another's observations.

Target/Problem Behavior: During independent math activities, Kailyn engages in off-task behaviors, which refers to any behavior lasting 5 seconds or longer that deviates from teacher instruction (e.g., looking around the room, playing with her hands or other objects (IRIS, n.d.).

Circle One: Primary observer Secondary observer (IOA)

Participant Number (or initials): Kailyn

Event	Start	IOA	Stop	IOA	Duration	IOA
1	:28	+ 1	1:02	+ 1	34 sec	0
2	1:31	+ 2	1:55	0	24 sec	- 2
3	2:39	+ 3	3:11	- 6	32 sec	+ 3
4	3:36	+ 4	4:02	+ 1	26 sec	- 5
5	4:34	0	4:58	- 1	24 sec	- 1

Notes:

Number of occurrences: 5 Total duration: 140 sec (add number of seconds)

Duration per occurrence = Total duration/Number of occurrences = 140 / 5 = 28 sec

IOA for this session (attach completed form): 14 / 15 = 93 %

Procedural fidelity for this session (attach completed form): _____

Appendix L. Treatment Fidelity Checklist

Treatment Fidelity Recording Sheet (observations)

Week 1: October 22 - 26									
Monday		Tuesday		Wednesday		Thursday		Friday	
No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition	
+ 1/1		+ 1/1		+ 1/1		+ 1/1		N/A	
Choice Condition		Choice Condition		Choice Condition		Choice Condition		Choice Condition	
Obj. 1		Obj. 1		Obj. 1		Obj. 1		Obj. 1	
Obj. 2		Obj. 2		Obj. 2		Obj. 2		Obj. 2	
Obj. 3		Obj. 3		Obj. 3		Obj. 3		Obj. 3	
Obj. 4		Obj. 4		Obj. 4		Obj. 4		Obj. 4	
Obj. 5		Obj. 5		Obj. 5		Obj. 5		Obj. 5	

Week 2: October 29 – November 2									
Monday		Tuesday		Wednesday		Thursday		Friday	
No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition	
+ 1/1		+ 1/1		+ 1/1		+ 1/1		N/A	
Choice Condition		Choice Condition		Choice Condition		Choice Condition		Choice Condition	
Obj. 1		Obj. 1		Obj. 1		Obj. 1	+	Obj. 1	
Obj. 2		Obj. 2		Obj. 2		Obj. 2	+	Obj. 2	
Obj. 3		Obj. 3		Obj. 3		Obj. 3	+	Obj. 3	
Obj. 4		Obj. 4		Obj. 4		Obj. 4	+	Obj. 4	
Obj. 5		Obj. 5		Obj. 5		Obj. 5	+	Obj. 5	
							6/6		

Week 3: November 5-9									
Monday		Tuesday		Wednesday		Thursday		Friday	
No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition	
N/A		N/A		N/A		1/1		1/1	
Choice Condition		Choice Condition		Choice Condition		Choice Condition		Choice Condition	
Obj. 1		Obj. 1		Obj. 1		Obj. 1	+	Obj. 1	+
Obj. 2		Obj. 2		Obj. 2		Obj. 2	+	Obj. 2	+
Obj. 3		Obj. 3		Obj. 3		Obj. 3	+	Obj. 3	+
Obj. 4		Obj. 4		Obj. 4		Obj. 4	+	Obj. 4	+
Obj. 5		Obj. 5		Obj. 5		Obj. 5	+	Obj. 5	+
							6/6		6/6

Week 4: November 12-16									
Monday		Tuesday		Wednesday		Thursday		Friday	
No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition	
1/1		1/1		1/1		N/A		1/1	
Choice Condition		Choice Condition		Choice Condition		Choice Condition		Choice Condition	
Obj. 1	+	Obj. 1	+	Obj. 1	+	Obj. 1		Obj. 1	+
Obj. 2	+	Obj. 2	+	Obj. 2	+	Obj. 2		Obj. 2	+
Obj. 3	+	Obj. 3	+	Obj. 3	+	Obj. 3		Obj. 3	+
Obj. 4	+	Obj. 4	+	Obj. 4	+	Obj. 4		Obj. 4	+
Obj. 5	+	Obj. 5	+	Obj. 5	+	Obj. 5		Obj. 5	+
	6/6		6/6		6/6				6/6

