November 2018

Effects of Alternative Seating on Children with Disabilities

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Effects of Alternative Seating on Children with Disabilities

by

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A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Applied Behavior Analysis
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Date of Approval:
October 31, 2018

Keywords: stability ball, Kore™ wobble chair, school setting

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DEDICATION

I dedicate this manuscript to my husband, Jacob, my parents, Kristi and Dennis, and my brother, Mathew. Thank you all for your unwavering support and help throughout this whole process.
ACKNOWLEDGMENTS

I would like to acknowledge my thesis advisor, Dr. Kimberly Crosland, for her time, guidance, support, and feedback throughout the thesis process. I would also like to acknowledge Leslie Singer for her assistance. Finally, I would like to acknowledge Carolina Luque, Melissa Gibson, and Kelsey Thompson for the time and effort they put into assisting me. Thank you all for your support.
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ABSTRACT

Children with disabilities in school settings often display problem behavior. These challenging behaviors can be inattention, disruptions in class, difficulties with transitions between tasks, and low task motivation. These types of behaviors can lead to problems for the students with their peers, teachers, and school staff. One way to decrease problem behavior is to implement antecedent manipulations to prevent problem behavior from ever occurring. One type of antecedent manipulation is using alternative seating in the classroom, such as stability balls or stabili-t stools. However, little research has been conducted to evaluate different types of alternative seating, therefore this study used an alternating treatments design to evaluate the effects of stability balls versus stabili-t stools on in-seat and on-task behavior in an academic setting. Results indicated increases in both in-seat and on-task behavior with the use of both alternative types of seating. In-seat behavior increased more substantially then on-task behavior with alternative seating. Social validity results indicated that stability balls were not well liked by teachers and therapists, however the stabili-t stools were found to be acceptable. Both types of alternative seating were chosen by participants in the choice phase, however the stabili-t stool was chosen more often.
INTRODUCTION

According to the Individuals with Disabilities Education Act (IDEA), each public school in the United States is required by federal law to serve the educational needs of qualified children and teenagers with disabilities. In 2017, more than six million children were served under IDEA (Center for Learning Disabilities, 2018). Per the Center for Disease Control, about one in 68 children have been identified with autism spectrum disorder (ASD) (Christensen, et al., 2016). Some of the children served under IDEA are diagnosed with ASD and attention deficit/hyperactivity disorder (ADHD). Difficulties for children with ASD can include delays in social, behavioral and communication skills (Autism Speaks, 2017; Center for Disease Control and Prevention, 2016) across home and school environments. As a society, it is important to find cost-effective ways to treat the symptoms of ASD and other intellectual disabilities, as throughout the lifespan of an individual with ASD the cost of treatments and interventions is around 2.4 million dollars. (Buescher, Cidav, & Knapp, 2014).

Another disorder that can cause significant challenges in school environments is ADHD. Children and adults with ADHD suffer from impulsivity, inattention and hyperactivity (The National Institute of Mental Health, 2016). Children diagnosed with ASD or ADHD often struggle with hyperactivity and/or an inability to attend to the lessons being taught in a classroom setting (Lindsay, Proulx, Thomson, & Scott, 2013). Children spend large amounts of time at school (Hofferth & Sandberg, 2001), therefore interventions are necessary to increase classroom engagement and decrease challenging behaviors.
Common problems in the school and classroom setting include trouble with generalization, inattention, time management, disruptions during class, low task motivation and difficulty with transitions between tasks (Falk-Ross, Iverson, & Gilbert, 2004; National Education Association, 2006). Low task motivation, inattention, and disruptions during class lead to problems for students with their peers, teachers and school staff, which can lead to bullying of students with ASD and other developmental disabilities (Cappadocia, Weiss, & Pepler, 2011). Furthermore, a survey reveals that classroom behavior is a major issue for teachers, 80% of participants surveyed stated that inappropriate classroom behavior was a problem for students at their schools (Gomez, 2005).

One-way problem behavior can be lessened is by preventing its occurrence. An antecedent manipulation is defined as changing some part of the environment to evoke an appropriate response and to prevent a problem behavior from occurring (Miltenberger, 2012). Effective interventions for problem behavior include self-management strategies, consistent routines, breaks and differential reinforcement (Machalicek, O’Reilly, Beretvas, Sigafoos, & Lancioni, 2007; Stichter et al., 2009). One type of antecedent manipulation that has gained popularity to increase in-seat behavior is alternative seating. Alternative seating is said to substantially improve engagement and on-task behavior in the classroom and many teachers are using this approach despite the lack of evidence supporting the intervention (Create-abilities, 2015). One example of alternative seating is the stability ball. The stability ball has many functions, including rehabilitation, strength conditioning, fitness, and classroom education (Jakubek, 2007). According to Jakubek (2007), stability balls are safe to use but require proper instruction and supervision. The most common dependent variables studied in research on alternative seating are in-seat behavior, on-task behavior or engagement. Research has found
improvements in students’ engagement and/or in-seat behavior, when using alternative seating. In children with attention deficit hyperactivity disorder (ADHD), stability balls were found to help improve reaction time and studies suggest that stability balls could help students stay seated (Schilling et al., 2003; Washington et al., 2003; Wu et al, 2012). Some studies suggest that inattentiveness may be caused by a lack of arousal or sensory input, which could be improved through the use of stability balls (Schilling & Schwartz, 2004). Fedewa and Erwin (2011) examined the impact of using stability balls on in-seat and on-task behavior. The researchers looked at 76 students in various classrooms and a range of diagnoses. They found that there was improvement in the participant’s behavior and pointed to the ability to move on the ball as a key factor (Fedewa & Erwin, 2011). Krombach (2016) also used stability balls and found improvement in on-task and in-seat behaviors. Krombach (2016) compared stability balls with standard classroom chairs. There were four children, with ASD, ages 4 to 12 years old. Improvement was measured through a percentage of time a participant engaged in on-task and in-seat behavior. This study found that for the four participants, their on-task behavior increased from a range of 61% to 81% to a range of 80% to 90%. In-seat behavior increased from a range of 35% to 71% to a range of 84% and 99%. Research that has evaluated the use of stability balls has focused mainly on populations such as typical adults and children (Al-Elisa, Buragadda, & Melam, 2013; Merritt, 2014; Wu, et al., 2012). Few studies have examined the effects of stability balls for children with ASD (Bagatell et al., 2010; Krombach, 2016; Schilling & Schwartz, 2004).

