Supporting Special Education Student's Academic Engagement Behavior With Mindfulness-based Programming

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Abstract
Student engagement in the primary school classroom has major implications for academic achievement, school dropout rates, later adolescent delinquent behavior, and adult psychopathology and incarceration (Broidy et al., 2003; Greenwood et al., 2002; Fredricks et al., 2004; Schaeffer et al., 2003). Soles of the Feet (SOF; Felver & Singh, 2020) is a standardized mindfulness-based program that has demonstrated effectiveness in increasing general education and special education student rates of academic engagement while employing a multiple-baseline across subjects design. The present work was designed to extend previous research by exploring the efficaciousness and acceptability of the SOF program delivered as a class-wide Tier II intervention among students receiving special education services in self-contained classrooms who also display low levels of academic engagement and high levels of off-task classroom behavior in a public middle school setting. This research utilized a multiple-baseline across subjects design to explore the efficaciousness of the SOF program delivered as a Tier II intervention to decrease individual student rates of off-task behavior and increase rates of on-task behavior. Four special education classrooms containing a total of approximately 12 to 15 students per classroom were scheduled to be taught the SOF program over the course of five 20-30-minute sessions. However, due to the school suspending all in-person education related to the SARS-COV-2 pandemic in the middle of this study, only one of the special education classrooms containing 12 students (3 who participated in the current research) were administered the SOF intervention. Direct observation data of student on- and off-task behavior was collected during the baseline phase for all eight participating students across all four classrooms, and post-intervention phase for two participants in the single classroom that received the SOF intervention prior to the study being cancelled due to SARS-COV-2. Direct observation data was analyzed via visual inspection and non-overlap of all pairs (NAP; Parker & Vannest, 2009), with limited
results suggesting that the current research methods hold promise to better understand the efficaciousness of the SOF program on student levels of on-task behavior when delivered as a Tier II intervention.
SUPPORTING SPECIAL EDUCATION STUDENT'S ACADEMIC ENGAGEMENT
BEHAVIOR WITH MINDFULNESS-BASED PROGRAMMING

by

Adam Clawson

B.A., SUNY Oswego, 2015
M.S., Syracuse University 2019

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Dedication

It takes a village to raise a child, and in my case, it took a community to help me reach this milestone in my career. First, I would like to thank the committee members and the school psychology faculty for their unwavering assistance and guidance. Next, I would like to thank my advisor Dr. Joshua Felver for his unconditional support. I value the knowledge you have graciously passed down throughout the years beyond words, and you have indubitably helped cultivate me as a stronger scientist and practitioner, and more importantly a better man.
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Finally, this work is dedicated to the two men who showed me that Superman is human. This is for you Al Tremont and Dennis Pacheco. Consider this promise kept Jane Bear.
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Supporting Special Education Student’s Academic Engagement Behavior with Mindfulness-Based Programming.

Academic engagement has been defined as a composite of specific classroom behaviors that include writing, participating in tasks, reading aloud, reading silently, talking about academics, and asking or answering questions (Greenwood et al., 2002). Previous research indicates that students who display higher rates of academically engaged behavior have accelerated rates of learning, display higher academic achievement, and are more likely to remain enrolled in school. Conversely, students who display low rates of academically engaged behaviors tend to demonstrate decreased responsiveness to learning opportunities in the classroom (Greenwood et al., 2002). More specifically, if students are unruly or disruptive, they will be unable to respond to academic opportunities and these behaviors may negatively impact the learning of other students within the classroom or interfere with the teacher’s plans for education programming (Greenwood et al., 2002). Student academic disengagement or disruptive behaviors are associated with academic underachievement and is predictive of delinquent behavior in later adolescence, adult psychopathology and incarceration (Broidy et al., 2003; Kim-Cohen et al., 2005; Schaeffer et al., 2003; Tremblay et al., 1992).

Mindfulness-based programs (MBPs) are an increasingly popular category of practices among the armamentarium of school-based interventions that have been delivered with school-aged students in an attempt to address student behaviors such as academic engagement (Felver & Jennings, 2016). Previous systematic reviews and meta-analyses provide empirical support concerning the benefits that students often experience following MBPs (Zenner et al., 2014), and provide emerging support for the effectiveness of such practices on student psychopathology, behavioral problems, and student prosocial characteristics (Felver et al., 2016). Klingbeil and colleagues (2017) recently completed a meta-analysis to explore the overall therapeutic effects of
all group-design MBPs research with youth conducted across school and non-school settings, among clinical and non-clinical samples, while including all potential outcome variables (e.g., academic achievement, externalizing and internalizing behaviors, negative emotions and distress, prosocial behaviors, positive emotions, & physical health). The authors included 76 studies published in 46 different journals involving 6121 subjects in the meta-analysis in which a total of 885 treatment effects were extracted. Overall, the results confirmed and extended previous meta-analyses with youth (Kallapiran et al., 2015; Zenner et al., 2014; Zoogman et al., 2015) suggesting that MBPs among youth have universally small positive therapeutic effects across varying outcome variables in pre-post ($g = 0.31, SE = 0.04$) and controlled designs ($g = 0.32, SE = 0.04$). In terms of emotional and behavioral regulation, results suggest a positively small therapeutic effect ($k = 16, n = 1404, g = 0.32$). However, it is important to note that measures of behavioral regulation included in this meta-analysis were limited to behavior rating scales completed by parents and/or teachers and did not include data collected from direct behavior observations.

The current research intends to expand upon the previous literature concerning MBPs delivered in the context of public schools to address student rates of academic engagement (i.e., on-task behavior) and academic disengagement (i.e., off-task behavior). More specifically, the proposed study aimed to build upon the previous empirical studies that have explored the effectiveness of the Soles of the Feet mindfulness program (SOF; Felver & Singh, 2020) to increase student rates of academic engagement by delivering the program as a Tier II class-wide intervention and then measure if individual student rates of academic engagement increase and thus rates of off-task behavior decrease. The following sections of this document will begin with a literature review of research related to (a) student academic engagement, (b) the relation
between mindfulness and academic engagement, and (c) the previous literature concerning the application of the SOF program to elicit desired behavioral change. Next, this document will outline the specific goals, hypotheses, and purpose of the current dissertation research. Afterwards, this document will outline the methods, procedures, and data analytic strategies. Finally, this document contains the results, limitations, directions for future research, and conclusions.

**Academic Engagement**

This section will review research pertaining to the construct of academic engagement. Specifically, this section will outline three domains of academic engagement, and empirically supported strategies that have been employed with students to increase academic engagement and highlight the importance of academic engagement for students particularly in the context of special education.

**Domains of Academic Engagement.** Fredricks and colleagues (2004) provided a comprehensive review of the academic engagement literature and provided a tripartite multidimensional model of the construct. More specifically, the authors tease apart the construct of academic engagement into three domains that include (1) behavioral engagement, (2) emotional engagement, and (3) cognitive engagement. Behavioral engagement can be further broken down to include components such as the demonstration of positive conduct that includes following the rules and adhering to classroom norms and the absence of disruptive behaviors (Finn, 1993; Finn & Rock, 1997), involvement in learning and academic tasks that includes attention and contributing to class discussions (Skinner & Belmont, 1993), and participation in school-related activities such as athletics (Finn, 1993). Emotional engagement on the other hand, refers to the range of affective responses that students display in the classroom such as interest,
boredom, sadness, and anxiety (Connell & Wellborn, 1991; Skinner & Belmont, 1993). Finally, conceptualizations of cognitive engagement typically stem from two different perspectives that include a psychological commitment or investment in learning, and targeted cognition that emphasizes strategic learning (Fredricks et al., 2004). Psychological commitment in learning has been referred to as intrinsic motivation and targeted cognition strategies that are related to cognitive engagement which often include practices such as rehearsal, summarizing, self-monitoring, and other meta-cognitive academic strategies (Corno & Madinach, 1983). In sum, Fredricks and colleagues (2004) provided insight into the different domains of academic engagement, but more importantly, have suggested that the construct of academic engagement may be malleable and thus sensitive to change following intervention.

It is postulated that academic engagement is a function of the student and his or her environment, thus the construct is presumed to be malleable (Fredricks et al., 2004). In other words, academic engagement is shaped by the school context and therefore holds the potential as a locus for intervention (Wang & Holcombe, 2010). For example, positive learning experiences, supportive relationships with adults and peers, and confirmations of their developmental needs in school are variables that have been linked to increased student academic engagement (Wang & Eccles, 2013). Additionally, structural features of schools and classrooms such as class size and school location have also been linked to creating an educational climate that can be used to promote academic engagement and student achievement (Benner et al., 2008). In sum, the conceptualization of academic engagement as a malleable construct allows researchers to examine targeted interventions to increase student engagement (Wang & Degol, 2014).

While academic engagement has been described as an alterable and multidimensional construct that contains three broad dimensions of behavior, emotion, and cognition (Alrashidi et
al., 2016; Fredricks et al., 2004), the current research will focus on academic engagement in behavioral terms for multiple reasons. Foremost, behavioral academic engagement is directly observable in the classroom whereas emotional and cognitive engagement is inferred from behavior or assessed from self-report measures (Fredricks et al., 2004). Second, as will be discussed below, the current research will be implemented with special education students in self-contained classrooms with varying educational disabilities and academic skills, further complicating the measurement of emotional or cognitive engagement via a single self-report measure. Finally, as discussed in more detail later, the current research operationalizes academic engagement in terms of on- and off-task behavior and is therefore optimally measured in terms of behavioral engagement via direct behavior observations.

**Multi-Tiered System of Support (MTSS)**

Multi-Tiered System of Support (MTSS) was previously defined as “an evidence-based model of education that employs data-based problem-solving techniques to integrate academic and behavioral instruction and intervention” (Gamm et al., 2012, p. 4). Response to Intervention (RTI) is a common MTSS found in education settings which is often implemented in schools to provide students more intensive individualized support as students display increased learning or behavioral difficulties (Eagle et al., 2015). Further, an RTI framework is designed as a diagnostic system, providing evidence that students with significant learning or behavioral challenges may have an educational disability if they fail to catch up to their same aged peers despite well-implemented interventions (Wright, 2007).

An RTI or MTSS framework generally follows five broad sequential steps that include (1) students are provided with generally effective instruction by their classroom teacher; (2) student progress is monitored; (3) students who do not respond receive an intervention matched
to their academic or behavioral difficulties; (4) additional progress is monitored; and (5) students who continue to not respond either qualify for special education or are referred for a special education evaluation (McDougal et al., 2010). An RTI MTSS system can be broken down into three tiers of service. Tier I interventions are universal and are delivered or available to all students. These Tier I interventions are often delivered in the classroom and are put into place at the first sign that a student is struggling academically or behaviorally. Tier II interventions are more individualized and tailored to the unique needs of struggling students. These Tier II interventions are designed to assist students with significant skill gaps and who have failed to respond to the interventions implemented at Tier I. Tier III interventions are the most intensive supports offered by a school and are generally reserved for students who display chronic and severe academic delays or behavior problems (Wright, 2007).

**Strategies to Impact Academic Engagement**

Previous literature has demonstrated that in addition to motivation and high-quality instruction, the amount of time that students are on task during learning activities accounts for significant variation in academic achievement outcomes (Fullan et al., 2007). Despite the aforementioned importance of academic engaged time, the existing literature indicates that as little as half of each school day is devoted to academic instruction. More specifically, students are engaged in educational activities between 28-56% of a given school year, and the level of student on-task or academically engaged behavior may be as low as 45% in certain classrooms (Fisher, 2009; Gettinger & Miller, 2014). Academic engagement is particularly important for schools that implement a multitiered instructional support system as levels of student engagement covary with desired increases on standardized and curriculum-based measures. Put another way, academic engagement has been described as a proxy for instructional learning and
can be used to gauge student’s responses to instructional practices or used to assess overall quality of Tier I instruction (Gettinger & Miller, 2014). Therefore, it is indubitably clear that interventions or practices to positively impact levels of student academic engagement are required to support the academic achievement of students.

Gettinger and Miller (2014) outlined best practices for increasing academic engagement within the classroom. The authors discuss that practices for increasing academic engaged time are often synonymous with practices to provide universal or Tier I academic and behavior support. The logic is that frequent and recurring disruptive behaviors in the classroom lead to correspondingly significant losses in learning time, thus the prevention of disruptive classroom behaviors through effective positive behavior support has the effect of maximizing academic engaged time among all students in a class. Further, the authors specifically identify three major factors that have been shown to contribute to increases in academic engagement that include (1) classroom management strategies, (2) instructional design, and (3) student-regulated strategies. Each of these three factors are intended to maximize learning time for all students and are generally conceptualized as universal or Tier I strategies, however, these practices may also be used to increase engaged time for small groups or individual students with overall low levels of academic engagement (Gettinger & Miller, 2014).

Research concerning classroom management strategies broadly concludes that the manner in which teachers organize and manage their classrooms affects the level of engagement among students. For example, Brophy (1986) discussed that student engagement rates are conditional on a teacher’s ability to organize the classroom environment to facilitate efficient transitions between activities and minimize the amount of time spent getting organized or by handling disruptive behaviors. Effective classroom management strategies that have
demonstrated an ability to promote academic engaged time include (a) designing classroom space to facilitate close monitoring of student behavior, (b) establishing consistent rules and expectations and efficient classroom routines, (c) implementing procedures to reduce transition time, (d) minimizing class size and learning group sizes, and (e) adopting an authoritative management style while also fostering positive teacher-student relationships (Gettinger & Miller, 2014).

Effective instructional design or instructional practices are the second category of best practice strategies that have been found to positively impact student levels of academic engagement. Key components of effective instructional strategies include (a) promoting active student participation in learning, (b) providing sufficient scaffolding and structure, (c) providing adequate teacher attention, and (d) adjusting design of instruction to match student ability, motivation, interests, and learning-time needs. In broad terms, instructional practices designed to increase rates of student academic engagement place an emphasis on the teacher to assume a central role in the teaching process while additionally taking steps to maintain active student participation in learning. Classroom environments and teachers that emphasize a strong academic focus, underscore academic goals, provide many opportunities for active student responding, display high levels of interaction with students, and offer students frequent opportunities to receive feedback are more likely to have students who display high levels of academic engagement (Gettinger & Miller, 2014).

A third category of practices to promote academic engagement includes student self-regulated strategies. Student self-regulated strategies are unlike classroom management strategies and instructional design as the focus of self-regulated strategies is within-learner variables that include cognitive or metacognitive variables to increase student academic engagement. The logic
of student self-regulated strategies suggests that levels of student academic engaged time is to some extent self-determined, and thus beyond the environmental variables present across classroom management strategies and instructional design. For instance, even if teachers implement best practices for increasing academic engagement from the classroom management and instructional design domains, students may spend less time than they need to on academic tasks due to low motivation, limited self-efficacy, or lack of self-monitoring skills. Further, students may appear to be demonstrating academic engaged behavior, but actual learning time may be negatively impacted if students use ineffective learning strategies or allocate attentional resources to task-irrelevant dimensions. Thus, self-regulation strategies are postulated to enable students to effectively and efficiently use academic instructional time, and these methods are believed to promote students in directly increasing their own levels of academic engagement. Examples of effective self-regulated strategies to increase academic engagement include (a) task-appropriate cognitive and study strategies, (b) self-monitoring procedures, and (c) self-management skills. Finally, it is important to note that student self-regulated strategies may be appropriate for students across all grade levels, however, these practices are largely more effective with students in middle and high school settings (Gettinger & Miller, 2014). Taken together, student self-regulated strategies are one domain of best practice approaches to increase levels of student academic engagement, and such strategies that target within-learner variables may be particularly beneficial given that these strategies are not teacher or contextually dependent, as they are more readily generalizable across different school settings (Felver et al., 2017).

Self-Monitoring
Gettinger and Miller (2014) identified self-monitoring as a method of student-regulated interventions that can be used for increasing academic engaged time. In broad terms, it is critical for students to be able to monitor their own comprehension and performance during learning tasks to promote school success. A core feature in all self-monitoring interventions that is implicit is the emphasis for students to self-observe and self-evaluate. For instance, self-monitoring interventions usually consist of a cue (e.g., audio tone or verbal statement) that directs students to measure their behaviors through self-reflection and self-rating. A well-established base of literature from more than 40 years suggests that self-monitoring interventions are beneficial across a variety of outcomes, subject areas, ability levels, and differing ages (Briesch & Chafouleas, 2009; Schardt et al., 2019).

