

**THE EFFECTS OF THE GOOD BEHAVIOR GAME ON FIRST GRADE STUDENTS'
BEHAVIORS**

by

Ashley L. Bartela

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Department of Curriculum and Instruction
State University of New York at Fredonia
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Department of Curriculum and Instruction

CERTIFICATION OF THESIS/CAPSTONE PROJECT WORK

We, the undersigned, certify that this project entitled THE EFFECTS OF THE GOOD BEHAVIOR GAME ON FIRST GRADE STUDENTS' DISRUPTIVE BEHAVIOR by ASHLEY L. BARTELA, Candidate for the Degree of Master of Science in Education, Curriculum and Instruction in Inclusive Education, is acceptable in form and content and demonstrates a satisfactory knowledge of the field covered by this project.

[Redacted Signature]

Guangyu Tan, PhD.
Master's Capstone Advisor
EDU 691 Course Instructor
Department of Curriculum and Instruction

5/11/15
Date

[Redacted Signature]

Robert Dahlgren, PhD.
Department Chair
Department of Curriculum and Instruction

5/11/2015
Date

[Redacted Signature]

Dean Christine Givner, PhD.
College of Education
State University of New York at Fredonia

5/15/2015
Date

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ABSTRACT

The positive reinforcement contingencies, particularly the Good Behavior Game, have been used by teachers to improve behaviors among students within the classroom. Prior research suggests that the Good Behavior Game saves educators time in constantly administering consequences to students, and promotes both positive social behaviors and academic performance among students involved simultaneously (Tankersley, 1995). This quantitative study investigated the effectiveness of the positive reinforcement contingency, the Good Behavior Game on increasing on-task behavior and decreasing disruptive behaviors among a group of five first grade students (three girls and two boys) enrolled in an Academic Intervention Services (AIS) classroom. The researcher collected data through an ABA design, which spanned over a cumulative period of four weeks. Findings demonstrated a direct correlation between the implementation of the Good Behavior Game and on-task behaviors, as well as a significant decrease in disruptive behaviors among each of the five first grade students involved in the study.

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The Effects of the Good Behavior Game on First Grade Students' Behaviors

Introduction

The use and effectiveness of positive reinforcement within an educational setting to reduce disruptive behavior has been highly debated over recent years, especially in regards to the use of extrinsic or tangible rewards. Teachers from various disciplines and age concentrations look to positive reinforcement strategies to not only reward their students for compliance and hard work, but also to provide an anticipated outcome in which students can learn to continuously work towards. While some researchers may see the use of positive reinforcement as bribery (Deci, Koestner, & Ryan, 2001; Kohn, 1996), others view it as an effective tool to help students understand the meaning of working hard, staying on task, and in turn earning compensation for said hard work (Akin-Little, Lovett & Little, 2004). Children rely on adults, specifically parents and teachers, to show approval and confirmation of their behaviors as desirable, which in turn will then teach the children what behaviors are expected and preferred (Sigler & Aamidor, 2005). In specific regards to this study, a positive reinforcement method known as the Good Behavior Game can be used as an interdependent group contingency program, including a tangible reward system, to promote desirable and non-disruptive behavior in a classroom (Lastrapes, 2013). This study tended to answer the following research question: What effects does the use of positive reinforcement, specifically the Good Behavior Game method, have on on-task and disruptive behaviors of first graders during instruction time?

Many researchers have conducted studies that have tested the effectiveness of positive reinforcement, specifically using reward contingencies, among students in regards to improved behavior, and there is a clear consistency of behavioral improvement within intervention implementation (Moberly, Waddle & Duff, 2005; Schonewille & And, 1978; Caldarella,

Christensen, Young & Densley, 2011). While the methods used may differ, a direct connection between behavior and reward contingencies has been proved in a positive way. These studies have shown that when students are offered an incentive for their hard work and compliance, they respond well and continue the desired behaviors, as they are working toward a goal. In regards to the Good Behavior Game specifically, researchers have used variations of the game to focus on improving desired behaviors and decreasing disruptive behaviors (Lannie & McCurdy, 2007; Lastrapes, 2014; Tankersley, 1995). These studies have used reward contingencies paired with other reinforcement techniques such as forms of praise and opportunities to respond (Ruiz-Olivares, Pino & Herruzo, 2010; Babyak, Luze & Kamps, 2000). Researchers have also used this method as whole group and small group implementation (Tankersley, 1995; Ruiz-Olivares et al., 2010; Tiano, Fortson, McNeil & Humphreys, 2005; Babyak et al., 2000; Lannie & McCurdy, 2007). Each study has shown significant improvement among the specific targeted behaviors that the students and teacher chose together. While the increased desired behaviors were consistent during intervention periods, when the reward contingency was taken away for many of the studies the appropriate behavior consistently decreased, proving that the students respond best when given a consistent goal of a reward for their compliance (Lannie & McCurdy, 2007; Lastrapes, 2014; Tankersley, 1995).

While reviewing relevant literature to the topic of this specific study, the researcher has discovered that the majority of the research in regards to early childhood students and positive reinforcement focused on the use of praise as well as tangible rewards (Akin-Little et al., 2004; Duncan, Kemple & Smith, 2000; Moberly, Waddle & Duff, 2005). But, the researcher had not discovered a strong research base in the use of the Good Behavior Game specifically with young children. The researcher was interested in exploring the effects of the use of the Game in regards

to students being able to essentially take control and responsibility of their own behavior. The researcher pursued this specific aspect of positive reinforcement because she believed that the early childhood realm (specifically first grade for this study) of education was underrepresented not only in positive reinforcement research in general, but especially with the use of the Good Behavior Game. Also, this study focused on small groups of students, rather than whole group, which allowed the young students to work closely with a group in order to reach communal behavioral goals.

The study that the researcher conducted gave insight into how the Good Behavior Game affected early childhood students, specifically first graders, while also giving insight into how the students responded to the positive reinforcement method within a small-group instruction, rather than the whole class. While the study of positive reinforcement on behavior has been widely researched and debated, the researcher believed that this study provided vital information on whether or not early childhood students are capable of handling the responsibility of their own behavior within the game, targeting their own disruptive behaviors and finally improving on those behaviors while playing a continuous game that helps them to work towards a common goal and reward. This study helped to improve practice because based on the results of this study, educators can feel confident about implementing this strategy within their classrooms, regardless of the age range of students. One main concern may be that the teachers do not want to stress the younger students out by placing responsibility on them for their behaviors, but the hypothesis of this current study is that the students are not only capable of taking responsibility of their own behaviors, but also enjoy it and improve their behavior in a positive and interactive way.

The purpose of this experimental study was to examine how the use of the positive reinforcement contingency, the Good Behavior Game, may effect on-task and disruptive behaviors during instruction in a first grade AIS (Academic Intervention Services) classroom. The Good Behavior Game is briefly defined as, “a classroom behavior management technique based on reinforces natural to the classroom, other than teacher attention.” (Barrish, Saunders, & Wolf, 1969. p. 119). The independent variable, positive reinforcement will be defined as, the act of identifying and encouraging acceptable and appropriate behaviors so that the desired behaviors will increase (Sigler & Aamidor, 2005. p. 249).