One major limitation noted in several articles about alternative seating was the length of the study, indicating that longer phases of each condition should be conducted in order to show the effectiveness of stability balls when compared to standard chairs. (Bagatell et al., 2010;
Fedewa & Erwin, 2011; Schilling et al., 2003; Schilling & Schwartz, 2004). Another limitation was that there was little research supporting a relationship between alternative seating and student’s performance in the classroom (Merritt, 2014). Researchers suggest that more studies are needed before professionals can decide on the effectiveness of any type of alternative seating (Merritt, 2014).

Based on social validity measures, teachers, therapists and parents appear to support the use of stability balls in the classroom (e.g., Bagatell et al., 2010; Fedewa & Erwin, 2011; Krombach, 2016; Schilling et al., 2003; Schilling & Schwartz, 2004). Although some teachers have found the balls can be distracting and students may play with the balls instead of completing work. One nice feature about stability balls is that they are relatively inexpensive and easy to purchase.

More extensive research on the use of stability balls for improving on-task and in-seat behaviors is needed to determine if they are helpful in the school setting. Moreover, researchers could compare stability balls to other types of alternative seating. For example, stability balls versus foam padding or stability balls versus stabili-t stools. A stabili-t stool is a stool that is round with a narrow base that engages the core muscles of the person using it (Abilitations, 2017). There is no known research that targets stabili-t stools and if they might function similarly to stability balls. Further research should also be conducted to examine the social validity of stabili-t-stools and other alternative seating interventions (Fedewa & Erwin, 2011). The purpose of this study was to evaluate the effects of stability balls versus stabili-t stools on in-seat and on-task behavior in an academic setting. A secondary purpose was to examine the social validity of both of these alternative seating interventions for students by asking therapists, teachers, and students to rate the interventions ease of use and perceived effectiveness.
METHOD

Participants and Setting

This study included three male students diagnosed with a disability. The student participants were from the ages of 6 to 8 years old and were selected to participate either through teacher or therapist recommendation. Recruited students had difficulty sitting in their chair during academic work times. The teacher or therapist of the participant was asked to pick a routine where in-seat and on-task behaviors were required and where the teacher or therapist reported that there was the least amount of in-seat and/or on-task behaviors. An initial observation clarified the routine chosen by the teacher or therapist was indeed problematic prior to that routine being selected to receive the intervention. A problematic routine was a routine where the therapist or teacher struggled to have the child sit for the academic task or activity that was required for them to complete. Each routine was unique to each participant. Each participant had their own behavior plan that was implemented by the school or clinic staff and the behavior plans were followed during each session for each participant. Each participant’s identity is protected by a pseudonym.

Gio was 8 years and 1 month at the onset of the study. He had a primary diagnosis of ASD and developmental delay. He had some receptive language but was not toilet trained, was unable to speak or feed himself. He needed constant supervision from his registered behavior technician (RBT) or board certified assistant behavior analyst (BCaBA), as he would elope from the classroom if he was not supervised. He received ABA therapy for a portion of the school day. He was referred to the study because he had difficulty sitting in a chair during circle time.
activities. He would only sit if he was in someone’s lap. Circle time activities happened in the morning and in the afternoon with his RBT or BCaBA.

Blaise was 7 years and 11 months at the onset of the study. He had a diagnosis of ASD. Blaise had some receptive and expressive language. His expressive language was very limited and teachers and therapists within the classroom had a hard time understanding his wants and needs. He received ABA therapy for the entire school day. He also received speech therapy two days a week. He was referred to the study because his speech therapist reported that he had trouble staying seated during her sessions. His therapy sessions occurred in a classroom with two large tables and a regular desk chair. There would sometimes be other students in the classroom during speech sessions.

Alex was 6 years and 5 months at the onset of the study and had a diagnosis of ASD. Alex also had receptive and expressive language. He at times needed prompting to use his words, but teachers and therapists within the classroom were able to understand him. He was referred to the study by his teacher and RBT for struggling to stay seated during verbal behavior programs. He received ABA therapy for the entire school day. His therapy sessions occurred in a classroom with two large tables and a regular desk chair. There were other students in the classroom during his verbal behavior sessions. When summer school started he switched classrooms, which had 2 small tables and regular desk chairs. There were also other students and therapists in this room during sessions.

The study was conducted in a classroom at a private school in southern Florida in which all three participants attended. From session 8 to session 40, Alex was observed in a private clinic setting, due to summer school. All participants attended the same private school five days a week. The classroom had eight students, with a teacher and a paraprofessional in the
classroom. Some students also had a one on one aide that helped in the classroom. The school was a large two-story building with four classrooms, a sensory gym, two clinic spaces and an outside playground. The classrooms varied in size and number of children. Some classrooms had individual desks and other classrooms had large tables. Classrooms that had tables usually had younger children in them. The clinic had between three to four students working at the same time in an educational environment. It had two large rooms with small tables that sat one to three people. Both the classroom and clinic had hardwood floors. Smaller tables were provided for younger children. There were usually about three other children in the room, each with a registered behavior technician. Inclusion criteria included being a student of the school or clinic and having difficulty with a routine in the classroom or individual therapy.

**Materials**

A standard desk chair, stability ball and a stabili-t stool (Kore™ wobble chair) were used during this study. The standard chair was a four-legged chair. The legs of the chair were metal and the seat and seat back were made of plastic. The stabili-t stool was an oblong stool with a rounded bottom. When the participant sat on the stool it required the participant to use their core muscles and balance. The researcher and research assistants were also provided a MotivAider® for data collection purposes. The MotivAider® was a device that was worn on the hip or within a pocket and vibrates at a set interval.