Previous research provides evidence that many students struggle to monitor their own learning, even in contexts in which instruction has been delivered in a manner to maximize academic engaged time (Gettinger & Miller, 2014). However, previous systematic reviews and empirical evaluations clearly document that self-monitoring strategies are an effective behavioral intervention to increase academic engagement across varying ages and grades (De Hass-Warner, 1991; Dunlap et al., 1995; Joseph & Eveleigh, 2011; Rock, 2005; Todd et al., 1999; Trevino-Maack et al., 2015). Further, self-monitoring strategies have been found to be an effective category of intervention for increasing student rates of academic engagement, enhance academic skills (e.g., accuracy & productivity), decrease rates of disruptive behaviors (Carr & Punzo, 1993; DiGangi et al., 1991), and these findings hold across content areas that include mathematics and reading (Dunlap & Dunlap, 1989; Levendoski & Cartledge, 2000; Maag et al., 1992; Skeans, 2000).
Wood and colleagues (1998) evaluated the effects of a self-monitoring intervention on increasing on-task behavior among four at-risk middle school students. The four students (1 African American male, 1 African American female, 2 Caucasian males) were between 13 and 15-years-old, attended a charter middle school for expelled students, and were considered at-risk for school failure. The self-monitoring intervention involved students recording their own on-task behavior using a self-monitoring sheet at the end of each experimental class period that was approximately 50 minutes in length. A researcher was present during both baseline and intervention conditions to monitor the students’ self-monitoring for accuracy (95% IOA). The results from the multiple-baseline across participants design indicated immediate increases in on-task behavior. For instance, baseline on-task scores ranged from 20% to 50%, and on-task scores ranged from 60% to 100% during the intervention phase. The results from this research provide support that self-monitoring of on-task behaviors may be an effective intervention for at-risk adolescents in a middle school setting.

Research completed by Hertz and McLaughlin (1990) provides further evidence that a self-monitoring intervention may be beneficial in increasing rates of on-task behavior among middle school students. This research employed a multiple-baseline across participants design to evaluate the effects of a self-monitoring and matching intervention on increasing rates of on-task behavior among two males (13 and 14-years-old) who were provided an Individualized Education Program (IEP) under the educational disability classification of Learning Disability. The intervention utilized in this research required the students to mark an index card with a + or – every five-minutes during their 55-minute resource room class to indicate if they were either on-task (+) or off-task (-). The resource room teacher would also mark on an index card every five-minutes to assess if the students were on- or off-task and would meet with the students at the
end of the resource room class. An adult assistant in the resource room was asked to record the
student’s on-task behavior in order to obtain a reliability index. Of the 26 reliability checks, the
percent of agreement ranged from 28% to 100%, with a mean of 74%. Results indicated that self-
recording and matching was associated with an increase in on-task behavior, and the increased
levels of on-task responding were maintained above the baseline level during the follow-up
phase. Taken together, the aforementioned literature suggests that self-monitoring practices may
be an effective strategy to increase academic engagement among students with and without
educational disabilities, and such strategies are not contingent on direct teacher attention or
environmental variables and may be more readily generalizable across different school settings
(Felver et al., 2017).

Special Education and Academic Engagement

Academic engagement is a particularly important construct for students who receive
special education services as these students often possess diverse cognitive abilities, present with
varied instructional needs, and may perform lower than expected on measures of academic and
behavioral skills when compared to same aged peers (Friend & Bursuck, 1999; Rock, 2005).
Students identified with an educational disability and who receive special education services
(i.e., Individualized Education Programs; IEP), tend to spend a large amount of their
instructional time completing lengthy worksheets and independent seatwork due to the logistical
requirements of individualized educational programming (Vaughn et al., 2002). Students who
receive special education services are often instructed to complete passive seatwork activities
such as completing worksheets at their instructional level in the form of independent seatwork or
working in small groups. However, this passive seatwork, coupled with the characteristically
higher rates of poor self-control, hyperactivity, and inattention often results in increased levels of
academic disengagement or off-task behavior among students receiving special education services (Gresham et al., 1996). Taken together, students with identified educational disabilities are at an increased risk for academic disengagement than their same aged peers without an educational disability. Thus, students with educational disabilities may particularly benefit from empirically validated interventions or programs designed to positively impact student rates of academic engagement (Felver et al., 2017).

**Academic Engagement and Mindfulness**

This section will focus on the construct of mindfulness and how it relates to academic engagement in the context of a self-monitoring strategy. Specifically, there will be a discussion of how mindfulness was previously operationally defined for use in scientific inquiries, and a review of the theoretical putative mechanisms that underlie mindfulness and MBPs. Following the discussion of the construct and theory of mindfulness, there will be a specific review of previous research pertaining to how mindfulness-based practices may be implemented as a self-monitoring strategy to increase student rates of academic engagement. Finally, this section will review one specific MBP titled SOF, which has been implemented in both general and special education classrooms to successfully increase student rates of academic engagement.

**Mindfulness.** Kabat-Zinn’s (1994) popular conceptualization of mindfulness suggests that the construct refers to a particular practice of paying attention to the present moment characterized by a receptive and non-judgmental attitude. Mindfulness practices are rooted in Buddhist philosophy and exercises, but the construct has gained substantial secular consideration among researchers and clinicians in the past thirty years (Chiesa et al., 2011). For instance, mindfulness and mindfulness practices have been incorporated into several clinical groups and interventions such as Mindfulness Based Stress Reduction (MBSR; Kabat-Zinn, 1990),
Mindfulness Based Cognitive Therapy (MBCT; Segal et al., 2002), and Acceptance and Commitment Therapy (ACT; Hayes et al., 2009).

Bishop and colleagues (2004) proposed an operational definition of mindfulness which has increased the precision and testability of the construct. Specifically, they operationalized mindfulness using a two-component model including (1) the self-regulation of attention in which focus is maintained on the immediate experience, and (2) a particular attitude towards one’s experiences in the present moment that is marked by openness, curiosity, and acceptance. The first component of mindfulness (i.e., self-regulation of attention) involves sustained attention, attention switching, and the inhibition of elaborative processing. Therefore, this component of mindfulness is postulated to be a metacognitive skill that requires both the control of cognitive processes (i.e., attention self-regulation) and the continued monitoring of the stream of consciousness (Bishop et al., 2004).

The second component of Bishop and colleague’s (2004) model suggests that the attitude associated with mindfulness begins with an element of curiosity. The attitudinal trait of curiosity is thought to assist an individual to examine when the mind or attention has wandered, as well as the exploration of different objects and thoughts that occur at any given moment. Further, an orientation of acceptance is described as not striving for a state of relaxation, but instead, an orientation to simply notice each thought, feeling, and sensation that arises in the stream of consciousness in a non-judgmental manner. Finally, an orientation of openness is believed to increase receptivity to whatever happens to occur in the field of awareness, without feeling pressure to change or adapt the current moment-to-moment experience (Bishop et al., 2004).

Although Bishop et al. (2004) provided one of the first operational definitions of mindfulness, Shapiro and colleagues (2006) provided a theory into the putative mechanisms that
underlie how mindfulness-based practices may elicit change that includes three fundamental subordinate components of mindfulness. These fundamental components of mindfulness include intention, attention, and attitude. Intention is a crucial aspect of mindfulness as it sets the stage or initiates the subsequent components of attention and attitude. Attention is undoubtedly a core feature of mindfulness, as most practices revolve around paying attention to ones’ moment-to-moment experiences. Finally, how one attends, or in other words, the attitude in which one attends is the last core feature of mindfulness (Shapiro et al., 2006).

Using the three fundamental components of mindfulness, Shapiro et al. (2006) developed the Intention-Attention-Attitude (IAA) model of the mechanisms of mindfulness, which suggests that intentionally paying attention with an attitude of openness and non-judgment leads an individual to a significant shift in perspective. Reperceiving is the term that refers to the significant shift in perspective and is hypothesized to be a meta-mechanism in which one is able to separate or disidentify from the content of the conscious. Reperceiving is believed to direct additional mechanisms, such as self-regulation and self-management. Shapiro and colleagues (2006) outline “intentionally cultivating nonjudgmental attention leads to connection, which leads to self-regulation and ultimately to greater order and health” (p. 380). Specifically, the significant shift in perspective related to reperceiving is believed to increase ones’ ability to attend to information contained in each present moment, and therefore afford more access to data that may have been previously too uncomfortable or too difficult to examine. In sum, Shapiro et al. (2006) outlined a theory of the putative mechanisms of mindfulness in which the three fundamental components include intention, attention, and attitude, which leads to reperceiving that can positively impact meta-cognitive skills such as self-regulation or self-management. The IAA model developed by Shapiro and colleagues (2006) is similar to the operational definition of
mindfulness provided by Bishop et al. (2004), with the IAA model placing increased importance on intention which allows individuals to regulate attention in a conscious and purposeful way.

**Relation between Academic Engagement and Mindfulness.** As previously mentioned, systematic reviews and meta-analyses have provided empirical support concerning the benefits that students often experience following MBPs (Zenner et al., 2014) and provide emerging support for the effectiveness of such practices on student psychopathology, behavioral problems, and student prosocial characteristics (Felver et al., 2016). While focusing on the relation between MBPs and academic engagement, it is hypothesized that MBPs may act as an antecedent-based intervention that promotes increased rates of academic engagement (Felver et al., 2017).

The Intention-Attention-Attitude (IAA) model of the mechanistic underpinnings of MBPs suggests that such practices or interventions lead to a significant shift in perspective. Reperceiving, or the significant shift in perspective, is thought to be a meta-mechanism that allows individuals to separate or disidentify from the content of the conscious, ultimately allowing individuals to behave reflectively as opposed to reflexively (Shapiro et al., 2006). Therefore, MBPs are hypothesized to impact student levels of academic engagement by acting as a self-monitoring antecedent-based intervention and more specifically allow students to interrupt an escalating behavioral chain that results in disruptive or inattentive behavior (Felver et al., 2017). As an example, imagine that a student has completed a mindfulness program and has developed skills related to reperceiving. It would be hypothesized that following the MBPs, students may be more adept at noticing when attention has wandered from an academic task or he or she is beginning to engage in disruptive behavior, and the mindfulness strategies may be implemented in a manner so that the student self-regulates his or her attention or behavior back to the academic task and thus ultimately display academic engagement. While Felver and
colleagues (2017) have stated that this hypothesized antecedent-based relation between MBPs and academic engagement is understudied in K-12 school contexts, Elphinstone et al. (2019) recently explored this relation in college settings with undergraduate students. Utilizing a large sample ($N = 775$) and structural equation modeling, the authors concluded that higher levels of trait mindfulness were indirectly related to greater academic engagement and academic achievement. Taken together, it appears that MBPs may be an effective strategy to positively impact rates of academic engagement by acting as a self-monitoring antecedent-based intervention that increases the meta-cognitive reperceiving abilities among students and thus gain the ability to regulate behavior in a conscious and purposeful way.

**Soles of the Feet (SOF) to Increase Student Academic Engagement.** *Soles of the Feet* (SOF; Felver & Singh, 2020) is a MBP that has been studied in the context of public schools and is practically advantageous for the use in classrooms due to the intervention time and cost efficiency, and pragmatic focus on observable classroom behaviors such as academic engagement. The SOF intervention was originally developed as a brief mindfulness program to reduce aggressive behavior with an adult with developmental and psychiatric disabilities who was in an inpatient setting due to a history of high rates of aggressive behaviors (Singh et al., 2003).

The SOF program (see Table 1) is typically taught across five 30-minute classes that specifically teaches individuals a basic mindfulness routine for redirecting attention to the somatic sensations of a neutral part of the body, such as the feet, during periods of time in which intensive emotional or physiological arousal occurs (Felver & Singh, 2020). The SOF program is considered a “top-down” or self-monitoring practice that teaches individuals to use cognitive skills such as attention regulation to reduce emotional and physiological arousal that often results
in undesired behaviors such as academic disengagement (Felver et al., 2017). As previously mentioned, an implicit feature in all self-monitoring interventions is the emphasis for individuals to self-observe and self-evaluate, and most self-monitoring interventions consist of a cue (Gettinger & Miller, 2014; Schardt et al., 2019). The SOF program is considered a self-monitoring program as students are instructed to self-observe or self-evaluate emotional or arousal states such as anger, happiness, and academic disengagement. More specifically, students are asked to self-observe somatic sensations associated with different arousal states or emotions and are then asked to practice the SOF routine once an arousal state is noticed. The cue to begin observing or self-evaluate within the SOF program is at first the examiner leading guided practices throughout the different intervention sessions. However, the SOF program is designed to teach students to generalize the cue to begin observing or self-evaluate once an arousal state has been noticed.

Previous research on SOF generally suggests that the program is effective in decreasing aggressive and disruptive behavior among adolescent and adult populations with varying diagnoses that include Prader Willi Syndrome, Intellectual Disability, Autism Spectrum Disorder, Bipolar Disorder, and Conduct Disorder (Singh et al., 2017; Singh et al., 2011; Singh et al., 2007a; Singh et al., 2007b). Due to the empirical evaluations of the SOF program that have found to be effective with adolescent and adult population, Felver and colleagues (2014) adapted the original manual for a school setting (Felver & Singh, 2020). To date, there have been three peer-reviewed single-case design empirical evaluations that have explored the effectiveness of the SOF program in the context of schools. Singh and colleagues (2007a) used a multiple-baseline across participants design to explore if the SOF program is an effective strategy to decrease rates of aggressive behavior displayed at school among three 7th grade students who
were previously diagnosed with Conduct Disorder. The SOF program was delivered to each student separately in 15-minute sessions three times a week for 4 weeks. Direct observation data were collected during the pre- and post-intervention phases, with results demonstrating a large decrease in the frequency of aggressive behaviors. For instance, mean baseline levels of aggressive behaviors ranged from 2.27 to 6.00, and post-intervention levels ranged from 0.88 to 1.48. Finally, Singh and colleagues (2007a) did not include measures of intervention acceptability or feasibility.

Felver and colleagues (2014) utilized a multiple-baseline across participants design to examine if the SOF program was successful in decreasing off-task behavior and increasing academic engagement among three students in 3rd grade without an educational disability. The SOF program was delivered individually across five 20-30-minute sessions, and results from direct behavioral observations found that students generally decreased rates of off-task behavior and increased rates of academic engagement following the SOF program. More specifically, non-overlap of all pairs (NAP; Parker & Vannest, 2009) values for on-task behavior (i.e., academic engagement) ranged from 66% to 100%. Finally, the authors administered the Children’s Intervention Rating Profile (CIRP; Witt & Elliott, 1985) to the students during the post-intervention phase to obtain an index of intervention social validity and acceptability. Results demonstrated that the students thought the mindfulness program was fair, they enjoyed the practices and believed the SOF program helped them to do better in school.

Felver and colleagues (2017) examined the effectiveness of the SOF program on increasing student academic engagement among students receiving special education services. The authors delivered the SOF program individually across five classes that were 20-30 minutes in length to four students in grades 4-7 who received special education services under the
Emotional Behavioral Disability category or Other Health Impairment (i.e., medical diagnosis of attention-deficit/hyperactivity disorder). Direct observation data were completed pre- and post-intervention and measured student rates of academic engagement. Using a multiple-baseline across participants design, results suggest that all four students demonstrated improved mean levels of academic engagement following the SOF program, and NAP scores ranged from 81% to 100% ($M = 90\%$; $SD = 8.04$). Finally, the authors administered the CIRP to the students during the post-intervention phase to obtain an index of intervention social validity and acceptability. Results suggest that the students found the program to be fair, they enjoyed the SOF program, did not find the practices too difficult, and thought the program may help them do better in school.

Taken together, the SOF literature provides some evidence that the program is a socially acceptable school-based practice according to previous student CIRP reports (Felver et al., 2014; Felver et al., 2017), and an effective and efficacious program to decrease undesired behaviors and increase the rate of desired behaviors among children, adolescents, and adults who present with varying diagnoses, and in settings that range from the subject’s home, institutions, and classrooms. However, it is important to highlight that the SOF program has only been administered individually to participants who display high rates of undesired behaviors. For instance, both Felver et al. (2014) and Felver et al. (2017) used academic engagement as a primary dependent variable, and the SOF program was administered to each student individually, thus resembling a Tier III intervention. Thus, the effects of SOF as a group administered program for students are yet unexplored in the literature, despite calls for additional research into this program delivery format (Felver & Singh, 2020).
The objective of the current research is to extend upon the previous MBP literature and explore if the SOF program is efficacious in increasing student academic engagement when the program is delivered class wide as a Tier II intervention among students who receive special education services. The current research considers the SOF program being delivered to the whole class as a Tier II intervention for two primary reasons. First, each of the classrooms are self-contained classes where all students receive special education programming and have already demonstrated an inability to respond to school-wide Tier I practices. Second, the program was delivered to all of the students in the classroom, thus are not individualized that would be commonly found in Tier III services. It is important to note that each of the four participating self-contained classrooms had universal supports that were in place before, during, and after the implementation of the SOF program. For instance, each of the four classrooms had behavioral expectations (e.g., “be respectful”, “be responsible”, “be safe”) that were posted in the classroom and reviewed periodically by the classroom teacher. Additionally, each of the classroom teachers implemented universal supports and behavioral management strategies that included (1) planned ignoring for undesired behaviors; (2) offering choices during academic tasks; (3) offering behavior specific praise for desired behaviors; (4) pre-correction of undesired behaviors; and (5) modeling the expected and desired behaviors. These universal behavioral supports found in each of the classrooms were left unchanged throughout each phase of the current project. Finally, it should be noted that the fidelity of these universal supports was not measured by the participating school, and therefore it remains unknown if there was variability between teachers and classrooms with regards to the frequency and intensity of the universal behavioral supports.