There are two dependent variables within this study, being on-task behavior and disruptive behavior. On-task behavior is known as an activity that complied with instructions given by the teacher (Moore, Anderson, Glassenbury, Lang & Didden, 2013). Disruptive behavior, is “behavior that requires intervention and attention that detracts from the classroom instruction as a unit” (Lastrapes, 2014. p. 226). It was hypothesized that disruptive behavior would decrease while on-task behavior would increase with the implementation of the positive reinforcement method, the Good Behavior Game.

Literature Review

The use of positive reinforcement within an educational setting is a tool used by many teachers in order to encourage students to work towards positive goals within instruction and behavioral management. Researchers believe that positive reinforcement can be used as an effective tool to help students comprehend and accept the meaning of staying focused and on task within instruction and desired behaviors (Akin-Little, Lovett & Little, 2004). Throughout this literature review, positive reinforcement will be discussed in terms of a) the use of positive

reinforcement, b) rewarding behavior and c) the Good Behavior Game. The Good Behavior Game is known as a group contingency positive reinforcement method that has a history of documented empirical support (Wright & McCurdy, 2012). Positive reinforcement, and specifically the Good Behavior Game, can be used in educational settings to offer support to teachers who aim to motivate and encourage students both instructionally and behaviorally.

The Use of Positive Reinforcement

Positive reinforcement is known as a method of acknowledging acceptable and appropriate behaviors to students. Specifically, it is the act of encouraging a specific behavior in order to increase and continue that desired behavior (Sigler & Aamidor, 2005). The main focus of this reinforcement method is to provide a pleasant or desirable stimulus that want to be continued by the student. There are four key elements of successful positive reinforcement, including: (a) increasing a desired behavior, (b)“extinction burst”, (c) identifying quickly attainable reinforcers and (d) ignoring unwanted behaviors (Sigler & Aamidor, 2005).

In regards to the first key element labeled, it is very important that adults acknowledge to students that they have a sincere understanding that each undesired behavior has a directly opposing desirable behavior, and in turn needs to be expressed to each student. “Extinction burst”, which is the second key element of successful positive reinforcement, is known as the rapid production of a certain behavior after the specified reinforcement is taken away (Sigler & Aamidor, 2005). Thirdly, according to authors Sigler and Aamidor, it is important to identify easily attainable reinforcers, which may not be tangible rewards, but rather merely showing interest in what the student may be doing. Finally, ignoring unwanted behaviors is essential because by doing so, you are not giving any additional attention to the children when they

behave in a way that is undesired, which will then result in a decrease in future reoccurrence (Sigler & Aamidor, 2005).

The question that often arises about positive reinforcement and the use of extrinsic rewards is whether or not this is considered as a form of bribery. According to Duncan, Kemple and Smith (2000), bribery actually refers to the use of rewards or favors to corrupt or change the actual conduct of someone. Rather than viewing positive reinforcement and tangible rewards as “bribery”, instead it may be viewed as rewarding a behavior that the student has made an effort to exude, that is considered desirable or on task.

Rewarding Behavior

In this section of my literature review, I will be discussing the specific type of positive reinforcement that I will be focusing on and using within my study. The use of extrinsic, or tangible, rewards to reinforce a desirable behavior refers to the idea that the actual behavior is controlled by stimuli separate to the task (Akin-Little et al., 2004). This type of reward may also include incentives or events that are privileged to students due to compliance and portraying desired behaviors. Tangible rewards are directly related to extrinsic motivation among students, which is a behavior controlled by stimuli external to the task or efficacy of the student (Akin-Little et al., 2004). Previous research has indicated that extrinsic rewards undermine intrinsic value within a student due to student expectation and acting as a controlling tactic (Deci, Koestner & Ryan, 2001), which may hinder educators from using this reinforcement and motivational method.

Lepper, Corpus and Iyengar (2005) investigated the effects of age differences in regards to intrinsic and extrinsic motivations and how they affect academic outcomes. This study included 797 students ranging from third grade to ninth grade. Students were chosen from two

public school districts in the San Francisco Bay area of California. The researchers administered a questionnaire to students including individual questions pertaining to intrinsic/extrinsic motivations and demographic questions. Students answered questions related to a 5-point scale, small to large check boxes (Lepper et al., 2005). Classrooms were assisted by one of seven questionnaire administrators. The process lasted approximately 30 minutes per classroom.

The data were collected and results showed that as the age of student's increased, intrinsic motivation decreased due to social desirability within school. Data proved that there is a significant correlation between intrinsic motivation in overall grade point average and standardized tests. Extrinsic motivation had a correlation with grade point average as well, but in this case negatively. Lepper et al. (2005) concluded that intrinsic and extrinsic motivational/reinforcement methods can coexist within a classroom.

While the use of praise is a specific strategy that has been proven to be effective for addressing problem behaviors in elementary schools (Caldarella, Christensen, Young & Densley, 2011), this study transforms praise into an extrinsic, tangible reward in the form of note cards. Caldarella, Christensen, Young and Densley (2011) conducted a study that investigated the effects of administering a "praise-note" system to decrease tardiness which resulted in classroom disruption. This was a school-wide positive reinforcement method, and teachers were asked to complete three tasks while implementing the intervention. These tasks included: (a) select a student with moderate to severe tardiness; (b) write a praise note with a comment directed at being on time when the student arrived on time and (c) give as little attention to the student as possible if he or she arrived late. The two types of data collected were the number of minutes students were late each day and the amount of praise notes written by teachers. Baseline data were collected for a total of two weeks, and then the praise-note strategy was administered.

Caldarella et al. (2011) found that there indeed was a direct correlation with an average of one praise note per week significantly improving the tardiness rate. Specifically, three moderately tardy students received an average of 1.09 praise notes per week and the total minutes late per week decreased by 78% from baseline to the treatment phases. Also, for three severely tardy students the average amount of praise notes administered per week was .089 and the total minutes late per week decreased by 84%.

In relation, Martens, Bradley and Eckert (1997) investigated the effects of three reinforcement histories, one specifically containing an instructional control component, on the ongoing existence of task engagement by two fourth-grade students, Trevor and Roger. Within this study, the researchers conducted an ABCDBC design, and administered reinforcement history construed as four “experimenter-student” contacts which were delivered during the first two minutes of each session, which acted as reinforcement baselines (Martens et al., 1997). The two participants chosen were said to be off task for the majority of independent work time within the classroom. The researchers conducted a baseline sequence, a praise-only sequence, a praise-redirect sequence, and a praise and positive attention sequence (Martens et al., 1997). Each sequence consisted of 2 minutes with 30 second intervals of experimenter-student contact, followed by an 8 minute sequence of extinction.