**Target Behaviors and Data Collection**

Data were collected on in-seat and on-task behavior as defined in the literature (Krombach, 2016; Schilling, Washington, Billingsley, & Deitz, 2003). Data were also collected on therapist or teacher prompt level. Data were collected using a 10-s whole interval recording procedure for on-task behavior and in-seat behavior (Appendix A). Each session was 5 minutes
in length. At least two sessions were conducted during the week for each participant. The researcher or research assistant sat in the classroom in view of the participant and continuously recorded if the participant was in their seat and/or on task for entire 10s intervals throughout the session. Data collectors marked a plus if the participant was on-task and in-seat for the entire interval or a minus if they engaged in off-task behavior or left their seat (recorded in separate columns as the student could be in-seat but off-task for any given interval). To record prompt level for each interval the data collector circled the highest prompt used by the teacher or therapist. If the teacher or therapist used prompts simultaneously, the highest prompt was recorded.

**In-seat.** In-seat behavior on the standard school chair was defined as placing any portion of the participant’s buttocks in contact with the seat portion of chair, at least one foot in contact with the ground and all four-chair legs in contact with the ground. (Krombach, 2016). In-seat behavior on the stability ball was defined as any part of the participants’ buttocks remaining in contact with the ball and the ball simultaneously remaining in contact with the floor (Krombach, 2016; Schilling et al., 2003). This included having at least one foot on the floor. In-seat behavior on the stabili-t stool was defined as any portion of the participants’ buttocks in contact with the stool and the stool simultaneously remaining in contact with the floor. This also included having at least one foot in contact with the ground.

**On-task.** On-task behavior was defined as the participant oriented towards the therapist or the appropriate task and materials. This included the appropriate interaction with the materials, responding to the speaker and/or looking at the speaker. Students were attending when they were interacting with materials in accordance with teacher or therapist directives. Students were not attending when they were orientated towards other activities, items and
behaviors that did not coincide with the teacher or therapist’s directives (Krombach, 2016; Schilling et al., 2003).

**Teacher prompts.** The level of teacher or therapist prompts in response to the child having in-seat and on-task behavior was also recorded. Prompt level was recorded as verbal prompts, gestural prompts, and full physical prompts. Verbal prompts were defined as the teacher or therapist verbally stating to the child to sit down or pay attention. Gestural prompts were defined as the teacher or therapist pointing to the chair, ball, or stabili-t stool or the activity the child was required to do. Physical prompts were defined as the teacher or therapist physically guiding the child to sit down on the chair, ball, or stabili-t stool or to engage in the activity the child was required to do.

**Interobserver Agreement**

For interobserver agreement, a second observer independently collected the same whole interval data. The secondary observer was trained by watching videos of students displaying the target behaviors and the observer recorded their data. Once the secondary observer was scoring at least 90% correct, they were considered to have reached mastery criteria. The type of interobserver agreement (IOA) measured was interval by interval. An agreement occurred if both data collectors both mark a + or both mark a – in the interval. A disagreement occurred if one data collector marks a + while the other data collector marks a – for the interval. The formula for interval by interval IOA was as follows: (number of intervals agreed/number of intervals agreed + number of intervals disagreed) multiplied by 100. The highest prompt level during each interval was also recorded. The codes for the prompt level were a V for verbal prompts, a G for gestural prompts, and a P for physical prompts. IOA for prompt level was also calculated interval by interval, the formula was the same as above.
For Gio IOA was calculated for 45% of all sessions. In baseline, IOA averaged 97% (range=90-100%) for in-seat, 95% (range=90-96%) for on-task and 100% for prompt level. For intervention, IOA averaged 96% (range=90-100%) for in-seat, 95% (range=93-100%) for on-task and 99% (range=96-100%) for prompt level. In the choice phase, IOA averaged 100% for in-seat, 95% (range=90-100%) on-task and 100% for prompt level.

For Blaise IOA was calculated for 44% of all sessions. In baseline, IOA averaged 94% (range=90-100%) for in-seat, 91% (range=90-100%) for on-task and 100% for prompt level. Throughout intervention, IOA averaged 99% (range=96-100%) for in-seat, 98% (range=93-100%) for on-task and 100% for prompt level. For the choice phase, IOA averaged 97% (range=90-100%) in-seat, 99% (range=96-100%) on-task and 100% for prompt level.

Alex had 44% IOA calculated for all sessions. In baseline, IOA averaged 97% (range=83-100%) for in-seat, 97% (range=93-100%) for on-task and 100% for prompt level. During intervention, IOA averaged 97% (range=93-100%) for in-seat, 97% (range=93-100%) for on-task and 100% for prompt level. Finally, in the choice phase, IOA averaged 98% (range=93-100%) in-seat, 100% for on-task and 100% for prompt level.

For all three participants, IOA never dropped below 80% so there was no need to retrain research assistants. The lowest two scores were for Alex during baseline for in-seat IOA (83%) and Blaise for on-task IOA (86%).

Social Validity

Social validity for the stability ball and stabili-t stool were assessed using a 5-point likert-type scale questionnaire (see Appendix B) that was provided to therapists and teachers. The questionnaire was adapted from Fedewa and Erwin (2011) and consisted of questions regarding the effectiveness, feasibility and usability of the intervention. Within the research design there
was also a choice phase where the participant could choose their preferred seating. This was also used to assess the preference for the type of seating by the participant. Permission was received from Dr. Fedewa to publish the social validity questionnaire in this manuscript (Appendix F).

**Treatment Integrity**

Treatment integrity was measured using a yes/no checklist created by the researcher (see Appendix C). Treatment integrity was assessed at the same time data were collected. Treatment integrity was as follows: had the correct seating and materials for the session, instructed the student to sit on the correct seating, responded to problem behavior as described in the behavior plan, administered activity, used only verbal prompts to redirect participant, at the completion of the task verbally stated that the client was done.

If the teacher or therapist fell below 80 percent treatment integrity re-training would have occurred. However, re-training was not needed as treatment integrity was at 100% throughout all phases of the study.

**Procedure**

A multiple baseline across participants with an alternating treatments design was used. (Miltenberger, 2012). In the intervention phase the design rapidly alternated between two conditions: intervention with the stability ball and intervention with the stability stool. The order of conditions was assigned through a random condition generator using Microsoft Excel. A choice condition followed the alternating treatments condition.