Aims of the Current Study
The purpose of the current research was to examine if the mindfulness-based SOF (Felver & Singh, 2020) program can be used as a Tier II intervention to increase rates of individual student academic engagement (i.e., on-task behavior) and decrease rates of student academic disengagement (i.e., off-task behavior). Put another way, the current research aimed to administer the SOF program to four different self-contained special education classrooms while measuring on- and off-task behavior for individual students who were referred by their classroom teachers due to high rates of off-task behavior. SOF itself was intended to be delivered as a Tier II intervention to all of the students in the self-contained classroom, and data collection included two to three individual students from each of the four classrooms to assess if individual students displayed increased rates of on-task behavior following the Tier II group delivery format intervention. Finally, the current research aimed to evaluate if students found the SOF program as an acceptable program.

As discussed more in depth below, the participating students in the current research were placed in one of four self-contained special education classrooms. The participating students received special education and had an Individualized Education Program (IEP) under the categories of Learning Disability, Emotional Disturbance, Other Health Impairment, or Traumatic Brain Injury. These students were being educated in self-contained classrooms because they were unsuccessful in a less restrictive environment due to behavioral difficulties per the school psychologist at the participating school. The SOF program was selected for this student population based on promising results in the extant literature in similar populations. Felver and colleagues (2017) observed an increase in academic engagement among four students (grade 4 through 7) who received special education services under the categories Emotional Disturbance or Other Health Impairment due to attention-deficit/hyperactivity disorder (ADHD).
In fact, the SOF program was originally developed for individuals with severe intellectual deficits to decrease aggressive behaviors, which suggests that the participating students likely possessed cognitive abilities to access the content of the SOF program. The SOF program has also been found to be beneficial for subjects with heterogeneous disabilities (similar to the current classrooms), including: Prader Willi Syndrome, Intellectual Disability, Autism Spectrum Disorder, Bipolar Disorder, and Conduct Disorder (Singh et al., 2017; Singh et al., 2011; Singh et al., 2007a; Singh et al., 2007b). Finally, the SOF program and MBPs as a whole are believed to be an effective and efficacious program for subjects with attention regulation deficits, such as ADHD for multiple reasons at the behavioral and neuropsychological level (Van de Weijer-Bergsma et al., 2012). Behaviorally, MBPs emphasize on increasing the ability to control attention and reducing automatic responses (Teasdale Segal, & Williams, 1995). Considering neuropsychological implications, previous research has shown the MBPs may enhance performances on tasks measuring executive functioning such as attention, working memory, and cognitive control (Heeren & Philippot, 2011; Semple, 2010).

**Aim 1.** The primary purpose of the current research was to explore if the SOF program delivered in a group format was successful in increasing individual student rates of on-task behavior and decreasing rates of off-task behavior following the completion of the program being administered to the whole class. As later explained in the methods sectioned, data collection of on- and off-task behavior was collected via direct behavioral observations. It was hypothesized that students participating in the research would display clear and stable increases of on-task behavior only following the completion of the SOF program.

**Aim 2.** An additional purpose of the current research was to explore if student participants found the SOF program as an acceptable practice in their special education self-
contained classrooms. The Kids Intervention Profile (KIP; Eckert et al., 2017) was intended to be administered to participating students at the completion of the SOF program, and it was hypothesized based on previous school-based SOF studies (Felver et al., 2014; Felver et al., 2017) that students would find the mindfulness-based practice as an acceptable practice.

**Aim 3.** An exploratory aim of the current research was to explore if SOF program affected student discipline data that was already being collected by the participating middle school. In more detail, the current researched aimed to explore if the participating students displayed a decrease in school suspensions and office-based discipline referrals following the completion of the SOF program.

**Methods**

**Participants**

According to the New York State Education Department, the participating middle school had 499 students across 6th, 7th, and 8th grade during the 2017-2018 school year. The middle school possessed a majority of male students (51%), and the enrollment by race/ethnicity (a conflated demographic category for state reported statistics) included 52% African American, 24% white, 10% Hispanic or Latino, 10% Asian or Native Hawaiian/Other Pacific Islander, 2% Multiracial, and 1% American Indian or Alaska Native. The majority of the school was considered economically disadvantaged (93%), and 21% of the student population had an identified educational disability. Finally, 24% of the student population was identified as English Language Learners, and 6% of the student body was considered homeless. (New York State Education Department, 2019).

Eligibility criteria for the current research included being enrolled in one of the four special education self-contained classrooms at the participating middle school and being referred
by their classroom teacher for displaying (a) high rates of off-task behavior, (b) generally display high levels of school attendance, (c) possess the ability to comprehend the English language, and (d) generally refrain from eloping out of the classroom to ensure that the students have access to the SOF program and were in the classroom for direct observation data collection. As discussed in more detail in the setting and recruitment section of this document, the teachers first referred students based on their perceptions of high rates of off-task behavior, then a teacher interview and a preliminary direct observation session was used for final inclusion decision and confirmation for participation in the current research. The four special education self-contained classrooms included 12-15 students and 2-4 adults within the classroom. Each student within these classrooms received special education services under the classification of (a) Intellectual Disability, (b) Emotional Disturbance, (c) Learning Disability, (d) Traumatic Brain Injury, or (e) Other Health Impairment. Each of the four classroom teachers were asked to nominate two students who displayed high rates of off-task behavior, displayed good school attendance, and low levels of elopement. Therefore, a total of 8 students were nominated for the behavioral observation aspect of the current research.

The participating students were selected largely due to convenience sampling. Potential subjects for the current research were limited to students who were enrolled in one of the four self-contained special education classes at the participating school. The obtained sample for the current research was comprised of 75% African American students and 25% Caucasian students. Therefore, the obtained sample was discrepant from the student body which consisted of 51% of African American students and 24% of Caucasian students. The ages and grades of the obtained sample were representative of the larger student population as a whole. Due to the nature of the current research being implemented in self-contained special education classrooms, the obtained
sample was not representative of the larger student population as a whole in terms of educational disability. Ages of the obtained sample ranged from 11 to 14 (grades 6 through 8). Further 50% of the sample had an educational disability classification of Learning Disability, 25% had a classification of Traumatic Brain Injury, 12% had a classification of Emotional Disturbance, and 12% had a classification of Other Health Impairment. Table 2 includes demographic information from the participants.

Carlos was a 13-year-old African American male student in 8th grade. He received special education services under the category of Learning Disability in reading and writing category, and was placed in one of the 15:1 (i.e., 15 students to 1 teacher) classrooms at the participating school. The self-contained 15:1 classroom that Carlos was placed in was designed for students with some of the most severe externalizing behaviors as reported by the school psychologist at the participating school. Off-task behavior identified by his primary special education teacher included talking out during academic instructional periods, and passive off-task behavior in which he would sit silently at his desk with his head on his desk instead of completing academic work. Results from his teacher interview and Functional Behavioral Assessment Worksheet (McDougal et al., 2006) identified that his off-task behaviors were most likely to occur during whole class instruction during his 2nd period English Language Arts (ELA), which was immediately after Carlos returned from specials, such as Physical Education and Art. The hypothesized function of Carlos’ off-task behavior as evidenced by his teacher completing the Questions About Behavioral Function (Matson & Vollmer, 1995; QABF) form was either attention, escape, or access to tangibles. Carlos’ most recent psychoeducation evaluation suggests that his overall cognitive functioning resides in the Average range.
Nora was a 12-year-old African American female student in 7th grade. She received special education services under the Traumatic Brain Injury category due to her history of seizures. Nora was placed in the same 15:1 classroom as Carlos. The self-contained 15:1 classroom that Nora was placed in was designed for students with some of the most severe externalizing behaviors as reported by the school psychologist at the participating school. Off-task behavior identified by her primary special education teacher included calling out inappropriate swear words during academic instructional periods, walking out of the classroom, threatening to physically harm other students in the classroom, and non-compliance with academic tasks. Results from her teacher interview and Functional Behavioral Assessment Worksheet identified that her off-task behaviors were most likely to occur during whole class instruction during her 2nd period English Language Arts (ELA), which was immediately after Nora returned from specials such as Physical Education and Art. The hypothesized function of Nora’s off-task behavior as evidenced by her teacher completing the QABF form was attention. Nora’s most recent psychoeducation evaluation suggests that her overall cognitive functioning resides in the Extremely Low range.

Cole was a 14-year-old African American male student in 8th grade. He received special education services under the Learning Disability in language category and was placed in the same 15:1 classroom as Carlos and Nora. The self-contained 15:1 classroom that Cole was placed in was designed for students with some of the most severe externalizing behaviors as reported by the school psychologist at the participating school. Off-task behavior identified by his primary special education teacher included passive off-task behavior in which he would sleep at his desk instead of completing his work, calling out during instructional time, and non-compliance with academic tasks. Results from his teacher interview and Functional Behavioral Assessment Worksheet identified that his off-task behaviors were most likely to occur during whole class instruction during his 2nd period English Language Arts (ELA), which was immediately after Cole returned from specials such as Physical Education and Art. The hypothesized function of Cole’s off-task behavior as evidenced by his teacher completing the QABF form was attention. Cole’s most recent psychoeducation evaluation suggests that his overall cognitive functioning resides in the Extremely Low range.
Assessment Worksheet identified that his off-task behaviors were most likely to occur during whole class instruction during his 2nd period English Language Arts (ELA), which was immediately after Cole returned from specials such as, Physical Education and Art. The hypothesized function of Cole’s off-task behavior as evidenced by his teacher completing the QABF form was attention, escape, or access to tangibles. Cole’s most recent psychoeducation evaluation suggests that his overall cognitive functioning resides in the Extremely Low range.

Nate was a 13-year-old African American male student in 7th grade. He received special education services under the Traumatic Brain Injury category due to his history of seizures. Nate was placed in one of the 12:1 (i.e., 12 students to 1 teacher) classrooms at the participating school. In more detail, Nate was placed in the 12:1 classroom for students whose cognitive profile closely resembles what would be expected among students with an Intellectual Disability. Off-task behavior identified by his primary special education teacher included echolalia in which he would repeat what the teacher and his peers would say after being reminded that the class expectation was to raise his hand to speak, and non-compliance with adult demands within three seconds. Results from his teacher interview and Functional Behavioral Assessment Worksheet identified that his off-task behaviors were most likely to occur during whole class instruction during his 8th period Social-emotional class, which was immediately after Nate returned from lunch. The hypothesized function of Nate’s off-task behavior as evidenced by his teacher completing the QABF form was attention. Nate’s most recent psychoeducation evaluation suggests that his overall cognitive functioning resides in the Extremely Low range.

Albert was a 12-year-old African American male student in 6th grade. He received special education services under the Learning Disability in Language category and was placed in one of the 12:1 classrooms at the participating school for children with the most challenging
externalizing behaviors. The self-contained 12:1 classroom that Albert was placed in was designed for students with the most severe or intense externalizing behaviors as reported by the school psychologist at the participating school. Off-task behavior identified by his primary special education teacher included non-compliance with adult demands within three seconds, and high levels of passive off-task behavior, in which Albert would sit quietly at his desk and use his phone or brush his hair instead of completing academic work. Results from his teacher interview and Functional Behavioral Assessment Worksheet identified that his off-task behaviors were most likely to occur during whole class instruction during his 6th period Social Studies class, which was immediately after Albert returned from lunch. The hypothesized function of Albert’s off-task behavior as evidenced by his teacher completing the QABF form was attention or escape. Albert’s most recent psychoeducation evaluation suggests that his overall cognitive functioning resides in the Extremely Low range.

Dennis was a 11-year-old Caucasian male student in 6th grade. He received special education services under the Learning Disability in Language category and was placed in the same 12:1 classroom as Albert. The self-contained 12:1 classroom that Dennis was placed in was designed for students with the most severe or intense externalizing behaviors as reported by the school psychologist at the participating school. Off-task behavior identified by his primary special education teacher included non-compliance with adult demands within three seconds, calling out during instructional periods, and off-task behavior, in which he would be on his phone instead of completing academic work. Results from his teacher interview and Functional Behavioral Assessment Worksheet identified that his off-task behaviors were most likely to occur during whole class instruction during his 6th period Social Studies class, which was immediately after Dennis returned from lunch. The hypothesized function of Dennis’ off-task
behavior as evidenced by his teacher completing the QABF form was escape. Dennis’ most recent psychoeducation evaluation suggests that his overall cognitive functioning resides in the Average range.

John was a 12-year-old African American male student in 7th grade. He received special education services under the Other Health Impairment category due to his medical diagnosis of Attention-deficit/hyperactivity disorder and was placed in a 15:1 classroom. The self-contained 15:1 classroom that John was placed in was designed for students with some of the most severe externalizing behaviors as reported by the school psychologist at the participating school. Off-task behavior identified by his primary special education teacher included non-compliance with adult demands within three seconds, swearing at adults and peers in the classroom, and making inappropriate gestures towards adults and peers in the classroom (e.g., showing his middle finger). Results from his teacher interview and Functional Behavioral Assessment Worksheet identified that his off-task behaviors were most likely to occur during whole class instruction during his 2nd period Mathematics class, which was immediately after John returned from specials, such as Physical Education and Art. The hypothesized function of John’s off-task behavior as evidenced by his teacher completing the QABF form was attention. John’s most recent psychoeducation evaluation suggests that his overall cognitive functioning resides in the Extremely Low range.

Michael was a 12-year-old Caucasian male student in 6th grade. He received special education services under the Emotional Disturbance category and was placed in the same 15:1 classroom as John. The self-contained 15:1 classroom that Michael was placed in was designed for students with some of the most severe externalizing behaviors as reported by the school psychologist at the participating school. Off-task behaviors identified by his primary special
education teacher included non-compliance with adult demands within three seconds, calling out during instructional periods, and passive off-task behavior in which he would play handheld videogames during instructional time. Results from his teacher interview and Functional Behavioral Assessment Worksheet identified that his off-task behaviors were most likely to occur during whole class instruction during his 2nd period Mathematics class, which was immediately after Michael returned from specials, such as Physical Education and Art. The hypothesized function of Michael’s off-task behavior as evidenced by his teacher completing the QABF form was attention, escape, non-social, or access to tangibles. Michael’s most recent psychoeducation evaluation suggests that his overall cognitive functioning resides in the Borderline range.

The proposed research was designed to deliver the SOF program to the entire self-contained classrooms and collect data among a total of 8 participants for a few different reasons. First, the school psychologist at the participating school estimated that the return rate for signed parental consents is less than 10% for the student population, which would hamper the ability to consent participants. Second, teachers of the self-contained classrooms reported high rates of elopement and low rates of attendance for certain students, which would provide practical difficulties for the current research. Third, due to the nature of the student services of the participants in the self-contained classrooms, the students are often removed from the classroom to receive pullout services that would add another layer of difficulty to complete direct observation sessions.

It is important to note that the current research hypothesized that the participating eight students were representative of their larger 12:1 or 15:1 self-contained classroom. Put another way, there was no a priori indication that the participating students would differ in terms of their
on- or off-task baseline data or response to the SOF program based on teacher interviews. More specifically, teacher and school psychologist interviews suggested that all students within each of these four self-contained classrooms had severely high levels of disruptive behaviors and low levels of academic engagement. As discussed in more detail below in the measures section, the current research also collected data concerning on- and off-task in the form of a peer composite score to provide insight into whether or not the participating students were representative of their larger classroom as a whole. As discussed more below in the results section, the obtained results comparing the participating students’ rates of on-task behavior to the peer composite score indicates that the obtained sample of students were not representative of typical behavior of their peers in the classroom. More specifically, the obtained sample and the participating students tended to display lower rates of on-task behavior during the baseline phase when compared to the peer composite data.

**Setting and Recruitment**

The current study took place at a participating middle school that is located within an urban school district in a small city in New York State. The particular middle school was selected for the current study via convenience sampling. The school psychologist of the participating middle school reached out to the researchers to express interest in conducting a MBP with the four special education self-contained classrooms in the Spring of 2019. Finally, it is important to note that students remained in their classroom assignment for the entire school year.