The results of this study found that both of the student participants’ engagement increased during the praise-only sequence. Trevor’s engagement during the praise only sequence increased from 22.1% to 87.5% and Roger’s engagement increased from, 56.3% to 79.1% (Martens, 1997). In addition, Trevor’s engagement level remained high throughout each experimental condition, but Roger strived during the praise-redirect condition and his engagement level was the highest during this phase. Both of the students reportedly received

their highest engagement levels during the praise-redirect phase (Martens, 1997). The results of this study showed that the praise-redirect method proves more successful than using only praise, or using praise and positive attention. By redirecting the student when needed and praising desired behaviors when complied, the student knows exactly what is expected of him or her.

As the previous study focused on the use of praise not being as substantial and effective as using another motivational method to support it, Moberly, Waddle and Duff (2005) conducted a study that investigated the different preferred methods of positive reinforcement, including praise and the use of extrinsic rewards among PreK to grade three teachers in Missouri public schools. Extrinsic rewards used in the study included stickers, candy, soda and the like. This study implemented the use of a survey method, which was sent to at random to 374 Missouri public school teachers. Reportedly, only 124 surveys were returned and completed. This survey included five items directed at motivational strategies and classroom management strategies. The questionnaire required the teachers to rate the questions from “most” to “least important” (Moberly et al., 2005).

The results of the study showed that of the 124 educators, 98% claimed extrinsic rewards as the most effective incentive. Fifty percent also credited verbal and nonverbal praise and/or recognition as effective motivation techniques (Moberly et al., 2005). In terms of overall student behavior within the classroom, 79% educators responded that the instructional practices of the teacher possess the main positive influence on student behavior (Moberly et al., 2005).

Regardless, it is noted that the majority of these educators still chose to use extrinsic rewards as motivation and punishment within their classrooms. Although the instruction of the teacher is said to be believed as more impactful within this study, the teachers surveyed would rather buy and distribute their own tangible incentives as the main motivators for success and behavior

within their classrooms. According to Moberly et al. (2005), while praise and recognition also proved as an effective method, the use of extrinsic motivators maintained regardless.

Schonewille, Martin and Winne (1978) conducted a study which assessed the effects of a short-term negative reinforcement versus a short-term positive reinforcement system on decreasing disruptive behaviors among two groups of students. The students were specifically in the sixth and seventh grades, and were grouped based on student performance on a teacher-made test solving arithmetic problems, which consisted of six seventh grade students (three boys and three girls) and 16 sixth-grade students (eight boys and eight girls). The behaviors that were focused on consisted of verbal, out of seat and disruptive behaviors within the classroom and instruction (Schonewille et al., 1978). The design of the study included six total phases, baseline 1 (five sessions), intervention 1 (class discussion – nine sessions), intervention 2 (punishment contingency – eight sessions), reversal to intervention 3 (positive reinforcement contingency – eight sessions), reversal to intervention 2 (eight sessions) and lastly baseline 2 (eight sessions). Each session consisted of a 35 minute mathematics lesson (Schonewille et al., 1978).

Within this study, the researchers used a short term positive reinforcement contingency, which consisted of merit points awarded to the group for successful intervals observed in which none of the students partook in the target off task behaviors. The study also included a long-term reinforcement contingency program, which was chosen by the students as the elimination of homework for every second session that the desired behavior was met (Schonewille et al., 1978). The observation and recording procedures consisted of schedule 1 and 2, as well as teacher observations. Schedule 1 focused on off-task behaviors, in which an independent observer recorded each occurrence of all off task behaviors throughout the entire study. Schedule 2 focused on on-and-off task behaviors, a second independent observer recorded the on and off

task behaviors of the students involved, to identify unintended effects as a result of the contingency systems. Also, the teacher involved observed and recorded the frequency of the target off-task behaviors and whether the students achieved the contingent event (Schonewille et al., 1978).

The results of this study found that the students were very successful at meeting the predetermined conditions in every instance, thus the long-term reinforcer, which was the elimination of homework for every second session when the conditions of the contingency system were met, was effective. Comparing to baseline 1, the occurrences of all verbal responses and out of seat behavior frequencies were reduced significantly in baseline 3. The contingency procedures affected the percentage of on-and-off task behavior positively, increasing on-task behavior of roughly 5%. The short-term reinforcement procedures proved to be significantly more effective in reducing verbal response frequencies. While both short term reinforcement and punishment contingencies were equally effective for reducing verbal response frequencies, informal teacher observations and informal student interviews found that students preferred the short term reinforcement contingencies, as well as felt the atmosphere was more “positive” and enjoyable. As for the whole group, the short-term reinforcement contingency proved very successful, as the students did not engage in off-task behaviors for roughly 20 minutes, which is an improvement from the baseline 1 data (Schonewille et al., 1978).

Ingarvarsson, Hanley and Welter (2009) also investigated the use of positive reinforcement, but as a treatment of escape-maintained behavior within their study. The researchers used three children who were involved in a university based preschool program, and had a history of demand-related disruptive behavior and displayed high rates of such behavior (Ingarvarsson et al., 2009). The specific demand-related behaviors that were to be focused on

within this study were divided into three separate categories, (a) aggression, (b) motor disruptions and (c) vocal interruptions. Ingarvarsson et al. (2009) conducted this study through sessions every week day that the children were present at the preschool center. Students Erika and Jason's sessions lasted roughly 10 minutes, with two to three sessions per day and Mark's sessions lasted five minutes and engaged in three to four sessions per day (Ingarvarsson et al., 2009).

Before the reinforcement contingencies were used, the researchers developed a baseline of data through preliminary observations. The researchers conducted five to 10 observations, 10 minutes each in duration per participant, and were conducted over a span of two to four days. Then, the demands that were being most used by the teacher were given to the students continuously through a three step approach, least to most prompting for a duration of 10 minutes. A functional analysis was then conducted using both an escape and control approach. During the escape section, the researchers used vocal instruction of demands, a model prompt and finally physical guidance. During the control aspect, the researchers made preferred toys available and the therapist gave the participants non-contingent attention every 30 seconds, in which no instruction or behavioral demands were given (Ingarvarsson et al., 2009). This section of the study found that each participant preferred edible rewards. The functional analysis concluded that the disruptive behavior of all of the participants was maintained by escape from demand and percent compliance was low during this phase (Ingarvarsson et al., 2009).

Ingarvarsson et al. (2009) then conducted a second experiment, in which the researchers wanted to evaluate the effects of different densities of positive reinforcement on compliance and escape-maintained disruptive behavior. Ingarvarsson et al. (2009) used a low density and high density condition. The low density condition was the same as the escaped condition, but an

edible was delivered to the student after each task completion after vocal instruction. The high density condition was exactly the same, with the difference of edibles being given to the students for compliance regardless of the type of prompt. The results found that for Erika specifically, disruptive behavior were reduced considerably across both densities, but both densities had no differences. Mark's results showed a slight, consistent decrease in disruptive behavior with both densities. Also, Jason's compliance increased with both conditions, but no significant decrease in disruptive behavior (Igarvarsson et al., 2009). Treatment was then withdrawn, and the escape baseline was reenacted with all participants. Erika's disruptive behavior increased drastically, as it was gradual for Mark. Jason's disruptive responding was not affected, and a gradual decrease in compliance was measured for all participants. There was no difference shown between the two densities as each was equally effective (Igarvarsson et al., 2009).