**Baseline.** During the baseline condition, no changes to the normal daily functioning of the classroom were made. Participants sat in a standard chair during the routine that was chosen to be most problematic by the teacher. For Gio, this routine was circle time in the morning and the afternoon. Circle time consisted of sitting on the carpet, completing the calendar and
following along to the morning songs. Blaise’s most problematic routine was his speech therapy
sessions. During these times, Blaise was asked to do a variety of activities. These activities
included yes or no questions, identifying letters and saying their letter sounds. The most
problematic routine for Alex, was during his verbal behavior programs. Alex’s verbal behavior
programming included working on echoics, matching to sample, tacting items and motor
imitation. For all participants and routines, if problem behavior occurred the therapist or teacher
responded to it how they normally would with respect to each participant’s behavior plan. For
example, if the participant threw a pencil, and the behavior plan stated to have the participant
finish work first, then go pick the pencil up the therapist followed what was written in the
behavior plan. Therapists and teachers responded to problem behaviors by redirecting the
participant back to his seat and continuing with the demand that had been placed. At times,
praise was given for remaining in-seat.

**Stability ball.** Before the condition started, participants had an opportunity to sit on the
stability ball and learn how to use it appropriately. Behavioral skills training was used to teach
the participant how to use the ball, which included instructions, modeling, and feedback on
correct sitting behaviors on the ball. The training was provided by the primary researcher and
occurred once before the first session with the stability ball. Training ranged from 5 to 10
minutes to complete. During this condition, the child was asked to sit on the stability ball during
the same routine as in baseline. If there was problem behavior, such as getting off the stability
ball, then the therapist or teacher responded to it how they normally would in the classroom
(same as in baseline). Therapists and teachers responded to problem behaviors by redirecting the
participant back to his seat and continuing with the demand that had been placed. At times,
praise was given for remaining in-seat.
**Stabi-li-t stool.** Before the condition started, participants had an opportunity to sit on the stabili-t stool (Kore™ Wobble Chair) and learn how to use it appropriately. Behavioral skills training was used to teach the participant how to use the stool, which included instructions, modeling, and feedback on correct sitting behaviors on the stool. The training was provided by the primary researcher and occurred once before the first session with the stability ball. Training ranged from 5 to 10 minutes to complete. This condition was similar to the stability ball phase with the only difference being the type of chair on which the students sat on. In this condition, it was an oblong stool with a rounded bottom that required the participant to balance in order to stay seated. If there was problem behavior, then the therapist or teacher responded to it how they normally would in the classroom (same as in baseline). Therapists and teachers responded to problem behaviors by redirecting the participant back to his seat and continuing with the demand that had been placed. At times, praise was given for remaining in-seat.

**Choice.** In this condition, the participant was able to choose which seating method he or she would like to use during the same academic routine. Only the stabili-t stool and stability ball were given as options for choice. The participant could verbally indicate, point to, or physically take the type of seating that he or she preferred. To do so, the researcher had out both types of alternative seating and the therapist or teacher instructed the participant to pick one. All three participants either pointed to or physically took the type of seating they wanted to sit on.
RESULTS

Figure 1 shows the in-seat behavior data for all participants while Figure 2 shows on-task behavior data for all participants. The percentages in baseline across participants for in-seat behavior ranged from 0% to 93% and for on-task behavior ranged from 0% to 96%. There was a substantial increase noted in the target behaviors once each participant was able to sit on the stability ball or stabili-t stool. The percentages across participants on the stability ball for in-seat behavior ranged from 53% to 96% and on-task behavior ranged from 30% to 100%. The percentages across participants on the stabili-t stool for in-seat behavior ranged from 40% to 100% and on-task behavior ranged from 30% to 96%.

In baseline, Gio showed an average of in-seat behavior 37% of the time, and an average of on-task behavior 30% of the time. Gio’s in-seat behavior was relatively stable in baseline while his on-task behavior was slightly more variable. During the stability ball portion of intervention, there was an average of 67% in-seat behavior and an average of 52% on-task behavior. For the stabili-t stool portion of the intervention, Gio had an average of 80% in-seat behavior and an average of 62% on-task behavior. There was a substantial change in level for in-seat behavior for both the stability ball and the stabili-t stool compared to the baseline phase. There is also a small differentiation between the data paths, with the stabili-t stool having a higher data path. On-task behavior showed variability during the intervention phase for both the stability ball and stabili-t stool. In the choice phase, Gio picked the stability ball twice and the stability chair nine times. When Gio picked the stability ball he had an average of 62% in-seat behavior and an average of 58% on-task behavior. When Gio chose the stabili-t stool he had an
average of 81% in-seat behavior and an average of 60% on-task behavior. Over the course of 11 baseline sessions there were 25 prompts recorded. In intervention there were 50 prompts recorded for 13 sessions. Prompts may have been higher in this phase because Gio had a difficult time staying on the ball and had to be guided back in place. Most of these prompts were verbal or partial physical prompts. For the choice phase 32 prompts were recorded.

During baseline, Blaise showed an average of in-seat behavior 12% of the time, and an average of on-task behavior 47% of the time. Blaise’s in-seat behavior was relatively stable, with a large spike at 50%, however there was a high degree of variability in his on-task behavior. In the stability ball portion of intervention, there was an average of 56% in-seat behavior and an average of 57% on-task behavior. For the stabili-t stool portion of the intervention, Blaise had an average of 64% in-seat behavior and an average of 67% on-task behavior. A substantial change in level for in-seat behavior for both the stability ball and the stabili-t stool occurred. However, there was no differentiation shown between the stability ball and the stabili-t stool. No changes in level or variability for on-task behavior were noted. In the choice phase, Blaise picked both the stability ball and the stabili-t stool almost equally. When Blaise picked the stability ball he averaged 64% in-seat behavior and averaged 74% on-task behavior. When Blaise chose the stabili-t stool he averaged 71% in-seat behavior and 80% on-task behavior. During baseline, 20 prompts were recorded over the 14 sessions. In intervention there were 27 prompts recorded for 18 sessions. Most were verbal prompts as the therapist would remind Blaise to stop getting off the stool. Finally, in the choice phase 25 prompts were recorded over 15 sessions.