My academic advisor, Dr. Joshua Felver, and I met with the school psychologist, principal, and four special education self-contained classroom teachers to outline the current research and consent was obtained both from the Syracuse University Institutional Review Board
and from the participating school district. The proposed research was implemented in a total of four classrooms taught by four different teachers. As previously noted, each of the four teachers recommended two to three students to be part of the current study, and then these students and their guardians were approached for consent (i.e., 8 students approached for consent total; further description can be found in the setting and recruitment section). Legal guardians of students from these four classrooms were approached for consent via the students bringing home printed consent forms. Students were provided with a physical copy of the parental consent document to bring home during the first week of school in December of 2019. After obtaining legal guardian consent, students were asked for their assent.

To objectively identify and confirm rates of student off-task behavior, teacher interviews and direct observations were conducted prior to the beginning of the SOF sessions or baseline data collection periods. The interviews included the primary author working with the special education classroom teachers to complete the Functional Behavioral Assessment Worksheet (McDougal et al., 2006). The Functional Behavioral Assessment Worksheet is a data collection measure designed for school-based practitioners who are completing functional behavioral assessments (FBAs) on students who display challenging behaviors. The Functional Behavioral Assessment Worksheet is a brief semi-structured interview that is designed to identify the specific topography, frequency, duration, and intensity of target behavior(s) that interfere with a student’s functioning in the classroom. Further, the worksheet is used to establish the context, setting, and time of day in which the behavior(s) is most likely to occur while asking for teacher feedback concerning antecedents, consequences, and environmental factors. The current research adhered to procedures similar to Felver and colleagues (2017), and the Functional Behavioral
Assessment Worksheet was used to identify each student’s instructional period with the lowest rates of academically engaged behavior, and thus the highest rates of off-task behavior.

Following the teacher interviews and the completion of the Functional Behavioral Assessment Worksheet, the first author followed procedures from Felver et al. (2017) and conducted a single preliminary direct observation of the participating students’ behavior to confirm teacher reports. In other words, these preliminary direct observations were used to confirm teacher reports of off-task behavior and thus validate student recruitment. A single 20-minute direct observation was conducted for each participating student during the teacher identified instructional period and time of day. During this observational period, students were coded using a 10-second whole-interval coding procedure whereby students were coded as being on-task if their head and body were oriented toward the target task while actively attending to assigned material, or the student’s head and body oriented toward the target task while passively attending to assigned classroom and included behaviors such as listening to a lecture, reading assigned material silently, and looking at the teacher during instruction (Dart et al., 2016). Identical to Felver et al. (2017), the criterion that was used to confirm low student on-task behavior was students being assessed to be on-task for less than 50% of the preliminary observation period.

During the preliminary observation, the following students were off-task 50% or more of the observation; Carlos (93% off-task); Nora (63%); Cole (100%); Nate (52%); Albert (70%); Dennis (71%) and John (95%). Michael was assessed to be off-task during 42% of the preliminary observation. While Michael did not meet the preliminary observation criterion of being off-task at least 50% of the observation, it was decided to continue to collect data on him as parental consent and student assent had already been obtained. However, his results are...
interpreted with caution due to the failure to meet the criterion during the preliminary observation.

**Measures**

*Direct Observation of Student Behavior.* The primary dependent variable in the current research was student on- and off-task behavior that was collected via direct observations in the classroom. Observations lasted for 20 minutes during the class period and the specific time when students are most likely to display off-task behavior as determined by the aforementioned teacher interview. The current research used a 10-second whole-interval method for measuring on-task behavior whereby an occurrence of the behavior was recorded if it lasted for the entire 10-second interval. Off-task behavior was measured in the current research using a 10-second partial interval method whereby an occurrence of the behavior was recorded if it occurred at any time during each 10-second recording interval. These procedures are identical to those of Felver and colleagues (2017) and are formulated to produce mutually exclusive categories of academically engaged behavior. Finally, every fifth interval during the 20-minute observation period included a behavior comparison of a random peer in the classroom. Put another way, every fifth trial a random peer in the classroom was chosen and their on- and off-task behavior was recorded for peer comparisons of the participating students. This resulted in a peer composite score for each of the behavioral observations that occurred during both the baseline and post-intervention phases. Trained data collectors were provided a seating chart with students numbered and a protocol for which random peer that should be observed during every fifth interval to ensure that all other peers are observed during the 20-minute period and the peer comparisons are not only influenced by a small sample of students in the classroom. Figure 1 contains the form that was utilized for direct behavioral observations in the current research.
The current research operationalized on-task behavior by combining the definitions of active engagement and passive engagement from Dart and colleagues (2016). For the current study, on-task behavior was defined as (a) the student’s head and body oriented toward the target task while actively attending to assigned classwork and included behaviors such as writing, reading aloud, and talking to the teacher or a peer about assigned material, and/or (b) the student’s head and body oriented toward the target task while passively attending to assigned classwork and includes behaviors such as (1) listening to a lecture, (2) reading assigned material silently, and (3) looking at the teacher during instruction. Off-task behavior was operationalized in the current research using the definition provided by Felver and colleagues (2017). More specifically, off-task behavior was defined as either motor activity not directly associated with an assigned academic task (e.g., getting out of seat to walk around the room), verbalizations not related to an assigned academic task (e.g., making noises during silent reading or talking to another student during a quiz), or passively not attending to an assigned academic task for at least three consecutive seconds within a given 10-second interval (e.g., staring out the window or watching other peers during a silent reading activity).

**Kids Intervention Profile (KIP; Eckert et al., 2017).** The KIP was originally scheduled to be utilized during the post-intervention data collection period to obtain a measure of intervention acceptability among the students who received the SOF program. The KIP is an 8-item assessment tool designed to assess students’ perceptions of academic interventions. More specifically, the KIP includes a 5-point anchored scale that ranges from “not at all” to “very, very, much”. Instead of using a traditional Likert-style scale, the KIP includes boxes of increasing sizes designed to provide students with a more developmentally appropriate indicator regarding the relative strength of their Likert-style responses. Higher scores on the KIP indicate
greater intervention acceptability levels with possible scores ranging from 8 to 50. Generally, a total score greater than 24 on the KIP represents an acceptable intervention rating. Finally, previous research indicates that the KIP possesses adequate internal consistency, test-retest reliability, and construct validity (Eckert et al., 2017).

**Intervention Fidelity Monitoring.** A trained observer measured intervention fidelity during all five of the SOF program sessions (100%) using a checklist found in Figure 2. The trained observers included the special education teacher whose class was completing the SOF program and a trained undergraduate student from the Mind Body Laboratory at Syracuse University. The first author met with the special education teacher and undergraduate student at separate times for approximately 30-minutes to train the observers on the intervention fidelity form, answer questions, and provide examples for the observers to practice using the recording form. During the program, the observers recorded whether or not the interventionists (a) reviewed the previous session, (b) reviewed between-session practice, (c) introduced the session, (d) delivered main session content, (e) closed each session by reviewing session content, (f) made a plan for between-session practice, (g) distributed and utilized student handouts, and (h) practices the SOF routine at least twice during the session. Observers scored each item on the checklist using a Likert style scale that ranged from 0 (i.e., Not at all or very little <10%) to 2 (i.e., Fully or very much > 90%). Each of the observers had a copy of the SOF manual for them to follow along with to assess if each structural component of the program was implemented. The intervention fidelity score for each of the five sessions was 100%. Further, interobserver agreement was calculated during 1 out of the 5 total program sessions (20%), with the intervention fidelity IOA being assessed as 100%.
Student Engagement. Student engagement with the SOF routines found in each of the five program sessions were measured by the first author completing a form at the conclusion of each program session (see Figure 3), and the students completing a handout at the end of each program session (see Figure 4). More specifically, the first author used the document in Figure 3 to assess if the participating students were participating in the SOF routines that were completed at least twice during each of the five sessions. Participation in the SOF routine was operationalized by the students sitting quietly with his or her feet flat on the ground, having one hand on their stomach which is part of the routine, and a clear demonstration that the students are practicing the SOF routine by their feet moving when instructed by the interventionists. Students were also administered the document found in Figure 4 at the end of each program session that asked yes or no questions. The two questions on this survey asked if the students practiced the SOF routine in-between the program sessions, and if the students practiced the SOF routine along during the class with the interventionists.

Data Collection Method

Data collection methods for the current research were similar to Felver and colleagues (2017). For instance, direct observations were conducted by trained research assistants who remained blind to each student’s phase throughout the study. Next, research assistants were trained to record on- and off-task behaviors by watching training videos of classroom behavior, and each observer was trained to an 80% agreement criterion on training videos prior to conducting school observations (Hartmann et al., 2004). In more detail, a total of 8 undergraduate and post-graduate research assistants completed academic engagement training videos with agreement criterion values ranging from 82% to 95% ($M = 86\%$; Median = 85\%; $SD = 5\%$).
An independent observer was present during 16 out of the 45 total baseline observation sessions and 1 out of the 3 total post-intervention behavior observations sessions. The independent observers were one of the Syracuse University trained research assistants that included undergraduates and post-graduates from the Mind Body Laboratory. Interobserver agreement (IOA) was calculated from 36% \((n = 16)\) of baseline observation sessions and from 33% \((n = 1)\) of post-intervention observation sessions. IOA was calculated as the number intervals during which observers agreed upon the student’s on- and off-task behavior divided by the total number of intervals for the observation. The range of IOA scores from the baseline phase was 89% to 100% agreement, with an average IOA score of 99% and a median score of 100%. The single IOA session from the post-intervention phase produced an agreement score of 98%.

Once the students completed the SOF program sessions in their classrooms, they were scheduled to be asked to complete a post-intervention questionnaire to assess for intervention acceptability. More specifically, the students were scheduled to be asked to complete the Kids Intervention Profile (KIP; Eckert et al., 2017). As discussed more below, the KIP was not administered to the participating students because in-person education was suspended due to the SARS-COV-2 pandemic.

**Experimental Design**

A multiple-baseline across participants single-subject research design was used that included three phases: baseline, SOF program, and post-intervention. Following conventional multiple-baseline procedures (Kratochwill et al., 2013) and the design of Felver and colleagues (2017), baseline data collection began simultaneously for all participating students until a stable level behavior is observed (see “Phase change criteria” below). As previously mentioned, the
SOF program was scheduled to be delivered to the entire class across four different special education self-contained classrooms. For this reason, classrooms were randomly assigned to their SOF program phase order (i.e., receiving the program first, second, third, or fourth), and after one week of baseline data collection, the first classroom began the SOF program. The other classrooms were scheduled to begin the SOF program only after the preceding classroom had finished, with start dates staggered at least two school days apart and accommodations made based on the school schedule. Data collection pertaining participating student rates of on- and off-task behavior occurred during the time and location when the students have the lowest rates of on-task behavior as identified by the aforementioned teacher interview and single preliminary 20-minute direct observation.

Procedure

Baseline. As previously mentioned, baseline data collection began simultaneously for all participating students. Following the single-case intervention research design standards (Kratochwill et al., 2013), the current research was designed to have at least five data points during the baseline phase for each participating student and would continue to be measured until a stable measurement (see “Phase change criteria” below) of student behavior is obtained and all students meet the phase change criteria. Originally, it was designed for baseline data collection for the student assigned to receive the SOF program first was completed in the week immediately prior to the start of the SOF sessions, and baseline data collection continued for all of the other students until their classrooms began their own SOF program phase.

Phase change criteria. The current research developed an a priori criterion to indicate if the student behavioral observation data was deemed to be stable during the baseline phase and thus qualifies to enter the program phase. The a priori phase change criterion stated that the
student’s last data point must be within the range of the previous two data points, or the last data point must be trending in the direction opposite of the hypothesis that student on-task behavior will increase following the program and student off-task behavior will decrease following the program. For instance, assume that a student has five baseline data points. In terms of on-task behavior, the 3rd data point had a value of 30%, the 4th data point was 20%, and the 5th data point was 25%. This student would meet criteria because the 5th data point (i.e., 25%) was within the range of the 3rd and 4th data points. Again, assume that a student has five data points. This time the student’s on-task behavior 3rd data point was 20%, 4th data point was 15%, and the 5th data point was 10%. This student would also meet criteria, as the 5th data point was not in the range of the 3rd and 4th data point, but the 5th data point (i.e., 10%) was trending in the opposite expected direction that students would demonstrate for on-task behavior following the program. Finally, as previously noted, classrooms were randomly assigned to their SOF program phase order.

**SOF Program.** Direct behavioral observation data were not collected during the SOF program phase. Behavioral observation data were not collected during the SOF program phase because (a) the program was intended to be completed in only 2.5 weeks to ensure all four classes could receive the SOF program within the constraints of the school calendar and (b) the limited time resources of the trained research assistants made it unpractical to complete the necessary baseline data observations, post-intervention observation sessions, and treatment fidelity data collection.

During the SOF program phase, it was scheduled for the four special education self-contained classrooms to complete five 20-30-minute sessions in their classroom at the participating school. SOF sessions were completed twice a week, and classes were separated by one to two school days. Table 1 details a general overview of the SOF program, and the current
research implemented program activities identical to Felver and colleagues (2017) and used the adapted manualized SOF procedures (Felver & Singh, 2020). As previously discussed, the primary goal of the SOF program is to teach students a highly generalizable routine that includes self-regulating attention to the somatic sensations in the feet when they are experiencing unpleasant emotional, cognitive, or behavioral states that often lead to physiological arousal and off-task classroom behaviors. During the SOF sessions, students practiced the routine on different elicited emotional states by first describing to the interventionists a recent experience when the specified emotion occurred, followed by the interventionists inducing the feeling in vivo by verbally recounting the recent experience back to the student. Next, the students were instructed to practice the SOF routine to interrupt the escalating emotional response once the students provided evidenced behavioral expression of the emotion through the in vivo exposure. Additionally, the SOF sessions focused on providing students instruction on how to self-monitor their thoughts, feelings, and physiological sensations in order to better identify the antecedents for heightened emotional arousal states. Finally, the SOF sessions also included students setting goals for applying the routine to identified unpleasant events (e.g., practicing SOF when frustrated by an academic task), and homework was assigned between sessions to further practice the routine and promote generalizability (Felver & Singh, 2020; Felver et al., 2017).

**Post-intervention.** During the weeks following the SOF program phase, data collection of students’ on- and off-task behavior continued for as many days as possible until the end of the school year. However, following the single-case intervention research design standards (Kratochwill et al., 2013), the current research was originally scheduled to have at least five data points during the post-intervention phase for each participating student and would continue to be measured until a stable measurement of student behavior was obtained across all students.
The interventionists for the current research were a trained Syracuse University doctoral graduate student in school psychology (Adam Clawson, primary interventionist, doctoral candidate) and an Assistant Professor of Psychology at Syracuse University (Dr. Joshua Felver, co-interventionist, Clawson’s advisor). The doctoral student and Assistant Professor both have previous experience with the delivery of the SOF program and extensive experience with the delivery of mindfulness-based practices in school contexts.

**Data Analysis Strategy**

**Aim 1**

The first purpose of the current research was to explore if the SOF program was successful in increasing individual student rates of on-task behavior and decreasing rates of off-task behavior following the completion of the SOF sessions that was administered to the whole class as a Tier II intervention. In order to test this aim, the current research followed the analysis of single-case design research procedures as outlined by Franklin and colleagues (1996). More specifically, this hypothesis was analyzed using both visual inspection and statistical (e.g., non-overlap of all pairs (NAP; Parker & Vannest, 2009) methods. As Franklin and colleagues (1996) have discussed, visual inspection and statistical analyses are complimentary procedures in the verification of hypotheses in single-case research as visual inspection procedures provide techniques for increased understanding of the research question and increased ability to explore alternative explanations. Further, statistical analyses increase the ability to refine and verify hypotheses and allows for probabilistic attributions of causality. However, it is important to note that visual inspection of the data is descriptive in nature and statistical analyses are inferential.
and predictive. Therefore, the combination of visual inspection and statistical analyses increase
the validity of the procedures but does not ensure validity.

It was necessary to consider the level, trend, and variability of the data while using visual
inspection procedures to explore if students display decreased rates of off-task behavior and
increased rates of on-task behavior only following the completion of the SOF program. Franklin
and colleagues (1996) defined level as the mean value of data over a given length of time, trend
as systematic increase or decrease of observation data values over time, and variability as the
deviations of scores around the mean of a data set. Using these definitions, data collection was
continued until consistent behavioral observation data has been collected. Next, significance
attribution using visual inspection was completed by applying Parsonson and Bear’s (1978) set
of visual heuristics to the data that is plotted on graphs. Figure 5 outlines the ten heuristics used
when using visual inspection methods to evaluate for clinical significance of a given treatment.
In broad terms, the ten heuristics provide guidelines to complete visual inspection of the stability
of the baseline data, variability both within and between phases, overlap of data between phases,
and the number of data points within each phase. Further, the heuristics identify the need to
evaluate trend both within and between phases, changes in level between phases, assess for
consistency in similar phases and complete an overall evaluation of the global pattern of data. In
sum, data collection during both the baseline and post-intervention phase was scheduled to
continue until the adequate level, trend, and variability had been established, and then clinical
significance using visual inspection methods were completed using Parsonson and Bear’s (1978)
set of visual heuristics.