In regards to positive reinforcement used in an early childhood real specifically, Tiano, Fortson, McNeil and Humphreys (2005) conducted a study that was focused in a Head Start classroom, which investigated the efficacy of the respond cost reward system, and the Level System, also referred to as the token economy. The teacher's current management techniques were taken into consideration as well. The researchers focused on managing classroom behavior specifically, using these extrinsic measures (Tiano et al., 2005). It was hypothesized that the specified target children would engage in less inappropriate behaviors with the reinforcement contingencies implemented and that the teacher would use fewer praise statements.

The participants of this study included three children between ages 3 and 5 years old, enrolled in the Head Start program. These students were chosen by the teachers for exhibiting disruptive behavior. Baseline data were collected and the study included a single subject withdrawal design (ABACA) the teacher implemented. The data were consistent with the

hypotheses stated in the study, and the behaviors were evaluated through behavioral observation and teacher report, for 20 minute periods occurring three times per week. Within this study, the response cost program consisted of a board with four separate levels, with “sunny” and “cloudy” zones. The teacher first gave a verbal warning, and if the disruptive behavior continued, the student’s specified shape was moved down the board. At specific times during the school day, children would receive an extrinsic reward. The Level System focused on pro and anti-social behavior, and focused purely on social reinforcement, including praise (Tiano et al., 2005).

The results found a consistent and significant decrease in disruptive behaviors, through the use of both contingencies for each of the three children. The level of inappropriate behavior did not plummet back to baseline level during the withdrawal period. Ruby’s behavioral scores increased from the disruptive range to the baseline range, Mitch’s behavior increased from the baseline range to the typical range, and Damon’s behavior began at the disruptive range, but was not given a post-treatment assessment due to his withdrawal from the Head start Program. The results of this specific study confirm the hypotheses given at the beginning of the study, as the reinforcement contingencies truly succeeded in decreasing disruptive behavior, rather than hindering the students’ experience.

Baer and And (1992) conducted an investigation that was also specifically focused on the early childhood domain of education. This study investigated the responses of preschoolers and first graders in the natural classroom setting in regards to behavior while focusing on the efficacy of self-selection and experimenter selection of rewards in promoting positive academic and social behavior. The participants consisted of two students, Aaron (aged 2.5 years old) and Abe (3 years old), who a private preschool program. The target behaviors being observed were (a)

hand-raising (Aaron) and peer-directed talk (Abe). Each student was observed for 15 minutes daily (Baer & And, 1992). No rewards were distributed during the baseline of this study.

First the experimenter-selection reward system was implemented for both students, which included event rewards such as piggyback rides and group rewards (stickers). The students were to be rewarded by a material of the experimenter's choice if they complied with their chosen behaviors throughout the day. Then, the self-selection was implemented, which followed the same guidelines as the experimenter-selection option, only the student was able to choose their specified reward (Baer & And, 1992).

During the baseline results, Abe was raising his hand less than 10% of the opportunities given to him. His behavior increased when the experimenter-selection option was implemented, but actually decreased again during the self-selection reward contingency. For Abe however, there was a drastic increase in his specified activity during the experimenter-selection condition and while the self-selection condition proved higher results than when the student returned to baseline, the increase was not as great as it was with experimenter-selection (Baer & And, 1992). The results concluded that for this age of students, the experimenter-selection condition proved to be more effective for modifying behavior, than the use of self-selection with the same rewards available.

In relation to the previous study in terms of using positive reinforcement methods within the early childhood domain of education, Duda, Dunlap, Fox, Lentini, and Clarke (2004) conducted a study that focused a Positive Behavior Support in an early childhood classroom, specifically focusing on two 3 year old students. A Positive Behavior Support is a form of positive reinforcement that can be applied at three different levels in schools, including (a) school, (b) classroom and (c) specified students (Hieneman, Dunlap, & Kincaid, 2005).

Classroom based PBS systems enhance the overall atmosphere and actual functioning of the classroom, increase engagement and diminish or minimize disruptive behavior. This system is specified for a student when the regular reinforcement methods prove unsuccessful for them (Hieneman et al., 2005).

Duda et al., (2004) focused their study on the effects of a positive behavior support in a community preschool program, specifically two, three year old girl students. Vanessa struggled with peer interactions and tried very hard to be avoided, while Layla often engaged in disruptive behaviors and distracted the other students in the classroom. The study used an ABAB design, and interventions within this study ranged from 10 to 20 minutes. The intervention components used within this study include (a) changes to group activity, (b) specific supports for Vanessa and Layla, which included increasing opportunities to respond and child-directed specific praise, (c) supports for Vanessa (preferential seating) and (d) supports for Layla (transition to group with peer). The first A and B options consisted of developing baseline data for the two students (Duda et al., 2004). The first intervention stage was the first B phase was implemented, until the students were comfortable and stability was achieved. Then, it was withdrawn, and reintroduced once again until stability was reached again (Duda et al., 2004).

The results of this positive reinforcement intervention program proved both students to increase in levels of engagement and lower rates of problem behaviors consistently. Also, the percentage of the intervals used within the study (ABAB) remained at an increased level with withdrawal, and was consistently higher than the data showed for the initial baseline phases (Heineman et al., 2005).

The Good Behavior Game

Throughout this section of my literature review, I will be providing information on the positive reinforcement program, The Good Behavior Game, which is what I will be using within my own study. While this contingency uses the act of providing rewards for desirable behavior as covered in the previous section, this section will focus on how the Good Behavior Game specifically has been used and results constructed from the various studies discussed. The Good Behavior Game was originally introduced in 1969 and has been used successfully in various educational settings (Tingstrom et al., 2006). The Good Behavior Game is an empirically based strategy and an interdependent group technique that was essentially created to promote pro-social behaviors within the classroom setting (Lastrapes, 2013). Also, The Good Behavior Game is actually recommended by the Surgeon General as a Promising Program for prevention of youth violence (U.S. Department of Health and Human Services, 2001). This positive reinforcement program can be altered to fit the needs and abilities of different students while also specifically addressing problem or disruptive behaviors among students (Lastrapes, 2013). By using this reinforcement program, the teacher can remove the responsibility of behavior correction from themselves and place it on the students as they will be self-recognizing and self-correcting, in a positive and interactive way (Lastrapes, 2013). There are many positive aspects of this positive reinforcement program for educators, including that through experience with the Good Behavior Game, students may establish a mindset of appropriate behaviors and rule following before entering school, if implemented in the early childhood domain (Beard, 2011). Also, there is the factor that group-oriented contingencies, such as the Game, are practical to be implemented in settings such as classroom, because it saves educators time in constantly administering

consequences as well as facilitates both positive social and academic behaviors among all group members simultaneously (Tankersley, 1995).