Alex’s data were variable throughout baseline and into intervention. In-seat behavior in baseline averaged 47% and on-task behavior averaged 56%. Throughout the in-seat baseline there is high variability, with the beginning of baseline showing an increasing trend in the data,
which is then followed by a decreasing trend. When intervention was implemented for the stability ball, in-seat behavior averaged 85% and on-task behavior averaged 81%. With the stabili-t stool Alex had an average of 87% in-seat behavior and 74.3% average for on-task behavior. There was a substantial change in level for both types of seating in the intervention phase. However, no differentiation was noted between the stability ball or stabili-t stool. On-task behavior showed no change in level or variability from baseline. Throughout the choice phase, Alex picked the stabili-t stool each session and his in-seat data remained stable and high with an average of 99% and his on-task data shows an increasing trend, with an average of 93%.

During baseline, there were 87 recorded prompts over the course of 38 sessions. During 15 intervention sessions, there were 8 recorded prompts and there were no prompts recorded during the choice phase.

The social validity scale (Appendix A), given to teachers and therapists revealed that teachers/therapists did not feel that stability balls helped to focus student’s attention on the task at hand (mean=2.75), while they did indicate that the stabili-t stools helped to focus students on the task given (mean=4.5), but that both the stability balls (mean=4.25) and stabili-t stools (mean=4.25) were easy to use in the classroom. Teachers and therapists reported that both the stability ball (mean=4) and stabili-t stool (mean=3.5) allowed students to release extra energy; and that both the stability ball and stabili-t stool provided a way for students to engage in physical activity while still engaging in the task that was given. Stabili-t stools were thought to increase work completion, while there was neutral responding on if stability balls helped to increase work completion (mean=3). While the teachers and therapists did not think that stability balls helped with work completion, they indicated that stability balls (mean=3.25) and stabili-t stools (mean=4.25) increased the amount of time students stayed seated. When
comparing if students paid attention more when seated on a stability ball versus a stabili-t stool, it was noted that participants paid attention more on the stabili-t stool (mean=4.5), then the stability ball (mean=2.5). When asked about the feasibility of using stability balls or stability chairs over regular desk chairs for the majority of the day in the classroom, teachers and therapists were more inclined to use stabili-t stools (mean=4.25) over stability balls (mean=2.75). Anecdotally, teachers and therapists enjoyed the opportunity to use alternative seating with their students. One therapist reported that she would use stability balls and stabili-t stools for more unstructured activities or as a reinforcer. Another therapist noted that she would recommend the stabili-t stool over the stability ball for her clients. One disadvantage noted was the potential cost of these types of alternative seating.
Figure 1. Percentage of Intervals with In-Seat Behavior.
Figure 2. Percentage of Intervals with On-Task Behavior.
DISCUSSION

The purpose of this study was to evaluate the effects of stability balls versus stabili-t stools on in-seat and on-task behavior in an academic setting. A secondary purpose was to examine the social validity of both types of alternative seating interventions for students by asking therapists and teachers to rate the interventions ease of use and perceived effectiveness. It was observed that both types of alternative seating increased in-seat behavior, which was the main dependent variable of the study. The alternative seating may have also slightly increased on-task behavior. However, further intervention for on-task behavior may be needed to show substantial improvements. When visually inspecting the data there was no differentiation of the stability ball or stabili-t stool data paths for Blaise or Alex, but Gio’s data indicated a difference between the stabili-t stool and the stability ball data paths. This shows that Gio had a higher percentage of intervals where he had in-seat behavior when he was seated on the stabili-t stool. These findings for in-seat behavior are similar to those found in Fedewa and Erwin (2011) and Krombach (2016). Both previous studies found in-seat behavior to increase when participants used a stability ball. However, this study found that on-task behavior only increased minimally and remained variable on the alternative seating, which is different from what the Fedewa and Erwin (2011) and Krombach (2016) studies found. This may have been due to the setting or the age of the children.

Data were gathered for 8 to 25 weeks of intervention. Alex had the most extended time in baseline due to high variability. It should be noted that half way through baseline, Alex began receiving the wrong dose of medication, which caused a spike in his in-seat and on-task
behavior. When he began to receive the correct dose of medication, his behavior started to show a decreasing trend. As time went on, each participant became more comfortable with each type of seating. In the beginning each participant fell off the ball at least once. As the study went on, there was less slipping off the ball and there was latency to sit on the stabili-t stool appeared to decrease. It was also noted for Gio and Alex that slipping off the ball may have been maintained by attention. Both would slip off the ball and either laugh or look at the therapist to see their reaction. When attention was minimized for falling off the ball, both Gio and Alex stopped slipping off the ball. Blaise chose both types of alternative seating equally in the choice phase. It should be noted that data were more variable in the choice phase when he choose the stability ball.

Social validity results showed that therapists/teachers preferred the stabili-t stool over the stability ball. They reported that the stability ball did not help to focus their student’s behavior or help the students to complete their work. This follows closely with Krombach (2016), as none of the therapists found the stability ball to be a socially valid intervention. The teacher and therapists did find that stabili-t stools helped to increase work completion and that they would be more feasible in the classroom. It was noted by one therapist that she would have chosen the stabili-t stool over the stability ball for her client. Another therapist noted that one disadvantage for her to continuing using these alternative seating arrangements was the cost. The cost of the balls and stools ranged from about 15 dollars to 50 dollars, depending on the height and size of the ball, as well as, the color of the stool. This may not be feasible in a large classroom where teachers have more than 10 students.