To further evaluate the relative efficacy of the SOF program on student rates of off-task
and on-task behavior, the non-overlap of all pairs (NAP; Parker & Vannest, 2009) effect size
statistics between the baseline and post-intervention phases was conducted. NAP is interpreted as the percentage of all pairwise comparisons across the baseline and post-intervention phase, which show improvement across phases, or more simply, “the percentage of data which improves across phases” (Parker et al., 2011, p. 312). NAP is calculated as the number of improving or positive pairs (Pos) plus half of ties (0.5 x Ties), divided by all pairs (Pairs): NAP = ([Pos + 0.5 x Ties] / Pairs). NAP was chosen as the effect size statistic because it is considered a complete non-overlap index that individually compares each data point in the baseline and post-intervention phase and has been used in the empirical literature to explore the efficaciousness of the SOF program on academic engagement (Felver et al., 2017). Tentative interpretation guidelines exist for NAP values that suggest 0 - 0.65 are weak effects, 0.66 - 0.92 are medium effects, and 0.93 - 1.0 are large effects (Parker et al., 2011).

**Aim 2**

The second aim of the current research was to explore if student participants found the SOF program as an acceptable practice in their special education self-contained classrooms. As previously mentioned, the Kids Intervention Profile (KIP; Eckert et al., 2017) was scheduled to be administered to participating students at the completion of the SOF program. Higher scores on the KIP indicate greater intervention acceptability levels and a total score greater than 24 on the KIP represents an acceptable intervention rating. Due to the small sample size and lack of a comparison group, the intervention acceptability data (i.e., KIP data) was planned to be analyzed using the criterion score of 24 to indicate an acceptable intervention rating. Therefore, it was planned that students whose KIP scores are greater than 24 would reflect an acceptable program rating of the SOF practice.

**Aim 3**
To evaluate the relative effects of the SOF program on student suspensions and office-based referrals, mean baseline and post-intervention values were planned to be compared. However, due to the suspension of in-person education on 3/16/2020 that lasted for the remainder of the school year, the current study did not receive the school suspension and office-based referral data. The first author made multiple attempts to receive the baseline suspension and office-based referral data for the participating students from the teachers of the participating classrooms, principal and school psychologist at the participating school and did not receive the school data. While the first author did not receive a direct explanation as why student suspension and office-based referral data could not be provided, it is postulated that the school staff including the teachers, principal and school psychologist were overwhelmed during the suspension of in-person education due to the scheduling and organizational factors that occurred in trying to shift to virtual learning for students in midst of a pandemic.

**Results**

It is important to note that the participating school suspended in person education on 3/16/2020 due to the SARS-COV-2 pandemic. For this reason, only one classroom and three students within this same class (Classroom 1; Carlos, Nora, and Cole) were administered the SOF program. The final SOF program session in this classroom occurred on Thursday 3/12/2020 and thus there is only 1 post-intervention on-task data point for Carlos, 2 post-intervention data points for Nora, and 0 post-intervention on-task data points for Cole due to the school suspension of in person education on Monday 3/16/2020. Finally, the doctoral dissertation proposal committee was approached in June of 2020 to provide updates concerning the incomplete data collection and interruption of the study due to the pandemic. Proposed specific changes included a discussion of results that would have been examined if the current research was completed as proposed. Further,
the doctoral dissertation proposal committee requested an analysis of peer composite on-task behavior and an explanation of the data collection procedures and data concerning student engagement during SOF program sessions and out-of-session practice of the SOF routine. Finally, there was discussion with the proposal committee in June of 2020 concerning the analysis of the pre- and post-intervention data for the two students (e.g., Carlos & Nora) who completed the SOF program and have both pre-and post-intervention data, the plan for analyzing the baseline data for the remaining six participants who only have pre-intervention data, and a detailed description of the modifications requested during the proposal meeting. Approval from the doctoral dissertation proposal committee was obtained on June 11th, 2020.

Differences in academic engaged observational data (e.g., on-task) between the baseline and post-intervention phases were assessed using three approaches that included (a) visual inspection of time-series data for Carlos and Nora; (b) comparison of mean on-task rates of behaviors across the baseline and post-intervention phases; and (c) examination of the non-overlap of all pairs (NAP; Parker & Vannest, 2009) between the baseline and post-intervention phases.

The on-task data for the remaining six students in Classrooms 2, 3, and 4 (Cole, Michael, John, Nate, Albert, and Dennis) can be found in Figure 8, Figure 9, Figure 10, and Figure 11.

Student Attendance and Engagement

As noted above, only one class (i.e., Classroom 1) and three students (i.e., Carlos, Nora, and Cole) were administered the SOF program due to the school suspension related to SARS-CoV-2. In terms of student attendance during the program sessions, Carlos was present for 3 out of the 5 classes (60%) and was absent twice, Nora was present for 4 out of the 5 (80%) classes and was suspended during one class for cursing at the principal, and Cole was present for 4 out of the 5 (80%) classes and was suspended once for a physical altercation with another student.
Further, Cole was present during the 3rd session but was sleeping at his desk despite the teacher asking him to be engaged with the SOF session.

Student engagement, as assessed by the interventionists, was measured by the document in Figure 3. More specifically, the interventionists used the document in Figure 3 to assess if the participating students (Carlos, Nora, and Cole) were clearly participating in the SOF routines that were administered at least twice during each of the five sessions. Clear participation in the SOF routine was operationalized by the students sitting quietly with his or her feet flat on the ground, having one hand on their stomach which is part of the routine, and a clear demonstration that the students are practicing the SOF routine by their feet moving when instructed by the interventionists. Using this form (i.e., Figure 3) and the definitions of clear participation, Carlos was assessed to clearly participate in the SOF routines for all 3 classes that he attended (100%). Nora was assessed to clearly participate in the SOF routines for 2 out of the 4 (50%) classes that she attended. Finally, Cole was assessed to clearly participate in the SOF routines for 1 out of the 4 (25%) classes that he attended.

Student engagement, as self-reported by students, was also measured using the document found in Figure 4. More specifically, the students (Carlos, Nora, and Cole) were administered a brief survey at the end of each SOF program session that asked yes or no questions. The two questions on this survey asked if the students practiced the SOF routine in-between the program sessions, and if the students practiced the SOF routine along during the class with the interventionists. Carlos reported that he used the SOF routine in-between sessions 2 times. Nora reported that she used the SOF routine 3 times in-between sessions. Cole reported that he did not practice the SOF routine in-between sessions. Next, Carlos indicated that he practiced along with the SOF routine in session for all 3 classes (100%) that he attended. Nora reported that she
practiced along with the SOF routine for 3 out of the 4 (75%) classes that she attended. Finally, Cole reported that he practiced along with the SOF routine for 2 out of the 4 (50%) classes that he attended. As shown in Table 3 interventionist assessments of students practicing along with the SOF routine during sessions was relatively similar to the student self-reports of practicing along during program sessions. This limited data which indicates a high degree of overlap between interventionist ratings of student behavior and student self-reports suggests that the students were able to discriminate the use of the SOF routine without any explicit training in self-report procedures.

Student exposure to supplemental activities related to the SOF program were measured by the participating teacher completing the form found in Figure 6. The primary special education teacher for Carlos, Nora, and Cole used this form to indicate if (a) the teacher led the whole class through the SOF routine, (b) the teacher practiced the SOF routine with an individual participating student, (c) the teacher reminded the students of what they have been learning during SOF lessons, and (d) the teacher instructed one of the participating students to complete the SOF routine individually. The primary special education teacher completed this form during the program phase, and data was obtained from 3/3/2020 until 3/13/2020. The self-report data from the primary special education teacher indicates that she led the whole class through the SOF routine on five occasions, practiced the SOF routine with an individual participating student on one occasion, reminded the participating students of what they have been learning during SOF lessons on five occasions, and instructed a student to complete the SOF routine individually on two occasions.

**Aim 1: On-task Behavior**
Below is a description of the results from examining if the SOF program was efficacious in increasing on-task behavior among the participating students following the completion of the program. It is important to note that only on-task behavior is reported. This is because the direct behavior observation procedures were identical to those of Felver and colleagues (2017) and were designed to produce mutually exclusive categories of on- and off-task behavior.

In analyzing the data for Carlos (see Figure 7), it appears that his on-task behavior increased after the completion of the SOF program but does not exceed his highest levels of on-task behavior from the baseline phase. Carlos’ on-task behavior during the baseline phase ranged from 0% to 23% (M = 11%; Median = 5%; SD = 11%) during 5 observations over 13 school days. Carlos’ data was deemed to be stable and meet the phase change criteria because his 5th data point (0% on-task) was trending in the opposite direction of the hypothesis that suggests that on-task behavior would increase following the completion of the SOF program (3rd data point was 5% and 4th data point was 5%). Carlos completed the last SOF program session on 3/12/2020 and his only post-intervention on-task observation occurred on 3/13/2020. During the only post-intervention on-task observation, Carlos was assessed to be on-task 23% of the observation. Therefore, Carlos’ mean on-task behavior increased from 11% during the baseline phase to 23% during the post-intervention phase, with a medium NAP effect size of 0.80 or 80% (Parker et al., 2011). However, it is critical to highlight that only one post-intervention observation was completed for Carlos, and thus any interpretations of the data should be made with extreme caution.

In analyzing the data for Nora (see Figure 7), it appears that her on-task behavior was variable after the completion of the SOF program. Nora’s on-task behavior during the baseline phase ranged from 23% to 45% (M = 36%; Median = 38%; SD = 8%) during 5 observations over 13 school days. Nora’s data was deemed to be stable and meet the phase change criteria because
her 5th data point (33% on-task) was trending in the opposite direction of the hypothesis that suggests that on-task behavior would increase following the completion of the SOF program (3rd data point was 45% and 4th data point was 38%). Nora completed the last SOF program session on 3/12/2020 and her two post-intervention on-task observations occurred on 3/13/2020 and 3/16/2020. However, it is important to note that the 2nd post-observation completed on 3/16/2020 was completed by the first author who was not blind to the phase and hypotheses of the current research. During the post-intervention phase, Nora’s on-task behavior ranged from 15% to 65% (М = 40%; SD = 35%). Nora’s mean on-task behavior increased from 36% during the baseline phase to 40% during the post-intervention phase, with a weak NAP effect size of 0.50 or 50% (Parker et al., 2011). However, it is critical to highlight that only two post-intervention observations were completed for Nora, and thus any interpretations of the data should be made with extreme caution.

As previously mentioned, it was not possible to complete post-intervention behavior observations for Cole, Michael, John, Nate, Albert, and Dennis due to the school suspension related to SARS-COV-2. Regardless, below details an examination of the on-task behavior for each of these subjects from the baseline phase, and examination of the stability of the data at the point in which school was suspended, and an explanation of the analyses of the data if post-intervention observations occurred as originally proposed.

Cole was a member of the Classroom 1 that received the SOF program along with Carlos and Nora. Cole’s on-task behavior during the baseline phase (see Figure 8) ranged from 18% to 65% (М = 43%; Median = 43%; SD = 18%) during 6 observations over 14 school days. During the baseline phase, Cole was deemed to not meet phase change criteria due to the trend of the data. More specifically, Cole’s 6th data point (62%) did not fall within the range of the 4th (18%) and 5th
data point (40%). Put differently, Cole’s baseline on-task behavior suggests that he was trending towards improvement in terms of his on-task behavior. Due to scheduling conflicts and the practical reality that Carlos and Nora from the same classroom met phase change criteria, it was not possible to attempt more baseline data collection sessions until Cole indeed met phase change criteria with stable data. However, if it were possible to collect more baseline data until Cole met phase change criteria, and collect post-intervention observations, Cole’s data would have been analyzed similar to what was outlined for Carlos and Nora. More specifically, a visual inspection of time-series data would have been completed, Cole’s mean baseline and post-intervention on-task scores would have been compared, and then a NAP effect size statistic would have been calculated to better understand the efficaciousness of the SOF program on increasing his on-task behavior only after completion of the program.

Nate was the only student in Classroom 2 who was a participant in the current research, and his classroom was randomly assigned to complete the SOF program second out of the four classrooms. Nate’s on-task behavior during the baseline phase (see Figure 9) ranged from 35% to 82% \( (M = 60\%; \text{Median} = 58\%; \ SD = 16\%) \) during 8 observations over 22 school days. Nate and his classmates were originally scheduled to begin the SOF program on 3/16/2020 which was canceled due to the SARS-COV-2 school suspension. However, it is critical to note that at the time of Nate’s last data point on 3/12/2020, it was deemed that he did not meet phase change criteria due to the trend of the data. More specifically, Nate’s 8th data point (82% on-task) did not fall within the range of the 6th (52%) and 7th data point (72%). Therefore, it would have been necessary to complete more baseline observations to ensure that Nate displayed more stable data. If it were possible to collect more baseline data until Nate met phase change criteria, and collect post-intervention observations, his data would have been analyzed similar to what was outlined for
Carlos and Nora. More specifically, a visual inspection of time-series data would have been completed, Nate’s mean baseline and post-intervention on-task scores would have been compared, and then a NAP effect size statistic would have been calculated to better understand the efficaciousness of the SOF program on increasing his on-task behavior only after completion of the program.

Albert and Dennis were students in Classroom 3, and this classroom was randomly assigned to complete the SOF program third out of the four classrooms. Albert’s on-task behavior during the baseline phase (see Figure 10) ranged from 8% to 75% (M = 27%; Median = 17%; SD = 25%) during 6 observations over 19 school days. Dennis’ on-task behavior during the baseline phase (see Figure 10) ranged from 50% to 87% (M = 60%; Median = 52%; SD = 18%) during 4 observations over 14 school days. It is important to note that Dennis’ school attendance was poor and there were days in which he was scheduled to have an observation completed but was absent from school. Also, a new teaching aid was introduced into Albert’s and Dennis’ classroom in the beginning of February, and this aid tended to provide Dennis with one-to-one support during the observation time, which was not an accommodation outlined in Dennis’ Individualized Education Program (IEP). Albert, Dennis, and their classmates were originally scheduled to begin the SOF program on 3/30/2020 which was canceled due to the SARS-COV-2 school suspension. If the school year was not suspended, Albert and Dennis were scheduled to have 6 to 8 more behavior observation sessions from 3/9/2020 to 3/27/2020. If it were possible to collect more baseline data, and Albert and Dennis met phase change criteria, and post-intervention observations were completed, their data would have been analyzed similar to what was outlined for Carlos and Nora. More specifically, a visual inspection of time-series data would have been completed, mean baseline and post-intervention on-task scores would have been compared, and then a NAP effect
size statistic would have been calculated to better understand the efficaciousness of the SOF program on increasing their on-task behavior only after completion of the program.

Michael and John were students in Classroom 4, and this classroom was randomly assigned to complete the SOF program fourth out of the four classrooms. Michael’s on-task behavior during the baseline phase (see Figure 11) ranged from 0% to 47% ($M = 16\%$; $\text{Median} = 3\%$; $SD = 21\%$) during 5 observations over 10 school days. As previously mentioned, Michael’s preliminary behavior observation on on-task behavior was greater than 50% and therefore he did not meet the inclusion criteria for the current research. However, it was decided to continue to collect data concerning his rates of on- and off-task behavior because he was already a consented participant, but less resources in terms of allocating independent observers were allotted to Michael because he did not fully meet the inclusion criteria. John’s on-task behavior during the baseline phase (see Figure 11) ranged from 0% to 50% ($M = 14\%$; $\text{Median} = 8\%$; $SD = 19\%$) during 6 observations over 19 school days. Michael, John, and their classmates were originally scheduled to begin the SOF program on 4/20/2020 which was canceled due to the SARS-COV-2 school suspension. If the school year was not suspended, Michael and John were scheduled to have 8 to 12 more behavior observation sessions from 3/11/2020 to 4/17/2020. If it were possible to collect more baseline data, and Michael and John met phase change criteria, and post-intervention observations were completed, their data would have been analyzed similar to what was outlined for Carlos and Nora. More specifically, a visual inspection of time-series data would have been completed, mean baseline and post-intervention on-task scores would have been compared, and then a NAP effect size statistic would have been calculated to better understand the efficaciousness of the SOF program on increasing their on-task behavior only after completion of the program.