In a study conducted by Lannie and McCurdy (2007), the researchers studied the effects of the Good Behavior Game on student and teacher behavior. Within this study, it was hypothesized that disruptive behavior would decrease while on-task behavior would increase with implementation of the Game (Lannie & McCurdy, 2007). The setting of this study was a first grade general education classroom within an urban elementary school in the North-eastern U.S. The dependent measures of this study were student on-task and disruptive behaviors and teacher response statements. The participants consisted of 22 students, 11 being female and 11 being male (Lannie & McCurdy, 2007).

Lannie and McCurdy (2007) used an ABAB withdrawal design. There was a primary assessment given, which was a reinforce survey distributed to the student participants, before the study actually began. Then, the researchers developed baseline data on on-task and disruptive behaviors and teacher response statements during a 30-minute math period. Then, the teacher was trained in the procedures of implementation of the Game. The Game was then implemented throughout instruction, once daily for 30 minutes. There was a 10 minute observation that was conducted at various times throughout the 30 minute instruction period. The class was divided into four teams and the teacher placed a recording sheet on the bulletin board and a large envelope containing the numerical criterion for the instructional period. The actual criterion was a mystery to the students, and during each disruptive behavior the teacher made a tick mark on the recording sheet under the appropriate team. The teacher would then announce the winning teams and recorded each team's tick marks on a weekly chart, which is posted in the classroom. Also, in addition to daily rewards – the students earned a weekly reward (Lannie & McCurdy,

2007). Feedback was then given, following the first three sessions of the Game. The experimenter actually provided the teacher with feedback of implementation, which followed an integrity checklist.

Data were collected and the results displayed an increase in on-task behavior and a decrease in disruptive behavior. During the withdrawal phase, a level change was detected for both on task and disruptive behaviors, but increased again once the Game was implemented again. Also, teacher observations showed a small change for teacher positive statements. Praise did not exceed two statements and actually remained at zero for 14 sessions, even though student behavior was improving (Lannie & McCurdy, 2007).

Babyak, Luze, Gayle and Kamps (2000) conducted a study that included the Good Student Game, which was a modification of the Good Behavior Game, as positive motivational classroom management tool designed to keep elementary students on task. The motivational method is used in a game format. The teacher sets goals and positive reinforcers to use based on observation. The teacher determines group or individual monitoring to be used within the game (Babyak et al., 2000). Participants in this study include three elementary teachers, located in an urban Midwestern school district. Data of student behaviors were collected through observational consultant visits using time sampling. Observations lasted 10 to 30 minutes (Babyak et al., 2000).

Teacher 1 used individual monitoring; Teacher 2 used both individual and group monitoring and Teacher 3 used only group monitoring (Babyak et al., 2000). Baseline data resulted in students remaining quiet in their seats 56% of time which increased to 88%. Satisfaction questionnaires resulted in 94% of teachers agreeing the game helped student's complete work and remain on task. Seventy five percent of students enjoyed monitoring their

own behavior and 38% preferred peer monitoring. One hundred percent of students enjoyed the reward system (Babyak et al., 2000).

In a study that combined both the Good Behavior Game as well as Say-Do-Report correspondence, Ruiz-Olivares, Pino and Herruzo (2010) conducted research on the effects of combining these two reinforcement contingencies on disruptive behaviors of students within the classroom. The study took place in Southwester Andalusia (Spain) in a small, rural school. The participants consisted of 15 children (10 girls; five boys) aged 6 or 7 years old. The intervention focused on specific behaviors, including (a) standing up without permission, (b) shouting, (c) interrupting, and (d) fighting. The behaviors were numbered as behavior 1 through behavior 4.

Olivares et al. (2010) conducted a multiple baseline design, in which over the course of six school days, the frequency of the disruptive behaviors specified were recorded in 10 minute increments. The student's baseline was assessed with both Teacher 1 (lessons with the form tutor) and Teacher 2 (lessons with a teacher other than the form tutor). As the Game was implemented, four of five game sessions were conducted per day. In order to win a Game, the students were not allowed to accumulate more than four crosses, or commit four of the disruptive behaviors (Olivares et al., 2010). Every time a team won a game, they were given a material reinforcement (food, marbles, balloons, paper clips, etc.). Also, at the end of the day if a team had lost one game or less, the students received medium-sized extrinsic reinforcement (Olivares et al., 2010). Alongside this game, the researches implemented the Say-Do-Report, which promotes a correspondence between what is said and done to ensure that the students fully understand what is expected of them (Olivares et al., 2010). This was implemented by asking each team what they were going to do, with social reinforcements provided if the good behavior was acted out. Then, at the end of each game, the teacher implemented the Say-Not-Do-Report,

which allowed students to evaluate what they said they were going to do, and if they did it or not (Olivares et al., 2010).

The withdrawal intervention was implemented and the number of times the game was played decreased as well as material reinforcements. Data were collected and the results found that the average number of disruptive behaviors by students committed per hour was reduced drastically during the implementation of the Game as well as the Say-Do-Report, with both Teacher 1 and 2. Also, with the withdrawal of the materials and occurrence of both reinforcement contingencies, the reduction of disruptive behaviors remained.

In an additional study that used the Good Behavior Game, Fishbein and Wasik (1981) implemented the positive reinforcement contingency in a library setting, in order to improve disruptive behaviors among an elementary class during a weekly library class. The participants within this study included 25 fourth grade students from a suburban North Carolina elementary school. These students were referred to the school psychologist as being very disruptive during instruction (Fishbein & Wasik, 1981). The researchers used three separate systems of observation, which included: a) task relevant behavior, b) off-task behavior and c) disruptive behavior. The initial observer, which was the school psychologist, conducted interval observations consisting of two minutes long increments, which served as the baseline data (Fishbein & Wasik, 1981). Then, the librarian introduced good behavior game to the participants, and explained that the main goal was to improve disruptive behaviors. During the weekly class, the librarian would award team points continuously to those behaving accordingly, and in order to win each team would have to win three out of four possible points (Fishbein & Wasik, 1981).

This study used an ABAB procedure and included four separate phases, in which the baseline data were collected, the reward contingency was implemented, withdrawn and implemented again. The baseline data of students engaging in task relevant behavior was 73%, off task behavior averaged at 9% and disruptive behaviors were recorded as an average of 18%. After the experiment was implemented and completed, the results found that within the first intervention task-relevant behaviors increased an average of 21%, off-task behaviors decreased by 5.7% and disruptive behaviors decreased by 16% (Fishbein & Wasik, 1981). Once the intervention was removed, the researchers stated that the behaviors begin to conform back to those of the baseline data, which lasted for two weeks. Then, the intervention was reinstated, and the behavior rates returned to those documented within the first intervention. This study ultimately found that the reinforcement contingency, the good behavior game, improved disruptive behaviors among these particular student participants (Fishbein & Wasik, 1981).