With regard to the choice phase, it should be noted that for both Gio and Alex, when they were able to pick which type of alternative seating they would prefer both in-seat and on-task
behavior increased and was at it’s highest levels across the study. This might indicate that choice is a factor that might improve both in-seat and on-task behavior. As shown in previous literature making a choice may improve behavior without other intervention (Dunlap et al., 1994; Morgan, 2006; Ward, 2005)

A few limitations to the study should be noted. The first is that there was a limited pool of participants, all of whom were male and close in age. A wider range of participants and genders would help to generalize the findings to a broader population. Also, if participants with other diagnoses, such as ADHD, were used it would also allow the research to be more generalizable. There was some disruption of the schedule due to summer sessions beginning, as well as the primary therapist for Alex being on vacation. It should also be noted, anecdotally, that therapists and teachers at times stated that the participant seemed to be more hyper during portions of the sessions. For Blaise, the speech therapist, on multiple occasions, had to hold the stability ball stable as the participant was bouncing away from the table. This example shows that antecedent manipulation can be important to managing problem behaviors when other procedures may not be feasible

Future research should examine how alternative seating can be used for other age groups and academic settings. A point of interest within this line of research would be to allow teachers to pick the types of alternative seating they prefer and evaluate in-seat behaviors when teachers choose the seating versus when students choose the type of seating. To conclude, this study provides a nice extension to the literature by comparing two types of alternative seating. Using alternative seating can be a feasible and low effort procedure for teachers to improve in-seat behavior of their students.
REFERENCES


*Surveillance Summaries, 65*(SS-3), 1-23. doi:http://dx.doi.org/10.15585/mmwr.ss6503a1


https://www.cdc.gov/ncbddd/autism/facts.html


# Appendix A: On-Task and In-Seat Data Sheet

Date: _______________ Participant Code: _______________

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>Behavior occurred</td>
</tr>
<tr>
<td>-</td>
<td>Behavior did not occur</td>
</tr>
<tr>
<td>GP</td>
<td>Gestural prompt</td>
</tr>
<tr>
<td>VP</td>
<td>Verbal Prompt</td>
</tr>
<tr>
<td>PP</td>
<td>Physical Prompt</td>
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</table>

<table>
<thead>
<tr>
<th>Interval</th>
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<th>11 – 20s</th>
<th>21 – 30s</th>
<th>31 – 40s</th>
<th>41 – 50s</th>
<th>51 – 60s</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Task Behavior</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>In-Seat Behavior</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Prompt Level</td>
<td>GP</td>
<td>VP</td>
<td>PP</td>
<td>GP</td>
<td>VP</td>
<td>PP</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Interval</th>
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<th>71 – 80s</th>
<th>81 – 90s</th>
<th>91 – 100s</th>
<th>101-110</th>
<th>111-120</th>
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</thead>
<tbody>
<tr>
<td>On-Task Behavior</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>In-Seat Behavior</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Prompt Level</td>
<td>GP</td>
<td>VP</td>
<td>PP</td>
<td>GP</td>
<td>VP</td>
<td>PP</td>
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</tbody>
</table>

<table>
<thead>
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<th>Interval</th>
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<th>131-140</th>
<th>141-150</th>
<th>151-160</th>
<th>161-170</th>
<th>171-180</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Task Behavior</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>In-Seat Behavior</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Prompt Level</td>
<td>GP</td>
<td>VP</td>
<td>PP</td>
<td>GP</td>
<td>VP</td>
<td>PP</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Interval</th>
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<th>191-200</th>
<th>201-210</th>
<th>211-220</th>
<th>221-230</th>
<th>231-240</th>
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</thead>
<tbody>
<tr>
<td>On-Task Behavior</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>In-Seat Behavior</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Prompt Level</td>
<td>GP</td>
<td>VP</td>
<td>PP</td>
<td>GP</td>
<td>VP</td>
<td>PP</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Interval</th>
<th>241-250</th>
<th>251-250</th>
<th>261-270</th>
<th>271-280</th>
<th>281-290</th>
<th>291 – 300s</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Task Behavior</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>In-Seat Behavior</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Prompt Level</td>
<td>GP</td>
<td>VP</td>
<td>PP</td>
<td>GP</td>
<td>VP</td>
<td>PP</td>
</tr>
</tbody>
</table>
Appendix B: Social Validity Questionnaire

Stability Balls in the Classroom

Please indicate to what extent you disagree or agree with the following statements. There are no right or wrong answers, only your perception of whether the stability balls had an effect on the following areas. After the statements, please feel free to include additional information below regarding your thoughts in using stability balls in the classroom. Thank you for your time!

1. Stability Balls helped my students focus on the task at hand (seat-work, listening to directions, etc.)

2. Stability Balls allowed my students to release some of their pent-up energy.

3. Stability Balls helped my students with work completion.

4. My students were able to stay "seated" longer while staying on task using the Stability Balls.

5. Students listen and pay attention more when sitting on Stability Balls.

6. I would like to use Stability Balls instead of chairs for the majority of the class day.

7. Stability Balls are great for providing the students with subtle physical activity while still allowing them to engage in work.

8. Having Stability Balls in my classroom was fairly easy to manage after students and myself got accustomed to them.

9. Stability Stools helped my students focus on the task at hand (seat-work, listening to directions, etc.)

10. Stability Stools allowed my students to release some of their pent-up energy.
11. Stabili-t Stools helped my students with work completion. 1 2 3 4 5
12. My students were able to stay “seated” longer while staying on task using the Stabili-t Stools. 1 2 3 4 5
13. Students listen and pay attention more when sitting on Stabili-t Stools. 1 2 3 4 5
14. I would like to use Stabili-t Stools instead of chairs for the majority of the class day. 1 2 3 4 5
15. Stabili-t Stools are great for providing the students with subtle physical activity while still allowing them to engage in work. 1 2 3 4 5
16. Having Stabili-t Stools in my classroom was fairly easy to manage after students and myself got accustomed to them. 1 2 3 4 5
Please take a moment to include any additional thoughts on the use of stability balls and stability stools in the classroom (Should they be used? Under what circumstances? What are the advantages and disadvantages to using them in the classroom?)
# Appendix C: Treatment Integrity Checklist

## Treatment Integrity Checklist

<table>
<thead>
<tr>
<th>Materials: Students have...</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Correct seating for trial</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Materials for task in front of them</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Procedures</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Therapist tells student to sit on correct seating</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Presents task for student to complete</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. At time of the break, therapist/teacher removes task and verbally states, “okay, you can have a break now”</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D: IRB Approval Letter

April 26, 2018

Jessica Hoofman
CFBH-Child and Family Behavioral Health
Tampa, FL 33612

RE: Expedited Approval for Initial Review
IRB#: Pro00034611
Title: Effects of Alternative Seating on Children with Disabilities

Study Approval Period: 4/26/2018 to 4/26/2019

Dear Ms. Hoofman:

On 4/26/2018, the Institutional Review Board (IRB) reviewed and APPROVED the above application and all documents contained within, including those outlined below.