**Aim 1: Peer Comparison of On-task Behavior**
As previously mentioned, every fifth interval during the 20-minute observation period included a behavior comparison of a random peer in the classroom. Put another way, every fifth trial a random peer in the classroom was chosen and their on- and off-task behavior was recorded for peer comparisons of the participating students. Table 4 compares the participating student’s average levels of on-task behavior to their peers.

As noted above, Carlos’ on-task behavior during the baseline phase ranged from 0% to 23% (\(M = 11\%; \text{Median} = 5\%; \text{SD} = 11\%\)), and Carlos was assessed to be on-task 23% during his only post-intervention observation. During the five baseline observations Carlos’ peer’s on-task behavior ranged from 27% to 73% (\(M = 53\%; \text{Median} = 60\%; \text{SD} = 22\%\)) and were on-task 40% of the only post-intervention observation. Carlos’ mean on-task behavior increased from 11% during the baseline phase to 23% during the post-intervention phase, with a medium NAP effect size of 0.80 or 80%, and his peers’ mean on-task behavior decreased from 53% during the baseline phase to 40% during the post-intervention phase, with a weak NAP effect size of 0.40 or 40% (Parker et al., 2011). Taken together, these results suggest that Carlos may have benefitted more than his peers in terms of increasing his on-task behavior after completion of the SOF program. However, it is critical to highlight that only one post-intervention observation was completed for Carlos, and thus any interpretations of the data should be made with extreme caution.

Nora’s on-task behavior during the baseline phase ranged from 23% to 45% (\(M = 36\%; \text{Median} = 38\%; \text{SD} = 8\%\)), and Nora’s on-task behavior ranged from 15% to 65% (\(M = 40\%; \text{SD} = 35\%\)) during the post-intervention phase. During the five baseline observations Nora’s peer’s on-task behavior ranged from 20% to 67% (\(M = 48\%; \text{Median} = 47\%; \text{SD} = 18\%\)) and ranged from 40% to 73% during the post-intervention phase (\(M = 57\%; \text{SD} = 23\%\)). Nora’s mean on-task behavior increased from 36% during the baseline phase to 40% during the post-intervention phase,
with a weak NAP effect size of 0.50 or 50%, and her peers mean on-task behavior increased from 48% during the baseline phase to 57% during the post-intervention phase, with a weak effect size of 0.60 or 60% (Parker et al., 2011). This data suggests that Nora and her peers together demonstrated little improvements in terms of displaying on-task behavior after the completion of the SOF program. However, it is critical to highlight that only two post-intervention observations were completed for Nora and her peers, and thus any interpretations of the data should be made with extreme caution.

Cole’s on-task behavior during the baseline phase ranged from 18% to 65% ($M = 43\%$; Median = 43%; $SD = 18\%$) across 6 observations. During the baseline phase, Cole’s peer’s on-task behavior ranged from 27% to 67% ($M = 51\%$; Median = 57%; $SD = 17\%$). This data suggests that at baseline, the levels of on-task behavior for Cole and his peers were relatively similar. If post-intervention observations occurred for Cole and his peers, the subsequent analyses would be identical to the analyses discussed for Carlos and Nora. For instance, there would be an examination of the mean baseline and post-intervention on-task scores, and then a NAP effect size statistic would have been calculated to better understand the efficaciousness of the SOF program on increasing his peers on-task behavior only after completion of the program to understand how Cole’s response to the program was similar or different to that of his peers in the same classroom.

Nate’s on-task behavior during the baseline phase ranged from 35% to 82% ($M = 60\%$; Median = 58%; $SD = 16\%$) during 8 observations. During the baseline phase, Nate’s peer’s on-task behavior ranged from 73% to 100% ($M = 89\%$; Median = 93%; $SD = 10\%$). This data suggests that at baseline, Nate clearly displayed less on-task behavior than his peers on average. If post-intervention observations occurred for Nate and his peers, the subsequent analyses would be identical to the analyses discussed for Carlos and Nora. For instance, there would be an
examination of the mean baseline and post-intervention on-task scores, and then a NAP effect size statistic would have been calculated to better understand the efficaciousness of the SOF program on increasing his peers on-task behavior only after completion of the program to understand how Nate’s response to the program was similar or different to that of his peers in the same classroom.

Albert’s on-task behavior during the baseline phase ranged from 8% to 75% ($M = 27\%$; Median = 17%; $SD = 25\%$) during 6 observations. During the baseline phase, Albert’s peer’s on-task behavior ranged from 6% to 80% ($M = 42\%$, Median = 40%; $SD = 24\%$). This data suggests that during the baseline phase, Albert on average displayed lower rates of on-task behavior than his peers. If post-intervention observations occurred for Albert and his peers, the subsequent analyses would be identical to the analyses discussed for Carlos and Nora. For instance, there would be an examination of the mean baseline and post-intervention on-task scores, and then a NAP effect size statistic would have been calculated to better understand the efficaciousness of the SOF program on increasing his peers on-task behavior only after completion of the program to understand how Albert’s response to the program was similar or different to that of his peers in the same classroom.

Dennis’ on-task behavior during the baseline phase ranged from 50% to 87% ($M = 60\%$; Median = 52%; $SD = 18\%$) during 4 observations. Dennis’ peer’s during the baseline phase demonstrated on-task behavior ranging from 20% to 53% ($M = 30\%$, Median = 24%; $SD = 16\%$). This data suggests that on average, Dennis tended to display higher rates of on-task behavior than compared to his peers in the same classroom. However, it is again important to note that Dennis received one-to-one attention from a new aid in his classroom during these observations, which may have skewed the data comparing his rates of on-task behavior to that of his peers who did not consistently receive one-to-one attention from a teacher or an aid in the classroom. If post-
intervention observations occurred for Dennis and his peers, the subsequent analyses would be identical to the analyses discussed for Carlos and Nora. For instance, there would be an examination of the mean baseline and post-intervention on-task scores, and then a NAP effect size statistic would have been calculated to better understand the efficaciousness of the SOF program on increasing his peers on-task behavior only after completion of the program to understand how Dennis’ response to the program was similar or different to that of his peers in the same classroom.

Michael’s on-task behavior during the baseline phase ranged from 0% to 47% ($M = 16\%$; Median = 3%; $SD = 21\%$) across 5 observations. Michael’s peer’s during the baseline phase displayed on-task behavior ranging from 13% to 73% ($M = 33\%$; Median = 27%; $SD = 25\%$). This suggests that on average, Michael tended to display lower rates of on-task behavior than his peers.

If post-intervention observations occurred for Michael and his peers, the subsequent analyses would be identical to the analyses discussed for Carlos and Nora. For instance, there would be an examination of the mean baseline and post-intervention on-task scores, and then a NAP effect size statistic would have been calculated to better understand the efficaciousness of the SOF program on increasing his peers on-task behavior only after completion of the program to understand how Michael’s response to the program was similar or different to that of his peers in the same classroom.

John’s on-task behavior during the baseline phase ranged from 0% to 50% ($M = 14\%$; Median = 8%; $SD = 19\%$) across 6 observations. During the baseline phase, John’s peer’s displayed on-task behavior ranging from 20% to 50% ($M = 33\%$; Median = 27%; $SD = 12\%$). This data suggests that on average, John tended to display lower rates of on-task behavior than his peers.

If post-intervention observations occurred for John and his peers, the subsequent analyses would be identical to the analyses discussed for Carlos and Nora. For instance, there would be an
examination of the mean baseline and post-intervention on-task scores, and then a NAP effect size statistic would have been calculated to better understand the efficaciousness of the SOF program on increasing his peers on-task behavior only after completion of the program to understand how John’s response to the program was similar or different to that of his peers in the same classroom.

Taken together, the peer composite data indicates that the participating students were not representative of their peers in their respective classrooms. More specifically, Table 4 highlights that the participating students’ rates of on-task behavior were consistently lower than their peers during both the baseline and post-intervention phase. It is important to note that there were no a priori hypotheses to believe that the participating students were not representative of their classroom, but the results obtained indicate that the participating students displayed lower rates of on-task behavior.

**Aim 2: Intervention Acceptability**

As previously noted, it was originally planned to administer the Kids Intervention Profile (KIP; Eckert et al. 2017) to participating students at the completion of the SOF program to obtain an index of intervention acceptability. In reality, the fifth and final SOF program session occurred on Thursday 3/12/2020 for the only class that was administered the program, and school was suspended on Monday 3/16/2020. Therefore, the only day that the students could have completed the KIP in school was on 3/13/2020. Unfortunately, due to student absences (Cole) and changes to the student’s afternoon schedule that did not allow for the students to be pulled from class to complete the KIP and therefore an index of intervention acceptability was not administered to the students. It was postulated that the KIP may be administered online to the participating students, but there was a delay in having the students access their normal education programming online (i.e., the school had to provide laptops to many students) and there were significant concerns
reported by the participating teachers and the school psychologist from the participating school regarding the students reading skills and therefore the KIP was not administered online.

If the KIP was administered to the students after they completed the SOF intervention, scores greater than 24 would have reflected an acceptable intervention rating of the SOF practice. Higher scores on the KIP indicate greater intervention acceptability levels and a total score greater than 24 on the KIP represents an acceptable intervention rating (Eckert et al., 2017).

**Aim 3: School Disciplinary data**

As previously noted, school disciplinary data in terms of suspensions and referrals was not obtained after the first author made multiple attempts to receive the data from the teachers of the participating classes, principal, and school psychologist. It is unclear exactly why the first author was not able to receive the aforementioned data, but it is inferred that the educational professionals were overwhelmed throughout this time frame due to the logistical and organizational issues related to transferring to virtual instruction. If this data was obtained, analyses would have been completed to determine if the students experienced a decrease in school suspensions and office-based referrals following the completion of the SOF program. More specifically, the data would have been graphed, visually inspected, and then a NAP effect size statistic would have been calculated for each student to evaluate if there was a decrease in school suspensions and office-based referrals following the completion of the SOF program.

**Discussion**

Academic engagement is an area of significant importance because the amount of time that students are actively engaged in learning (i.e., on-task behavior) is a strong predictor of overall academic achievement. Self-monitoring is one specific method of student-regulated interventions that can be used to increase on-task behavior among students. The SOF program
(Felver & Singh, 2020) is MBP and self-monitoring strategy with evidence suggesting that the program is efficacious in decreasing aggressive and disruptive behavior among adolescent and adult populations with varying diagnoses (Singh et al., 2017; Singh et al., 2011; Singh et al., 2007a; Singh et al., 2007b). The purpose of the current research was to extend upon the previous SOF literature and explore the effects of the SOF program on individual student academic engagement when the program is delivered class wide as a Tier II intervention among students who receive special education services as opposed to the traditional one-on-one intervention delivery format found in the literature.

**SOF Program and On-task Behavior**

Originally, four self-contained special education classrooms were scheduled to receive the SOF program, with behavioral observation of on-task data being completed pre- and post-intervention for eight participants across four classrooms. The proposed multiple-baseline across participants design would have enabled the current research to evaluate the relation between the SOF program and on-task behaviors among the participating students. Unfortunately, only one classroom with three students (Carlos, Nora, & Cole) was administered the SOF program due to the school unexpectedly suspending in-person education in March of 2020 related to the SARS-COV-2 pandemic.

As mentioned above, it was only possible to collect one post-intervention behavior observation for Carlos, two post-intervention behavior observations for Nora, and no post-intervention observations occurred for Cole, Nate, Albert, Dennis, Michael, and John. With that said, there was a medium NAP effect size of 0.80 (Parker et al., 2011) between Carlos’ pre- and post-intervention observations, and a weak NAP effect size of 0.50 between Nora’s pre- and post-intervention observations. There was a weak NAP effect size of 0.40 between Carlos’
classmate’s pre- and post-intervention behavioral observations and a weak NAP effect size of 0.60 between Nora’s peer’s on-task behavior between the two phases. While it is inappropriate to draw conclusions from the incomplete data, the results from the current research suggest that it remains worthwhile to explore if the SOF program can be delivered in a group format (i.e., Tier II) in order to explore if individual students experience higher rates of on-task behavior.

**Student Engagement with SOF Program**

The current study intended to expand upon previous school-based empirical evaluations of the SOF program by including an index of student engagement during SOF program sessions and out-of-school practice of the SOF routine. Student engagement with the SOF routine as measured via behavioral observations by one of the interventionists ranged from 25% to 100% of sessions (Carlos = 100%; Nora = 50%; Cole = 25%). Student engagement with the SOF routine as measured by self-reports ranged from 50% to 100% of sessions (Carlos = 100%; Nora = 75%; Cole = 50%). Additionally, the students reported variable practice of the SOF routine outside of the five sessions (Carlos = 2; Nora = 3; Cole = 0). Taken together, this limited data cannot be reasonably interpreted without accompany post-intervention data and an index of the efficaciousness of the SOF program. With that said, the current self-report data indicates variability in the amount of in-session practice and out of session practice with the SOF program. Future school-based applications of the SOF program may wish to implement similar procedures to continue capturing student self-report in-session and out of session practice. More specifically, future research may wish to explore if the efficaciousness of the SOF program on the dependent variable (i.e., on-task behavior) is related to the level of student engagement as measured by the interventionist’s behavioral observation, student self-reports, and as a function of the number of times the student practices the SOF program outside of the five program sessions. These
questions may begin to address the scientific inquiry into the necessary dosage of the SOF routine prior to observable changes in the target behavior. In sum, the current research is one of the first empirical evaluations of the SOF program to include a behavioral observation method for assessing student engagement, a student self-report to assess engagement during the five program sessions, and a measure to gain insight into how frequently the students practiced the SOF routine outside of the program sessions. It is postulated that these methods, and resulting data obtained, may aid future research to better understand if the efficaciousness of the SOF program is directly related to student engagement during SOF programs and practice outside of the five sessions.

**Acceptability of the SOF Program**

A secondary aim of the current research was to explore if the participating students found the SOF program as an acceptable practice in their special education self-contained classrooms as measured by the Kids Intervention Profile (KIP; Eckert et al. 2017). Unfortunately, the KIP was not administered to the three students who completed the SOF program due to the timing of the last SOF session and the school suspending in-person education. While there is no KIP data from the current research, future school-based applications of the SOF program may wish to consider implementing the KIP measure to assess intervention acceptability. The 5-point anchored scale that includes boxes of increasing sizes designed to provide students with a more developmentally appropriate indicator regarding the relative strength of their Likert-style responses would likely be advantageous in future school-based SOF studies with elementary aged students, or students with varying academic skills among middle and high school aged students.

**Limitations**
Several limitations are important while interpreting the results from the present research. As previously discussed, an obvious limitation of the current research includes incomplete data collection due to in-person education being suspended due to the SARS-COV-2 pandemic. Therefore, the current research did not demonstrate experimental control as was originally designed. It was originally designed to implement the SOF program in four special education classrooms to the eight participating students. Further, it was originally proposed to have a minimum of five data points during the baseline and post-intervention phase. Due to the school suspension of in-person education, only one classroom with three participating students received the SOF program. Thus, it was only possible to collect 1-2 post-intervention data points for Carlos and Nora, and the remaining students have no post-intervention data. Finally, the current research was designed to administer participating students a measure of intervention acceptability, but this was not possible due to the school suspension and unprecedented schedule changes in the two school days prior to the school shutdown.

An additional limitation of the current research is the possibility that outside life events may have occurred for the participating students that may have affected rates of on- or off-task behavior displayed in the classroom. The SARS-COV-2 pandemic is an overt outside life event that was unfolding during the data collection sessions that may or may not have affected student behavior in the classroom. It is conceivable that outside life events beyond the SARS-COV-2 pandemic may have also occurred for the participating students throughout the duration of the current research. Life events that could have occurred during the data collection process may include, but are not limited to, changes in residence, changes in parental employment status, physical or emotional neglect, physical or emotional abuse, divorce, or the incarceration of a parent or care giver (Dube et al., 2003). The current research did not include an empirically
supported instrument to measure outside life events that may have affected student behavior in the classroom. Future research may wish to include a measure of adverse childhood experiences (ACEs; Dube et al., 2003) to have increased knowledge if participating students have recently experienced an outside event that may influence behavior displayed in the classroom, and more importantly, have increased confidence or evidence that the SOF program is the intervening agent as compared to an extraneous variable. In addition, it is important to note that the current research worked with participating teachers and school support staff (e.g., school psychologists and counselors) to ensure that there were no changes in educational therapy or treatment for the participating students. For instance, there were no changes in the participating students’ functional behavior assessments (FBAs) or behavior intervention plans (BIPs) throughout the data collection timeframe to decrease the likelihood of outside changes in treatment or therapy having an impact on student rates of on- and off-task behavior.