Week 5: November 19-20									
Monday		Tuesday		Wednesday		Thursday		Friday	
No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition	
1/1		1/1		N/A		N/A		N/A	
Choice Condition		Choice Condition		Choice Condition		Choice Condition		Choice Condition	
Obj. 1	+	Obj. 1	+	Obj. 1		Obj. 1		Obj. 1	
Obj. 2	+	Obj. 2	+	Obj. 2		Obj. 2		Obj. 2	
Obj. 3	+	Obj. 3	+	Obj. 3		Obj. 3		Obj. 3	
Obj. 4	+	Obj. 4	+	Obj. 4		Obj. 4		Obj. 4	
Obj. 5	+	Obj. 5	+	Obj. 5		Obj. 5		Obj. 5	
	6/6		6/6						

Week 6: November 26-30									
Monday		Tuesday		Wednesday		Thursday		Friday	
No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition	
1/1		1/1		1/1		1/1		1/1	
Choice Condition		Choice Condition		Choice Condition		Choice Condition		Choice Condition	
Obj. 1	+	Obj. 1	+	Obj. 1	+	Obj. 1	+	Obj. 1	+
Obj. 2	+	Obj. 2	+	Obj. 2	+	Obj. 2	+	Obj. 2	+
Obj. 3	+	Obj. 3	+	Obj. 3	+	Obj. 3	+	Obj. 3	+
Obj. 4	+	Obj. 4	+	Obj. 4	+	Obj. 4	+	Obj. 4	+
Obj. 5	+	Obj. 5	+	Obj. 5	+	Obj. 5	+	Obj. 5	+
	6/6		6/6		6/6		6/6		6/6

Week 7: December 3-7									
Monday		Tuesday		Wednesday		Thursday		Friday	
No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition		No Choice Condition	
1/1		1/1		1/1		1/1		1/1	
Choice Condition		Choice Condition		Choice Condition		Choice Condition		Choice Condition	
Obj. 1	+	Obj. 1	+	Obj. 1	+	Obj. 1	+	Obj. 1	+
Obj. 2	+	Obj. 2	+	Obj. 2	+	Obj. 2	+	Obj. 2	+
Obj. 3	+	Obj. 3	+	Obj. 3	+	Obj. 3	+	Obj. 3	+
Obj. 4	+	Obj. 4	+	Obj. 4	+	Obj. 4	+	Obj. 4	+
Obj. 5	+	Obj. 5	+	Obj. 5	+	Obj. 5	+	Obj. 5	+
	6/6		6/6		6/6		6/6		6/6

Completed (+), Not completed (-), Not applicable (N/A)

Objective/Skills

Objective/Skill 1: Offers the individual three choices.

Objective/Skill 2: Lays out the three choices so each is visible and gestures to each.

Objective/Skill 3: Asks the individual to make a choice (and provides appropriate wait time).

Objective/Skill 4: After individual chooses, reinforces with choice (hands individual the activity, while taking away the other two choices).

Objective/Skill 5: Prompts the individual when they do not make a choice.

Formula: # of observed teacher behaviors will be recorded and divided by the total number of observed teacher behaviors possible and multiplied by 100 _____ / _____ X 100 = _____

Appendix M. Teacher Questionnaire

Teacher Questionnaire

Please answer the following multiple-choice questions:

1) Did you like being able to provide your students with a choice in their assignments?

   a. YES

   b. NO

2) Do you think this helped your students complete their work better than having no choice?

   a. YES

   b. NO

3) Would you begin to implement choice in assignments throughout other instruction?

   a. YES

   b. NO

Please answer the following open-ended questions:

1) How would you describe your students' levels of engagement on their tasks when given a choice of assignment? ***"I felt like giving my students choice was increasing their engagement level and their effort level increased."***

2) How would you describe the amount of disruptions your students had when given a choice in their assignment? ***"For the students that were a part of research I felt like the choices helped them to be more engaged and decrease their disruptions a great deal."***

   How would you rate the ease of implementing the curriculum provided with the choices in assignments? ***"It was easy to implement choice with my students. I felt it became easier as time went on and they liked the process."***

3) What did you like best about providing your students a choice in assignment? "***To see the students engaged about having choices and seeing them do their task and the skills being taught outside of the lesson."***

4) What did you dislike, if anything, about providing your students a choice in assignment? "***There wasn't anything negative in giving them choices".***

5) Do you have any comments, suggestions, or ideas for implementing choice of activities within social skills curriculum? "***Just to comment that I feel choices for my students were rewarding.***"

Appendix N. Student Questionnaire

Student Questionnaire

Please answer the multiple-choice questions below:

1) Did you like having a choice of assignments for social skills?

    a. YES

    b. NO

2) Do you think having choices in your assignment helped you complete your work better?

    a. YES

    b. NO

3) Would you like for your teacher to continue giving you choices in your assignments?

    a. YES

    b. NO

Please answer the open-response question below:

4) What did you like best about being provided a choice with your assignments?

_____

_____

_____