While a study conducted by Kellam, Mackenzie, Brown, Poduske, Wang, Petras and Wilcox (2011) also uses the good behavior game as a reinforcement method, additionally this study focuses on a group of students in first and second grade, and follows up with them when they are ages 19-21. The participants consisted of 41 classes in 19 different schools in precisely five areas of Baltimore, Maryland. All of the students who were used as participants were of low to lower middle economic status (Kellam et al., 2011). Within this study, there were two large groups of participants tested, which began in first grade in 1985. Then, the good behavior game followed these same students into their second grade classrooms. The main behaviors being measured within this study were the students' abilities to respond to social demands within the classroom setting, disruptive behaviors and aggressive behaviors (Kellam et al., 2011).

The next stage of this study was the follow-up stage, where the researchers contacted the same students once they reached ages 19-21 and conducted a 90 minute phone interview which consisted of questions about social status, school, work, relationships, family and peer social situations (Kellam et al., 2011). The results of this study found that the Good Behavior Game reduced aggressive and disruptive behavior in elementary school classrooms. As young adults, the students reported lower rates in each and every topic asked, in comparison to a standard classroom that did not implement the good behavior game. The adults were less aggressive, had a lower rate of drug abuse, and a lower rate of criminal behavior (Kellam et al., 2011).

In summary, various studies provided within this literature review prove the success rates of the use of positive reinforcement reward methods among students within a classroom setting. While some theorists have actually cautioned against the use of rewards, researchers concluded that little detrimental effect, if any, is found with external positive reinforcement (Akin-Little et al., 2004). The purpose of this literature review specifically was to examine the effects of positive reinforcement on student behavior, focusing on external rewards in order to promote and enhance positive behavior and decrease disruptive behavior.

Within this review, the researcher has found that positive reinforcement methods are broken down specifically into four important elements, including: a) increasing a desired behavior, (b) “extinction burst”, (c) identifying quickly attainable reinforcers and (d) ignoring unwanted behaviors (Sigler & Aamidor, 2005), which were proven to be utilized within many of the studies that I have reviewed. While reinforcement methods are implemented to encourage a desired behavior through providing a directly correlated positive stimulus (Sigler & Aamidor, 2005), the researcher has also discovered that it in turn transforms the entire classroom

environment and enhances the learning opportunities for all of the students involved, whether they are exhibiting disruptive behaviors or not.

Specifically focusing on the Good Behavior Game, which is a positive reinforcement program that was utilized within this study, is where the researcher truly discovered the deficit in literature within the overall topic. Therefore, childhood students, specifically first grade students, respond to the game, as it puts the main responsibility of behavior and consequence on the actual students, rather than the instructor. Also, the students that the researcher focused on were placed in an AIS classroom, for individualized instruction based on their present reading abilities. Therefore, they played the Game in a small group, where they not only had to pay attention to their individual behavior but also encourage others to behave desirably as well. The researcher believed that this proposed study provided concrete evidence of either the success or failure of decreasing disruptive behavior during instruction in students within the early childhood domain of education, while encouraging responsibility of behaviors among the students involved.

Method

Setting and Participants

The study was conducted in an AIS classroom, which focuses on reading, of an elementary school in a small urban area in the Western New York region. The school is comprised of 247 students in grades K to 5. Of the total population of students within the school, approximately 64% of students receive free or reduced lunch and achievement test scores from 2014 state that 21% of the students are proficient in literacy, while 33% are proficient in mathematics (greatschools.org). Throughout the AIS program within this school, students from grades K through 5 are pulled out from their general educational instruction to focus on

difficulties within either reading or math, in small groups ranging from four to six students. Among this population, the particular group that the researcher focused on within this study was a small group of first grade students, who receive individualized instruction for their present reading abilities and levels. The group consisted of five, first grade students (three boys and two girls), ranging between ages six and seven years old, and were selected by convenience sampling due to the fact that the cooperating teacher believed that collectively they needed help with disruptive behavior management.

Measurement of Behavior

The independent variable within this study was the positive reinforcement used, namely the Good Behavior Game. The dependent variables of this study included disruptive behaviors among students during instruction and staying on task behaviors. Disruptive behaviors were identified as interrupting instruction time specifically through verbal actions (e.g., shouting out, name calling, talking to other students) and physical actions (e.g., getting out of their seat, playing with objects, touching another student). The disruptive behaviors focused on within this class were grouped together, into general actions that would normally result in a disciplinary reinforcement of any kind by the classroom teacher. In turn, by staying on task, students paid attention to the instruction given while being respectful, following directions, and completing assigned work. Both on task behaviors as well as disruptive behaviors were measured through partial interval recording. While implementing partial interval recording within this study, each student was observed based on their behavior for a total of 15 seconds, in a rotating manner for 10 minute increments. This allowed the researcher to focus on one student within the group multiple times, for a very short period of time in order to correctly depict their general behavior, whether on task or disruptive.

Experimental Design

The study utilized an ABA design. By utilizing this type of experimental design, the researcher was able to initiate phase changes throughout the study which confirmed either the effectiveness or non-effectiveness of the positive reinforcement intervention, which was the Good Behavior Game for a total of four weeks. The researcher conducted the study for a total of 12 days, and stayed for the duration of the class period per session, which was 30 minutes long. The baseline phase consisted of one week (three sessions), the intervention phase consisted of two weeks (six sessions), and the withdrawal phase had a duration of one week (three sessions), resulting in a 1-2-1 time design. The students behavior (both on task and disruptive) were observed and recorded throughout each phase change, starting with no intervention given, the implementation of the intervention and the withdrawal of the intervention.

Materials

Classroom Observations. Materials needed for the observations done within this study included interval recording sheets, which are sectioned into 15 second interval sections per each (five) student. Then, the sections were charted by disruptive behavior or on-task behaviors and tallies were given in the appropriate sections for each child during the partial interval recording. Also, a timed out recording of cues every 15 seconds were included, as well as ear buds so that the observer could do this task silently and effectively. The researcher only wore one ear bud during the partial interval recording in order to hear verbal disruptive behaviors as well.

Self-Recording Sheets. Students monitored their own disruptive behaviors throughout the two weeks (six sessions) of the intervention phase. The self-recording sheets were sectioned into three separate days, Wednesday, Thursday and Friday, with four blank spaces per day for

the first week. Then, for the second week of the intervention, the students only received three empty spaces. The empty spaces on the sheet were where the students recorded their allotted disruptive behaviors per session.

Training of the Good Behavior Game. A detailed informational description of the Game was given to the classroom teacher, as well as a general, age appropriate explanation of the Game in which she explained to the students within the small group. This general outline included the procedures of the Game, rules and guidelines, examples of tangible rewards given, and appropriate behaviors that will be utilized.