Approved Item(s):
Protocol Document(s):
EFFECTS OF ALTERNATIVE SEATING Protocol.V1.4.23.18.docx

Consent/Assent Document(s)*:
Parental Informed Consent.V1.4.23.18.docx.pdf
Teacher Informed Consent.V1.4.23.18.docx.pdf
Verbal Assent Script 7-14 years old.docx (used for children who can, aged 7-12 and for those who can only do verbal aged 13-14)

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent documents are valid until the consent document is amended and approved. Verbal Assent is not a stamped form.

It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review
research through the expedited review procedure authorized by 45CFR46.110. The research proposed in this study is categorized under the following expedited review category:

(6) Collection of data from voice, video, digital, or image recordings made for research purposes.

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your study qualifies for a waiver of the requirements for the informed consent process as outlined in the federal regulations at 45CFR46.116 (d) which states that an IRB may approve a consent procedure which does not include, or which alters, some or all of the elements of informed consent, or waive the requirements to obtain informed consent provided the IRB finds and documents that (1) the research involves no more than minimal risk to the subjects; (2) the waiver or alteration will not adversely affect the rights and welfare of the subjects; (3) the research could not practically be carried out without the waiver or alteration; and (4) whenever appropriate, the subjects will be provided with additional pertinent information after participation. (For children 7 and older that cannot provide any type of assent).

Your study qualifies for a waiver of the requirements for the documentation of informed consent as outlined in the federal regulations at 45CFR46.117(c) which states that an IRB may waive the requirement for the investigator to obtain a signed consent form for some or all subjects if it finds either: (1) That the only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting from a breach of confidentiality. Each subject will be asked whether the subject wants documentation linking the subject with the research, and the subject’s wishes will govern; or (2) That the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context. (For children aged 13-14 who can only provide verbal vs. written).

Study involves children and falls under 45 CFR 46.404: Research not involving more than minimal risk.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval via an amendment. Additionally, all unanticipated problems must be reported to the USF IRB within five (5) calendar days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.
Sincerely,

Kristen Salomon, Ph.D., Vice Chairperson
USF Institutional Review Board
Appendix E: Consent Forms

Informed Consent to Participate in Research Involving Minimal Risk

Pro # 00034611

You are being asked to take part in a research study. Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or study staff to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. The nature of the study, risks, inconveniences, discomforts, and other important information about the study are listed below.

We are asking you to take part in a research study called: Effects of Alternative Seating on Children with Disabilities.

The person who is in charge of this research study is Jessica Hooftman. This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. She is being guided in this research by Dr. Crosland.

The research will be conducted at [BLANK].

Purpose of the study

The purpose of this study is to see if alternative seating will increase the amount of time a student remains in their seat and is on task.

Why are you being asked to take part?

We are asking you to take part in this research study because you are a teacher. We would like to use your classroom to conduct our research. We would like to see if alternative seating will increase the amount of time your students remain in their seats and are on task.

Study Procedures:

If you take part in this study, you will be asked to:

- Recommend students that you believe would benefit from this study.
• Recommend routines that you believe your students have difficulty remaining in seat and on
task for.
• Have your students sit on different seating arrangements. These seating arrangements will be
either a standard desk chair, a stability ball, or a stabili-t stool.
• Continue normal instruction while your student sits on the different seating arrangements.
• The research team will meet with participants during normal school/clinic hours, anywhere
between 1 and 5 days of the week. Participants will sit on the different seating arrangements
during their normal school/clinic time. The study will last approximately 8 to 25 weeks, each
session will last approximately 5 minutes in length. Multiple sessions may occur in a day.
Sessions will be based on participant response and will range between approximately 20 to 50
sessions. The research will take place at the [REDACTED] that they normally attend during their normal scheduled times.
• Fill out a survey at the conclusion of the study.

Total Number of Participants
About 20 individuals will take part in this study at USF.

Alternatives / Voluntary Participation / Withdrawal
You do not have to participate in this research study.

You should only take part in this study if you want to volunteer. You should not feel that there is any
pressure to take part in the study. You are free to participate in this research or withdraw at any time.
There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this
study. Your decision to participate or not to participate will not affect your job status, employment
record, employee evaluations, or advancement opportunities

Benefits
The potential benefits of participating in this research study include:
• A less disruptive classroom.
• Be able to give more instructional time to your students.

Risks or Discomfort
This research is considered to be minimal risk. That means that the risks associated with this study are
the same as what you face every day. There are no known additional risks to those who take part in this
study.

Compensation
You will receive no payment or other compensation for taking part in this study.

Costs
It will not cost you anything to take part in the study.
Privacy and Confidentiality

We will keep your study records private and confidential. Certain people may need to see your study records. Anyone who looks at your records must keep them confidential. These individuals include:

- The research team, including the Principal Investigator, study coordinator, and all other research staff.
- Certain government and university people who need to know more about the study, and individuals who provide oversight to ensure that we are doing the study in the right way.
- The USF Institutional Review Board (IRB) and related staff who have oversight responsibilities for this study, including staff in USF Research Integrity and Compliance.

We may publish what we learn from this study. If we do, we will not include your name. We will not publish anything that would let people know who you are.

You can get the answers to your questions, concerns, or complaints

If you have any questions, concerns or complaints about this study, or experience an unanticipated problem, call Jessica Hoofman at [redacted].

If you have questions about your rights as a participant in this study, or have complaints, concerns or issues you want to discuss with someone outside the research, call the USF IRB at (813) 974-5638 or contact by email at RSCH-IRB@usf.edu.

Consent to Take Part in this Research Study

I freely give my consent to take part in this study. I understand that by signing this form I am agreeing to take part in research. I have received a copy of this form to take with me.

Signature of Person Taking Part in Study

Date

Printed Name of Person Taking Part in Study

Statement of Person Obtaining Informed Consent

I have carefully explained to the person taking part in the study what he or she can expect from their participation. I confirm that this research subject speaks the language that was used to explain this research and is receiving an informed consent form in their primary language. This research subject has provided legally effective informed consent.