A lack of complete diagnostic or medical records for the participating students is another limitation of the current research. It is plausible that person level attributes or external treatments may have occurred throughout the course of the research project that could confound the data. As previously discussed, one of the participating students was identified with an educational disability under the classification of Other Health Impairment due to a previous diagnosis of ADHD, and this student in particular may have had person level attributes (e.g., hyperactive behavior) or external treatments (e.g., psychopharmacological intervention) that would have affected the results obtained. It is possible that person level attributes such as core deficits in attention may have impacted the efficaciousness of the SOF program if participants possess difficulties with sustaining focus, exhibit high levels of distractibility, and/or experience forgetfulness in terms of practicing the SOF routine outside of sessions. Similarly, a person level
attribute such as hyperactivity may have influenced the direct behavior observations in which subjects may have been marked as being off-task related to hyperactive behaviors that may include fidgeting, squirming in seat, or a general degree of constant motion. Relatively, changes in external pharmacological medication treatments could have occurred throughout the course of the study which may have confounded the results. For instance, a change in medication (type, dosage, etc.), or a student failing to take a prescribed medication in the morning before school may have affected the direct behavior observations. Future research should consider obtaining detailed student medical and diagnostic records as well as monitoring non-school based supports and treatments during clinical trials of the SOF program.

Peer contagion and the possibility of iatrogenic treatment effects are another possible limitation of the current research. As previously discussed, the participating classrooms were comprised of 12 or 15 students in self-contained classrooms with varying educational disabilities, academic skills, and behavioral management difficulties. Therefore, it appears plausible that the transmission or transfer of off-task behavior from one student to another is a valid concern. However, the direct behavior observation data collection procedures conducted aimed to account for the possibility of peer contagion effects. For instance, direct behavior observation included a procedure in which every fifth trial a random peer in the classroom was chosen and their on- and off-task behavior was recorded for peer comparisons of the participating students. Therefore, it would be possible to capture if some of the peers in the classroom were displaying high rates of off-task behavior. Further, data collection procedures were originally scheduled to have at least five data points during the post-intervention phase for each participating student and would have continued to be measured until a stable measurement of student behavior was obtained across all students. Therefore, if there were instances in which
one peer or participating student displayed high rates of off-task behavior with the potential to affect the data via peer contagion effects, data collection would have continued until there was a stable measurement of student behavior.

Finally, another limitation of the current research is the possibility of reactivity effects. The participating teacher, participating students, and other peers in the classroom were made aware by the SOF curriculum that a focal point of the program was to gain increased awareness of physiological responses to varying strong emotions (e.g., anger and happiness), and practice the ability to respond to environmental situations reflectively as opposed to reflexively.

Therefore, students were aware that a main purpose of the SOF program was to promote desired or on-task behavior in the classroom, and there is a possibility that reactivity effects were present during the direct behavior observation sessions during the post-intervention phase. It is also possible that reactivity effects may have influenced self-report measures completed by teachers and participating students if this step in the current research was successfully completed. In order to minimize the reactivity effects, the SOF interventionists were not generally present in classroom during the direct behavior observations. While the participating teacher and students were not blind to the study phase, it is important to note that data collectors were blind to which phase of the study that the students and classrooms were in who were being observed. The data collectors or behavioral observation assessors being blind to which phase the participating students and classrooms were in reduces the risk of biases being introduced into the data. With that said, future research may wish to complete student behavioral observations via a camera in the classroom to remove data collectors from being physically present in the classroom, and therefore potentially minimize the likelihood of reactivity effects.

**Directions for Future Research**
There are a number of implications for future research. Most obvious, it appears reasonable for the current research to be replicated in a school setting and completed in its entirety. The current research was the first empirical evaluation of the SOF program being delivered to an entire class to explore if individual students displayed increases in on-task behavior only following the completion of the mindfulness program. While the data from the current study cannot rationally be interpreted due to extremely limited post-intervention data, the limited results suggest that a replication study may be warranted. Further, it is recommended for future research to also include a measure of intervention acceptability that was originally scheduled but could not be completed.

The current study was designed to address limitations found within the SOF literature. More specifically, this project was designed with procedures and measures to collect data concerning student engagement with the SOF program, the effects of the SOF program on the other peers in the classroom (i.e., peer composite), student acceptability data, and student exposure to SOF related activities beyond the five SOF program sessions. Future research may wish to employ similar procedures to address empirical questions, such as: (1) does student engagement within and between SOF classes affect the dependent variable?; (2) what are the effects of the SOF program on the remaining peers in a classroom with the program is delivered in a group format?; (3) is the SOF program continually rated as an acceptable intervention when delivered in a group format?; and (4) does student exposure to SOF related activities either within the classroom or outside of school practice affect the dependent variable?. Finally, the current project included a procedure for teachers to keep a log of any SOF related activities that occurred within the classroom and beyond the five SOF classes. It may be beneficial for future
research to collect similar data to better understand how teacher engagement with the SOF program may affect student levels of on- and off-task behavior.

As discussed above in the limitations, future research may wish to include a measure of adverse childhood experiences (ACEs; Dube et al., 2003) to have increased knowledge if participating students have recently experienced an outside event that may influence behavior displayed in the classroom, and more importantly, have increased confidence that the SOF program is the intervening agent as compared to an extraneous variable. The SOF program in the current research was administered across 2.5 weeks, which minimizes the amount of time that an adverse childhood experience or significant event outside of school may have occurred. However, it will be important moving forward for future research to include measures to obtain information concerning the presence or absence of an outside event that may influence behavior displayed in the classroom.

The current research included informal measures of engagement and between-session practice by simply asking the participating students if they practiced along with the SOF routines during each program session and asking the students if they practiced the SOF routine since the last session at home or at school. Further, the current research had the participating teacher keep a log of SOF related activities that occurred beyond the five program sessions, such as practicing the SOF routine with the whole class or individual student, reminding students of what has been taught during SOF sessions, or instructing a student to complete the SOF routine individually. Future research with the SOF program may wish to expand on these concepts, and possibly include prompts for the students to practice the SOF routine outside of school. For instance, it may be interesting for future research to send students prompts via text or email to ask the student to briefly practice the SOF routine and include a quick one question survey asking the
student if he or she indeed completed the SOF routine as indicated by the prompt. This may lead to interesting results if data collection surrounding out-of-school practice can be explored more rigorously.

Finally, future research may also wish to consider comparing the effects of the SOF program against existing evidence-based strategies to target student on-task behavior. As mentioned previously, Gettinger and Miller (2014) have detailed multiple empirically validated student-regulated strategies to increase student levels of on-task behavior. It would be an interesting research project to compare the SOF program with an empirically validated student-regulated strategy to explore if the SOF program results in similar, higher, or lower rates of student on-task behavior. The current research did not include procedures to assess if non-clinical factors may have influenced student rates of on- and off-task behavior. For instance, it is possible that the SOF program may not have been related to any potential differences in student rates of on- and off-task and it may have been due to the students spending class time with the two interventionists. Future research that compared the SOF to other empirically supported programs to positively affect student rates of on-task behavior would address non-specific clinical factors that may have affected the results from the current project (e.g., therapeutic relationship, participant motivation, impression management). Additionally, the SOF program is highly operationalized as a treatment manual, and future research may wish to consider completing a component analysis of the program to better evaluate and understand which of the self-regulatory strategies the SOF program utilizes has the largest effects on on-task behavior, thus seeking to isolate the most effective components for future applied school-based research.

Conclusions
Student on-task behavior is an important variable in schools, as the amount of time that students are actively engaged in learning is a strong predictor of academic achievement and is associated with lower rates of disruptive or off-task behaviors that may interfere with learning. Self-monitoring interventions are one subset of student-regulated practices that have been shown to be an effective practice to increase on-task behavior among students (De Hass-Warner, 1992; Dunlap et al., 1995; Joseph & Eveleigh, 2011; Rock, 2005; Todd et al., 1999; Trevino-Maack et al., 2015). MBPs are conceptually beneficial in increasing student on-task behavior by acting as a self-monitoring antecedent-based intervention and more specifically allow students to interrupt an escalating behavioral chain that results in disruptive or inattentive behavior (Felver et al., 2017). The SOF (Felver & Singh, 2020) is a MBP that specifically teaches individuals a basic mindfulness routine for redirecting attention to the somatic sensations of a neutral part of the body such as the feet during periods of time in which intensive emotional or physiological arousal occurs. SOF has been found beneficial in decreasing disruptive and off-task behaviors among students in school settings (Felver et al., 2014; Felver et al., 2017; Singh et al., 2007a), but previous research has administered the SOF program individually to students. The purpose of the current research was to administer the SOF program to four special education self-contained classroom using a multiple-baseline across participants design to evaluate if the SOF program was efficacious in increasing student rates of on-task behavior when the program was delivered as a Tier II program to the whole class.

Unfortunately, the current research could not be completed as originally designed due to the participating school suspending in-person education in March of 2020, two school days after the first classroom and three students completed the SOF program. Further, only one to two post-intervention data points were collected for two of the three students who completed the SOF
program (Carlos & Nora). The remaining three classrooms and five students did not complete any of the SOF program sessions, and therefore no post-intervention data is available for these students.

Interpretation of the post-intervention data is ill advised because there is only one to two data points for each of the two students, and one of the data points was collected by the first author, who was the interventionist and was not blind to the phase of data collection. With that being said, Carlos’ average on-task behavior across the baseline phase was 11% and was on-task 23% during his only post-intervention observation (NAP = 0.80). Nora’s average on-task behavior during the baseline phase was 36%, and her average on-task behavior during two post-intervention observations was 40% (NAP = 0.50). Taken together, this data suggests that it is likely warranted to replicate the current research and complete the study in its entirety to better determine if the SOF program can be delivered class wide to impact individual student levels of on-task behavior.
Appendix A: Tables and Figures

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Figure 13. Nora’s On-task Behavior Compared to Peer Composite
Table 1.

*Overview of SOF Program*

<table>
<thead>
<tr>
<th>Session and theme</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Introduction</td>
<td>Introduce the SOF curriculum and instruct students on proper posture, somatic sensations of paying attention to the foot, and SOF routine.</td>
</tr>
<tr>
<td>2 – Practice with Positive Feeling</td>
<td>Practice SOF routine while experiencing a strong pleasant emotion such as happiness. Teach students that SOF routine can help redirect and eliminate the strong emotional state.</td>
</tr>
<tr>
<td>3 – Practice with Negative Feeling</td>
<td>Practice SOF routine while experiencing a strong unpleasant emotion such as anger. Teach students that SOF routine can help redirect and eliminate the strong emotional state.</td>
</tr>
<tr>
<td>4 – Practice with Emotional Triggers</td>
<td>Work with students to identify antecedents that precede unpleasant emotional or behavioral states, and practice the SOF routine with such triggers. Teach students that they can gain increased power over their emotional states and behavioral responses.</td>
</tr>
<tr>
<td>5 – Plan for SOF in Daily Life</td>
<td>Teach students that the SOF routine is a tool to remain calm in everyday situations, and emphasize that practice is important to continue developing this skill.</td>
</tr>
</tbody>
</table>
Table 2.
Participant Demographics

<table>
<thead>
<tr>
<th>Student</th>
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<th>Grade</th>
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<th>Classification</th>
<th>Cognitive Functioning</th>
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<td>8</td>
<td>African American</td>
<td>LD</td>
<td>Average</td>
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<tr>
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<td>12</td>
<td>7</td>
<td>African American</td>
<td>TBI</td>
<td>Extremely Low</td>
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<td>8</td>
<td>African American</td>
<td>LD</td>
<td>Extremely Low</td>
</tr>
<tr>
<td>Nate</td>
<td>2</td>
<td>13</td>
<td>7</td>
<td>African American</td>
<td>TBI</td>
<td>Extremely Low</td>
</tr>
<tr>
<td>Albert</td>
<td>3</td>
<td>12</td>
<td>6</td>
<td>African American</td>
<td>LD</td>
<td>Extremely Low</td>
</tr>
<tr>
<td>Dennis</td>
<td>3</td>
<td>11</td>
<td>6</td>
<td>Caucasian</td>
<td>LD</td>
<td>Average</td>
</tr>
<tr>
<td>John</td>
<td>4</td>
<td>12</td>
<td>7</td>
<td>African American</td>
<td>OHI</td>
<td>Extremely Low</td>
</tr>
<tr>
<td>Michael</td>
<td>4</td>
<td>12</td>
<td>6</td>
<td>Caucasian</td>
<td>ED</td>
<td>Borderline</td>
</tr>
</tbody>
</table>

*Note. LD = Learning Disability; TBI = Traumatic Brain Injury; OHI = Other Health Impairment; ED = Emotional Disturbance; * indicates that students received SOF program.
Table 3.
Student Levels of Engagement

<table>
<thead>
<tr>
<th>Student</th>
<th>Attendance</th>
<th>Practicing SOF per Interventionist Observation</th>
<th>Self-report Practicing SOF In-Session</th>
<th>Self-report Out-of-Session SOF Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carlos</td>
<td>60%</td>
<td>100%</td>
<td>100%</td>
<td>2 times</td>
</tr>
<tr>
<td>Nora</td>
<td>80%</td>
<td>50%</td>
<td>75%</td>
<td>3 times</td>
</tr>
<tr>
<td>Cole</td>
<td>80%</td>
<td>25%</td>
<td>50%</td>
<td>0 times</td>
</tr>
</tbody>
</table>

*Note. Carlos attended 3 classes; Nora attended 4 classes; Carlos attended 4 classes*
Table 4.
Peer Comparison of Average Percentage of On-task Behavior Across Observations

<table>
<thead>
<tr>
<th>Student</th>
<th>Study Phase (Number of Observations)</th>
<th>Peer Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Post-Observation</td>
</tr>
<tr>
<td>Carlos</td>
<td>11% (5)</td>
<td>23% (1)</td>
</tr>
<tr>
<td>Nora</td>
<td>36% (5)</td>
<td>40% (2)</td>
</tr>
<tr>
<td>Cole</td>
<td>43% (6)</td>
<td>*</td>
</tr>
<tr>
<td>Nate</td>
<td>60% (8)</td>
<td>*</td>
</tr>
<tr>
<td>Albert</td>
<td>27% (6)</td>
<td>*</td>
</tr>
<tr>
<td>Dennis</td>
<td>60% (4)</td>
<td>*</td>
</tr>
<tr>
<td>Michael</td>
<td>16% (5)</td>
<td>*</td>
</tr>
<tr>
<td>John</td>
<td>14% (6)</td>
<td>*</td>
</tr>
</tbody>
</table>

*Note.* * indicates that post-intervention data collection and NAP effect size analyses were not completed due to SARS-COV-2 school suspension.
Behavioral Observation of Students in Schools

Student Name: ____________________________
Classroom Room Number Observed: ____________
Date: ____________________________
Observer: ____________________________
Time of Observation: ____________________________

Setting (please check one of the following circles)

Independent seat work with Teacher Present ☐
Independent seat work with Teacher in small group ☐
Small group work with teacher present ☐
Large group work with teacher present ☐

Briefly Describe the Activity/Lesson Being Observed:

________________________________________________________

Definitions (Dart et al., 2016)

On-task: The student’s head and body oriented toward the target task while actively attending to assigned material, OR the student’s head and body oriented toward the target task while passively attending to assigned classroom and included behaviors such as listening to a lecture, reading assigned material silently, and looking at the teacher during instruction.

Off-task: Defined as either motor activity not directly associated with an assigned academic task (e.g., getting out of seat to walk around the room), verbalizations not related to an assigned academic task (e.g., making noises during silent reading or talking to another student during a quiz), or passively not attending to an assigned academic task for at least three consecutive seconds within a given 15-second interval (e.g., staring out the window or watching other peers during a silent reading activity).

Remember: Blue cells are used to observe a random peer in the classroom (not target student).

<table>
<thead>
<tr>
<th>Obs Period</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<td></td>
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<tr>
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<tr>
<td>Off-task</td>
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<td>x</td>
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<td>Off-task</td>
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<td>Off-task</td>
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<tbody>
<tr>
<td>On-task</td>
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</tr>
<tr>
<td>Off-task</td>
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</table>

<table>
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<tbody>
<tr>
<td>On-task</td>
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<td></td>
</tr>
<tr>
<td>Off-task</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Behavioral Observation Data Collection Form
**Directions:** Record student’s score as either 0, 1, or 2 across fidelity elements in the shaded box to the right of each column. Tally student’s score at the bottom of the sheet. Higher scores indicate better fidelity.