Good Behavior Game. While implementing the Game throughout the study, the materials needed were a large poster board in which the game rules were recorded and hung on the wall, as a reminder for the students. Also, there was a checklist, in which each step of the game will be involved in order to ensure that it was being implemented correctly each time. A “treasure chest” filled with the tangible rewards was placed in a visible spot, so the students can see it and use it as further motivation to appropriately participate in the game. A recording sheet was also included, in order for the researcher to appropriately keep record of the behavior of the students observed. The recording sheet had a section that is separate for each student, and tallies were given for disruptive behaviors, as well as on-task behaviors acted out per each 30 minute Game session. Finally, there was a large laminated chart on the wall that tracked each student’s progress per game. This way, the students were able to keep track of their own progress as well as stay responsible for how they were acting, and whether or not they would receive rewards.

Procedure

After selecting the school through convenience sampling, this positive reinforcement implementation was planned for a first-grade, small group consisting of five students (three boys and two girls) who were enrolled in the AIS (Academic Intervention Services) to improve their reading skills. The classroom teacher requested that the researcher focused on this specific group, due to disruptive behavior during her instruction. Frequent disruptions that the teacher experienced while instructing were calling out, students getting out of their seats, talking or arguing with their fellow classmates and so on. The researcher and the classroom teacher developed guidelines for what were considered disruptive behaviors, and what were considered on-task behaviors. After the behaviors were defined, the positive reinforcement intervention plan that was used within this study, known in this case as the Good Behavior Game, was discussed. The ultimate goal of this intervention was to decrease disruptive behaviors among the small group of students and increase on-task, positive behaviors. The researcher created appropriate student and parent consent forms, and the classroom teacher sent them home with the five specified students and gained permission to begin with the study.

Baseline. During the baseline phase of the study, which consisted of one week (three total class sessions), data was collected on both disruptive as well as on-task behaviors among the five students within the small group. Over the course of three class sessions, lasting 30 minutes each, behavior observations were administered through partial interval training. These observations were carried out by the researcher of the study, with the use of behavioral recording sheets and a time cueing recording for the researcher only. Each student was observed for 15 seconds each over increments of 10 minutes each. The data collected from this baseline was then used in order to establish a starting point with the students.

Intervention. Based on the results from the baseline data, the study was implemented in the small literacy instruction group of five first grade students. The intervention phase lasted for two weeks long, specifically six separate class sessions. On the first day of the intervention, the teacher used a general informational script-like document given by the researcher, to explain to the students what the Good Behavior Game was, why it would be implemented, and how it may improve their behavior during instruction time. Then, the teacher gave the students the rules of the game (no physical or verbal interruptions during the game of any kind) which were also written on a large poster board that was hung on the wall in plain sight, so that the students could refer back to them at any time, either to remind themselves to stay on track or to change their behaviors. The students and the teacher then went over the list of rules an additional time, reading each rule together to reinforce each and every one. The teacher role played with the students, modeling on task behaviors and disruptive behaviors for the students. Also, the teacher hung up a large, laminated chart in which the students could track for each class session, whether or not they won the game for the day. This way, they were able to see how many games they had won, how many they had lost, and what rewards they would be accumulating. Each game lasted for 30 minutes long, which was the entire instructional period for the students in their AIS class for reading. It was decided upon to make the game the entirety of the instructional period based on a previous study who had success with this method (Ruiz-Olivares et al., 2010). Therefore, the students played three total games per week, as the intervention lasted for two week, accumulating to six total games. In order to win a game, based on previous studies (Ruiz-Olivares et al., 2010 and Tingstrom et al., 2006) the students had to only have a total of up to four disruptive behaviors or less within the 30 minute period. Then, for the second week of the implementation of the Game, the students were only allowed three disruptive behaviors.

Because the Good Behavior Game was a group contingency, the students played this game as a unit, which means that they were not only responsible for their own behaviors, but also their collective behavior during instruction as whole.

As for the reward aspect of the game, each student won a small tangible reward (e.g. stickers, a coloring sheet, small toy, etc.) at the end of each session from the “treasure chest” only if they had won the game for the day. If not, they were not allowed to receive a reward. The tangible rewards were supplied by the researcher. Then, if the students had not lost either games for day one or day two within the first intervention week, then they received a medium sized tangible reward on the third and final game of the first week (e.g. a marker, a glitter pen, candy, etc.). The second week of implementation of the intervention followed the same guidelines of rewards offered to the students, but if the students did not lose any games for the duration of this intervention (two weeks, six games) then they received a large “mystery” reward, which consisted of special privileges as well (e.g. homework pass, coloring book, five minutes of free time, etc.). This kept the students motivated to continue working towards a larger goal.

Withdrawal of the Intervention. The withdrawal phase within this study lasted for one week within this classroom, which will be three total classes. The Good Behavior Game was completely taken away, so that the students went back to the instructional routine that they were accustomed to prior to the start of this study. The researcher continued to observe the frequency of disruptive behaviors as well as on-task behaviors with the previously used partial interval recording method. All of the visual materials used within the Game were taken down, the “treasure chest” was hidden and the students were told to continue with their instructional time without the use of the Game or the chance to earn any of the rewards that they have been for the past two weeks. This withdrawal period of the study showed the researcher whether or not the

students would continue with the mindset of being responsible for and conscious of their own behaviors, regardless of the fact that they were no longer earning tangible rewards for their efforts.

Data Analysis

Throughout this study, the researcher analyzed the data by reporting descriptive statistics that were directly taken from each phase of the study. The researcher calculated and described the findings for the baseline data, the implementation of the intervention, and the withdrawal stage of the intervention using the software Minitab. Also, because this study was aimed at examining whether or not the intervention (Good Behavior Game) would affect the participants, which were viewed as one group, the researcher used a graphic analysis method. In order to graphically show the data over each phase of the intervention study, the researcher used a boxplot graph to report the results of the baseline and intervention phases (ABA) in terms of time, which were graphed on the horizontal axis (x-axis), while the target behavior rates of both on-task behaviors and disruptive behaviors were graphed on the vertical axis (y-axis). Also, each separate students' data was graphed through a scatter plot, including their individual behavior rates for both on-task and disruptive behaviors. This allowed the researcher to express the data results both through descriptive means as well as a visual graphic analysis.

Results

Assessment Data

The focus of this study was to explore the effectiveness of using the positive reinforcement contingency, the Good Behavior Game to improve on-task behaviors and decrease disruptive behaviors during instruction. The participants were a group of five first graders

enrolled in an AIS (Academic Intervention Services) class. The students' behaviors, including on-task behaviors as well as disruptive behaviors, were observed and recorded by the researcher during each separate phase of the ABA study. The students also tracked their own disruptive behaviors on a personal scoring sheet, for each phase of the study, to further enforce the idea of responsibility of managing their own actions.