Signature of Person obtaining Informed Consent

Date

Printed Name of Person Obtaining Informed Consent

Social Behavioral

Version #3

Version Date 9/5/18

Page 3 of 4
Parental Permission for Children to Participate in Research Involving Minimal Risk
Information for parents to consider before allowing your child to take part in this research study

Pro # 00034611

The following information is being presented to help you and your child decide whether or not he/she wishes to be a part of a research study. Please read this information carefully. If you have any questions or if you do not understand the information, we encourage you to ask the researcher.

We are asking you to allow your child to take part in a research study called: Effects of Alternative Seating on Children with Disabilities

The person who is in charge of this research study is Jessica Hoofman. This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. She is being guided in this research by Dr. Crosland.

The research will be conducted at

Purpose of study:
The purpose of this study is to see if alternative seating will increase the amount of time a student remains in their seat and is on task.

Why is your child being asked to take part?
We are asking your child to take part in this research study because we believe alternative seating may help him/her in their classroom. We would like to see if alternative seating will increase the amount of time he/she remain in their seat and are on task. Your child’s teacher will be involved in choosing the seating they use.

Study Procedures:
If your child takes part in this study, s/he will be asked to:

- Researchers may ask your child questions and they may need to fill out an assent form if deemed able to.
- Sit on different seating arrangements in the classroom. These seating arrangements will be either a standard desk chair, a stability ball, or a stabil-t-stool. He/she will use these different seating
arrangements during their normal classroom time, during a routine that their teacher has recommended.

- The research team will meet with participants during normal school/clinic hours, anywhere between 1 and 5 days of the week. Participants will sit on the different seating arrangements during their normal school/clinic time. The study will last approximately 8 to 25 weeks, each session will last approximately 5 minutes in length. Multiple sessions may occur in a day. Sessions will be based on participant response and will range between approximately 20 to 50 sessions. The research will take place at the [redacted] that they normally attend during their normal scheduled times.

**Total Number of Participants**
About 20 individuals will take part in this study at USF.

**Alternatives / Voluntary Participation / Withdrawal**
If you decide not to let your child take part in this study, that is okay. Instead of being in this research study your child can choose not to participate. You should only let your child take part in this study if both of you want to. You or child should not feel that there is any pressure to take part in the study to please the study investigator or the research staff.

**If you decide not to let your child take part: Your child will not be in trouble or lose any rights he/she would normally have.**

- You child will still get the same services or health care benefits he/she would normally have.
- Your child will still receive their normal instruction time with their teacher.

You can decide after signing this informed consent form that you no longer want your child to take part in this study. We will keep you informed of any new developments which might affect your willingness to allow your child to continue to participate in the study. However, you can decide you want your child to stop taking part in the study for any reason at any time. If you decide you want your child to stop taking part in the study, tell the study staff as soon as you can.

**Benefits**
The potential benefits to your child include:

- More instructional time.
- A less disruptive classroom.

**Risks or Discomfort**
The following risks may occur:

- Falling off the stability ball or stabil-i-t stool. This should be a rare occurrence as your child will have time to become comfortable with sitting on the stability ball and stabil-i-t stool before sessions begin.
Compensation
Your child will receive no payment or other compensation for taking part in this study.

Costs
It will not cost you anything to let your child take part in the study.

Privacy and Confidentiality
We will keep your child’s study records private and confidential. Certain people may need to see your child’s study records. Anyone who looks at your child’s records must keep them confidential. These individuals include:

- The research team, including the Principal Investigator, study coordinator, and all other research staff.
- Certain government and university people who need to know more about the study, and individuals who provide oversight to ensure that we are doing the study in the right way.
- The USF Institutional Review Board (IRB) and related staff who have oversight responsibilities for this study, including staff in USF Research Integrity and Compliance.

We may publish what we learn from this study. If we do, we will not include your child’s name. We will not publish anything that would let people know who your child is.

You can get the answers to your questions, concerns, or complaints.
If you have any questions, concerns or complaints about this study, call Jessica Hoofman at [redacted].

If you have questions about your child’s rights, or have complaints, concerns or issues you want to discuss with someone outside the research, call the USF IRB at (813) 974-5638 or contact by email at RSCUSF-IRB@usf.edu.

Consent for My Child to Participate in this Research Study
I freely give my consent to let my child take part in this study. I understand that by signing this form I am agreeing to let my child take part in research. I have received a copy of this form to take with me.

Signature of Parent of the Child Taking Part in Study __________________________ Date __________

Printed Name of Parent of the Child Taking Part in Study

Statement of Person Obtaining Informed Consent
I have carefully explained to the person taking part in the study what he or she can expect from their child’s participation. I confirm that this research subject speaks the language that was used to explain this research and is receiving an informed consent form in their primary language. This research subject
has provided legally effective informed consent.

______________________________
Signature of Person Obtaining Informed Consent

______________________________
Date

______________________________
Printed Name of Person Obtaining Informed Consent
Appendix F: Permission Letter

Jessica Schneider <jschneider1@mail.ust.edu>
to Alixia >
Dr. Fedewa,

Thank you for sending your social validity questionnaire. I was wondering if it would be okay to use and adapt it for my thesis? I would be adding questions about an additional type of alternative seating.

Thank you for your time!

Fedewa, Alixia <alixia.fedewa@uky.edu>
to me >

Jessica,

Yes, absolutely! Best of luck! I look forward to seeing your publication in print!

Alicia Fedewa, Ph.D., NCSP
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Jessica Hooftman <jschneider11gmail.com>
to Alixia >
Hi Dr. Fedewa,

I reached out to you last winter about your social validity questionnaire used to assess teacher opinions about stability balls in the classroom and if I could adapt it by adding questions about additional types of alternative seating. I am hoping to publish my research in the future and would like to know if it would be alright with you, if I reprint your questionnaire in the appendix section of my manuscript?

Fedewa, Alixia

to me >

Jessica,

Yes of course it would be.

Best,

Alicia Fedewa, Ph.D., NCSP