<table>
<thead>
<tr>
<th>Structural—Procedural</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reviewed previous session (n/a Session 1)</strong></td>
<td>Not at all or very little. (0% to 10%)</td>
<td>Somewhat or moderately implemented (10% to 90%)</td>
<td>Fully or very much implemented (&gt;90%)</td>
</tr>
<tr>
<td><strong>Reviewed between-session practice (n/a Session 1)</strong></td>
<td>This element was not implemented in any substantive way.</td>
<td>This element was partially implemented; some aspect was not covered.</td>
<td>This element was fully implemented; followed program completely or nearly completely.</td>
</tr>
<tr>
<td><strong>Introduced session</strong></td>
<td>This element was not implemented in any substantive way.</td>
<td>This element was partially implemented; some aspect was not covered.</td>
<td>This element was fully implemented; followed program completely or nearly completely.</td>
</tr>
<tr>
<td><strong>Delivered main session content:</strong></td>
<td>Main session content was not delivered in a substantive way.</td>
<td>Main session content was somewhat delivered; some aspect of this element was not covered.</td>
<td>Main session content was delivered fully; followed program completely or nearly completely.</td>
</tr>
<tr>
<td>Session 2</td>
<td>Session 3</td>
<td>Session 4</td>
<td></td>
</tr>
<tr>
<td>In vivo exposure and practice with antecedent to unpleasant experience.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>Session 5</strong></td>
<td>Made plan for future SoF practice.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closed by reviewing session content.</td>
<td><em>This element was not implemented in any substantive way.</em></td>
<td><em>This element was partially implemented; some aspect was not covered.</em></td>
<td></td>
</tr>
<tr>
<td>Made a plan for between-session practice.</td>
<td><em>No plan was made or mentioned for between-session practice.</em></td>
<td><em>A poorly defined plan was mentioned for between-session practice; not concrete (e.g., only said to “practice SoF” without specifications).</em></td>
<td></td>
</tr>
<tr>
<td>Distributed and utilized handouts.</td>
<td><em>Handouts were not distributed or utilized.</em></td>
<td><em>Handouts were distributed but not utilized and/or discussed.</em></td>
<td></td>
</tr>
<tr>
<td>Practiced SoF routine at least twice during session.</td>
<td><em>SoF routine was not practiced.</em></td>
<td><em>SoF routine was practiced once.</em></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 2. SOF Intervention Fidelity Form**
SOF Interventionist In-Session Data

Date: ___________________          SOF Session Number: __________
Classroom Teacher: ___________       Interventionist(s): ___________

Target Student(s): ____________________________

Number of Other Peers (non-target students) in Classroom: _________________

Number of SOF Routine During Intervention Session: ________________

Did the Target Student(s) Clearly Participate in SOF routines?

• Student Name: ____________________________  YES / NO
• Student Name: ____________________________  YES / NO
• Student Name: ____________________________  YES / NO

Did the Target Student(s) report to using SOF routine in-between sessions?

• Student Name: ____________________________  YES / NO
• Student Name: ____________________________  YES / NO
• Student Name: ____________________________  YES / NO

Figure 3. SOF Interventionist In-session Data
Student Name:____________________________    Date:____________________________

Classroom Teacher:_______________________  Session #:_______________________

Did you practice along with the *Soles of the Feet* (SOF) practices during the class today?

   YES    /    NO

Have you practiced the *Soles of the Feet* (SOF) routine since our last class at home or at school?

   YES    /    NO

Figure 4. SOF In-session Data for Students
1. Stability of baseline data: Data should not have trends towards improvement.
2. Variability within phases: More data is required as variability increases.
3. Variability between phases: Lower variability post-intervention is indicative of control.
4. Overlap between scores of adjacent phases: Greater treatment effect is associated with less overlap.
5. Number of data points per phase: Generally, more data points are better.
6. Changes in trend within phase: More data is required when trend is unclear.
7. Changes in trend between adjacent phases: Sharp dramatic changes suggest strong treatment effects.
8. Changes in level between phases: Sharp dramatic changes suggest strong treatment effects.
9. Analysis of data across similar phases: Consistency in similar phases indicates replication and treatment effect.
10. Evaluation of the overall pattern of data: Overall pattern of the data may highlight faults in the data.

**Note.** This figure has been adapted from Franklin and colleagues (1996, p. 136).

Figure 5. Parsonson and Baer’s (1978) Visual Inspection Heuristics
**Teacher Name:**

**Instructions:** Please report any dates that you either (a) practiced the *Soles of the Feet* (SOF) routine with the class, (b) practiced the SOF routine with an individual student, (c) reminded the students of what we’ve been learning during the SOF sessions, or (d) instructed a student to complete the SOF routine individually.

<table>
<thead>
<tr>
<th>Date</th>
<th>Description (a, b, c, d, or other)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Figure 6. Teacher SOF Activities Form
Figure 7. Percent On-task Between Baseline and Post-intervention Phases for Class 1
Figure 8. Percent On-task During Baseline Phase for Class 1 (Cole)
Figure 9. Percent On-task During Baseline Phase for Class 2 (Nate)
Figure 10. Percent On-task During Baseline Phase for Class 3 (Albert & Dennis)
Figure 11. Percent On-task During Baseline Phase for Class 4 (John & Michael)
Figure 12. Carlos’ On-task Behavior Compared to Peer Composite
Figure 13. Nora’s On-task Behavior Compared to Peer Composite
References


**Vitae**

*Adam (Joseph) Clawson, M.S.*
Email: ajclawso@syr.edu

EDUCATION
Bachelor of Arts, Magna cum laude, Psychology (May 2015)
State University of New York at Oswego, Oswego, New York

Master of Science & Post-Master’s Advanced Certificate, School Psychology (Transferred)
State University of New York at Oswego, Oswego, New York

Doctor of Philosophy (PhD), School Psychology (Anticipated July 2021)
Syracuse University

RESEARCH INTERESTS
Development, implementation, feasibility, and utility of mindfulness interventions in schools and the community, evidenced school-based academic, behavioral and socioemotional interventions, models of consultation, and viable mental-health and function based applied behavioral analysis interventions.

RESEARCH EXPERIENCE

Research Assistant at SUNY Upstate Medical University Concussion Clinic (July 2018 – July 2020)
While completing an assistantship at SUNY Upstate Medical University primarily completing neuropsychological evaluations, I also was tasked with completing concussion related research. I worked on projects that examines the psychosocial variables associated with adolescent students who have recently experienced a concussion and completed a school-based study which evaluated the daily effects of a recent concussion among high school students. While at Upstate, I was responsible for data collection, parent consent interviews, training of research assistants, and data analysis.

Graduate Research Assistant: Research Coordinator (July 2016 – Present)
Currently, I am working in Dr. Josh Felver’s Mind Body laboratory at Syracuse University. The laboratory focuses on ways to research and investigate avenues to promote well-being in youth, schools, and families through the use of contemplative practice and interventions. My roles include: data collection and analysis, designing and assisting with ongoing research projects, completing IRB applications, and delivering mindfulness-based interventions to child, adolescent, and undergraduate students. Below are specific roles I have completed in the Mind Body laboratory.

1. Project Manager and Chief of Technology (August 2016 – September 2017)
   Duties included inputting and scrubbing data, data analysis, transforming physical surveys into Qualtrics, general data maintenance, and overall management of ongoing research projects.

2. Director of Mind Body Lab Undergraduate Training (September 2017 – September 2018)
Duties included training a team of up to 22 undergraduate students on tasks of data input, experimental data collection, data extraction, and the use of psychophysiological measurement tools.

3. Project Manager (September 2018 – July 2020)
Duties included the supervisions of multiple school-based mindfulness interventions implemented with at-risk elementary, middle, and high school students in the Syracuse City School District. Specific responsibilities included, data collection, data analysis, IRB application submissions, teacher and principal interviews, coordination and training of undergraduate research team, classroom observations, and creating standardized research protocols.

CONFERENCE PAPER PRESENTATIONS


CONFERENCE POSTER PRESENTATIONS


Clawson, A. J. *Program Evaluation on the Effectiveness and Satisfaction of SUNY Oswego’s Counseling Services Center.* Presentation at SUNY Oswego Quest, April 2014, Oswego, New York

**PUBLICATIONS**

*Peer Reviewed Publications (*undergraduate student mentee)*


Lewandowski, L. J., Martens, B. K., Clawson, A. J., & Reid, T. J. (2020) Effects of a private room versus highly distracting group setting on math test performance of college students with ADHD. *Journal of Behavioral Education*


**Book Chapters**


**Works Submitted for Publication or In Preparation**


CLINICAL AND WORK EXPERIENCE

- **School Psychology Intern (July 2020 – June 2021)**
  As a school psychology intern working in the Fulton City School District working under the supervision of Carlo Cuccaro, M.S. and Michelle Storie, Ph.D., I completed tasks that include psychoeducational evaluations, academic skills assessments, behavioral intervention consultation, academic skill consultation, teacher trainings of applied behavioral analysis concepts, classroom observations, can’t/do/won’t do assessments, mental health counseling, and systems-level consultation and interventions.

- **School Psychology Practicum Student (September 2019 - June 2020)**
  As a school psychology practicum student in the Syracuse City School District working under the supervision of Dr. Althea Henry, I completed tasks that include psychoeducational evaluations, functional based assessments, academic skills assessments, behavioral intervention consultation, academic skill consultation, teacher trainings of applied behavioral analysis concepts, classroom observations, can’t/do/won’t do assessments, mental health counseling, and systems-level consultation and interventions.

- **SUNY Upstate Children’s Cancer and Blood Disorder Clinic: Psychological Assistantship (July 2018 – July 2020)**
  While at Upstate Medical University I primarily completed neuropsychological evaluations with children and adolescents who have undergone cancer treatments for leukemia and brain tumors to assess for the presence of neurocognitive late effects. Also, I completed neuropsychological evaluations for adults with a history of cancer, and patients with various medical histories that include stroke, short-gut syndrome, sickle cell disease, attention-deficit hyperactivity disorder, and intellectual disabilities.

- **Special Preschool Integration for Children’s Education (SPICE): Psychological Intern (September 2017 – July 2018)**
  I completed an assistantship at Elmcrest’s SPICE program. My responsibilities included administering and reporting psychoeducational evaluations to determine if preschool children met the criteria to receive special education services, conducting functional behavior analyses (FBA), implementing social skills and function based behavioral interventions, and daily teacher consultation sessions.

- **School-Based Mental Health Practicum Student: Elmcrest, Syracuse New York (August 2017 – December 2017)**
  As a school-based mental health practicum student I worked at a residential facility at Elmcrest with high school aged students. Throughout my experiences, I administered the CBT-focused Strong Teens standardized curriculum-based intervention with a group 8 high school students. Further, I conducted problem
identification interviews with teachers of students who display high rates of off-task behavior, and administered the *Soles of the Feet* intervention with elementary aged students.

- **Teaching Assistant for an introductory Psychology course: Syracuse University (August 2016 – May 2017)**
  
  I served as a teaching assistant for an introductory Psychology course at **Syracuse University**. My responsibilities included: formulating and designing weekly lectures, grading student papers and exams, holding review sessions, and acting as a liaison between undergraduate students and faculty member.

- **Co-facilitator of a Mindfulness-Based Stress Reduction group on SUNY Oswego’s Campus (January 2016 – May 2016)**
  
  I co-facilitated a group that met once a week with a mental health counselor at the Counseling Services Center at **SUNY Oswego**. I co-created a mindfulness curriculum that aimed to provide college students with tips, strategies, and interventions to better manage the stress and anxiety of being a college student.

- **Intern Student with the Counseling Services Center at SUNY Oswego’s Mary Walker Health Center (January 2016 – May 2016)**
  
  I worked as a crisis intervention intern counselor 10 hours a week at the counseling center at **SUNY Oswego**. During this internship, I completed 70 clinical hours with undergraduate and graduate clients. My work primarily focused on intervening with students who are in a state of crisis such as suicide ideations, and distress due to relationships, depression, and anxiety.

- **School Psychology Practicum Student (September 2015 – May 2016)**
  
  I completed a School Psychology practicum placement at **Lanigan Elementary School** in Fulton, New York. My responsibilities have included mathematics, reading, spelling, and writing assessments, academic interventions with progress monitoring, functional behavioral analyses, brief experimental analyses, program needs assessment, and full psychoeducational assessments.

- **Teen Mentor with Oswego County Catholic Charities (August 2015-December 2015)**
  
  Worked with teenagers who are living with relatives who are not biological parents. Specifically, worked on goals such as independent living skills, increase social skills, and manage externalizing behavioral concerns.

- **Supervised Visitation Center (August 2014 – August 2015)**
  
  Facilitated a safe and comfortable environment for visitation between non-custodial parents and children within Oswego County.

- **Practicum Student with the Counseling Services Center at SUNY Oswego’s Mary Walker Health Center (January 2015 – May 2015)**
  
  70 Clinical hours working with **SUNY Oswego** students with topics that included anxiety, depression, grief, identity crises, & relationship goals.

**INVITED PRESENTATIONS**

- **Mindfulness Activities for Stress (Syracuse University March 2017)**
o Led group sessions at Syracuse University’s Hendricks Chapel to provide hands-on mindfulness-based activities designed to decrease stress related symptoms.

- **Soles of the Feet for Teachers and Students (Syracuse City School District, March 2017)**
  o Delivered multiple professional development sessions with elementary teachers and administrators concerning the implementation of the *Soles of the Feet* mindfulness intervention designed to decrease teacher self-perceived levels of burnout and student off-task behaviors.

- **Mindfulness Research Among At-Risk Low SES Students (Syracuse City School District, August 2018)**
  o Delivered a presentation to Syracuse City School District teachers and administrators concerning the effectiveness of mindfulness-based interventions among at-risk low SES students in terms of socio-emotional and resilience related outcome variables.

- **Mindfulness-based Interventions in Schools (Syracuse City School District, August 2019)**
  o Led a professional development meeting at a middle school in Syracuse City School District to provide a summary of relevant research concerning mindfulness-based interventions among adolescent students in the context of public schools.

- **Supporting Student Classroom Behavior (Liverpool School District, December 2019 – January 2020)**
  o Helped facilitate a training for teaching assistances to provide instruction concerning evidenced-based classroom management and behavioral practices to promote desired behaviors in the classroom.

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**TEACHING**

**Courses Taught**

*Syracuse University – Graduate*
Adolescent Psychology (Summer 2017)

**Courses as Supervised Teaching Assistant**

*Syracuse University – Graduate*
Introduction to Psychology (2016 – 2017)

*SUNY Oswego – Undergraduate*
Introduction to Psychology (2012 – 2014)
Child Development (2013 – 2014)

**Guest and Invited Lectures**

*SUNY Oswego: Introduction to Psychology (Undergraduate Level Class)*
Consciousness and Lucid Dreaming (2012 & 2013)

*Syracuse University: Education 743 Quantitative Research Design (Doctoral Level Class)*
Components of Single-Case Design Research and Meta-Analysis

*SUNY Oswego: Socio-emotional Interventions (School Psychology Graduate Level Class)*
Mindfulness-based Practices and *Soles of the Feet* (SoF) Intervention

**LEADERSHIP & VOLUNTEER ACTIVITIES**

Campaign Manager, Treasurer, & Committee President for Friends of Tom Drumm (May 2015-Present)
- Organized and lead a political committee with the New York Board of Elections Department for a political candidate running for Oswego County Legislator
- Oversaw political fundraisers and campaign literature
- Managed budget and advertisements

Graduate Assistant, SUNY Oswego (August 2014-May 2016)
- Worked with Dr. Kristen Munger to assist with research involved with anxiety interventions among children
- Worked in Dr. Lucy Wing Library to assist students and maintain test kits

Freshman Peer Advisor, SUNY Oswego (September 2013-December 2013)
- Worked with incoming freshmen to assist in the transition to college
- Planned and coordinated workshops to teach advisees components of college lifestyle
- Acted as liaison between a faculty member and the advisees
- Attended weekly meetings to discuss proactive ways to assist advisees

Volunteer Little League Baseball Coach, Oswego, New York (2006-Present)
- Worked with children and adolescents ranging from ages 7 to 18
- Organized and developed practices
- Planned and coordinated league game schedule

**EDITORIAL SERVICE**

Ad Hoc Reviewer
- British Journal of Educational Psychology: 2017
- Asia Pacific Journal of Education: 2018
- Mindfulness: 2018
- International Journal of School & Educational Psychology: 2018, 2019, & 2020

Editorial Board Member
- International Journal of School & Educational Psychology: 2018, 2019, & 2020

**HONORS AND AFFILIATIONS**

Honors:
- Helen B. Daly Award for Excellence in Research at the State University of New York at Oswego (Spring 2014)
- Nine Mile Point Scholarship Recipient (Spring 2014)
- Lucy Wing Award for Excellence in Research at the State University of New York at Oswego (Spring 2016)
• NYASP Ted Bernstein Award (October of 2020)

Affiliations:
• New York Association of School Psychologists (October 2015-Present)
• National Association of School Psychologists (October 2015-Present)