The students were observed through 15 second interval observations, for a total of 30 minutes per game, as well as tracking their own individual disruptive behaviors on personal scoring sheets in order to obtain accurate results as well as promote responsibility for behaviors among the students. The researcher also tracked the students' disruptive behaviors to ensure accuracy. Also, the students tracked won and lost games on a large game-board, as the Game was ultimately played as a group contingency. The baseline data was recorded at the beginning of the study, which tracked the behavior rates of both on task and disruptive behaviors among the students prior to the implementation of the intervention. The students collectively lost the game if one or more of the individual students acted out a total of four disruptive behaviors, for the first week of the intervention. For the second week of the intervention phase, as the students played the Good Behavior Game, the total of disruptive behaviors resulting in a loss of the game for the entire group decreased to three disruptive behaviors per session. All disruptive behaviors were determined by the teacher and recorded by the researcher and students, based on behaviors specified prior to the beginning of the study. These specific behaviors included interruptions of instruction time specifically through verbal actions (e.g., shouting out, name calling, talking to other students) and physical actions (e.g., getting out of their seat, playing with objects, touching another student). On-task behaviors were recorded by the researcher which included paying attention to instruction, following directions and completing assigned tasks and assignments.

During each phase of this study, including the baseline, intervention and withdrawal phases, the behaviors were observed and recorded by the researcher. The frequency rates of both on-task and disruptive behaviors in correlation to the intervention as well as during baseline phases are visually presented in the tables and graphs below (Table 1; Figure 1 and 2).

Table 1

Whole Group On-Task and Disruptive Behavior Percentages

Whole Group	Baseline	Intervention	Withdrawal
On-Task Behaviors	75%	97%	92%
Disruptive Behaviors	27%	3%	7%

Table 1 displays the cumulative percentages among the students across each phase of the study, including the baseline, intervention and withdrawal phases. Table 1 directly correlates to both Figure 1 and Figure 2, which show the graphical image of the data displayed in the table above, including the frequency rates of all five students put together. The frequency rates were calculated by taking the total number of on task behaviors for each separate phase, and dividing that sum with the total number of on task and disruptive behaviors acted out within that same phase, and finally multiplying that sum by 100. The same process was applied to determine disruptive behavior rates. The data portrays an improvement in behavior in both the intervention and withdrawal phase percentages, while comparing the percentages directly to the baseline data provided.

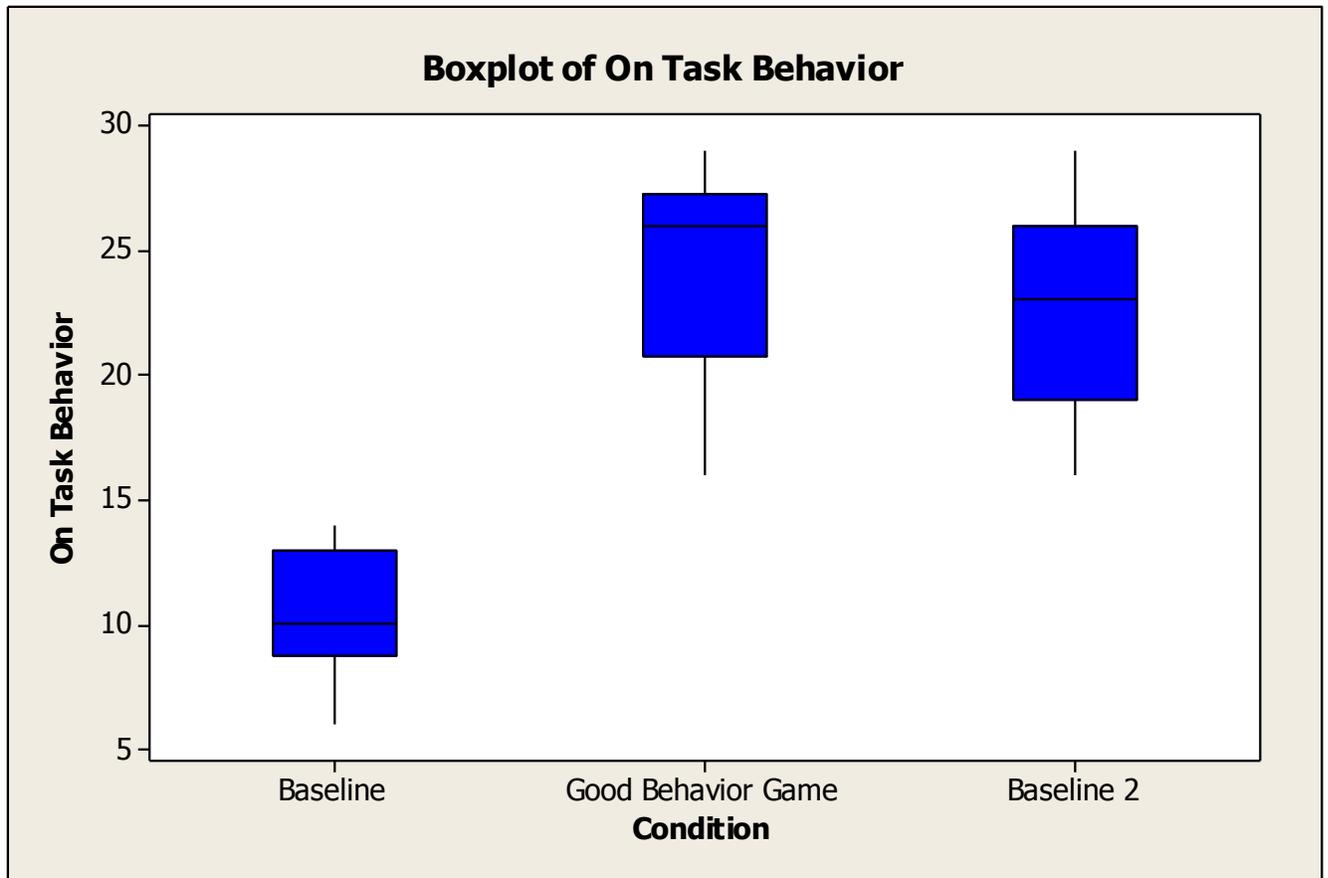


Figure 1 . Frequency rates of on task behaviors observed during each phase of the ABA design study, including the baseline, intervention (Good Behavior Game) and the withdrawal phases

Figure 1 displays the graphical data of the amounts of student on-task behaviors observed through interval observations across each phase of the study. According to both Table 1 and Figure 1, during the initial baseline, student on-task behavior was observed at a steady rate of 75% (M=10.429) of the behaviors acted out. During the intervention phase of the study, the Good Behavior Game was implemented and on-task behaviors recorded proved to show an increasing trend at 97% (M= 24.231), in direct correlation to the positive reinforcement motivator. As the study continued, during the final withdrawal phase, the on-task behaviors of the students observed decreased slightly by 4%, yet still remained at an increased rate in comparison to the baseline of 93% (M= 22.5). The collective standard deviation of on-task

behavior in comparison to the three phases of the study, according to ANOVA, is 3.656% with a p-value of 0.000 resulting in a 95% confidence rate of improvement of on-task behaviors in regards to the implementation of the Good Behavior Game.

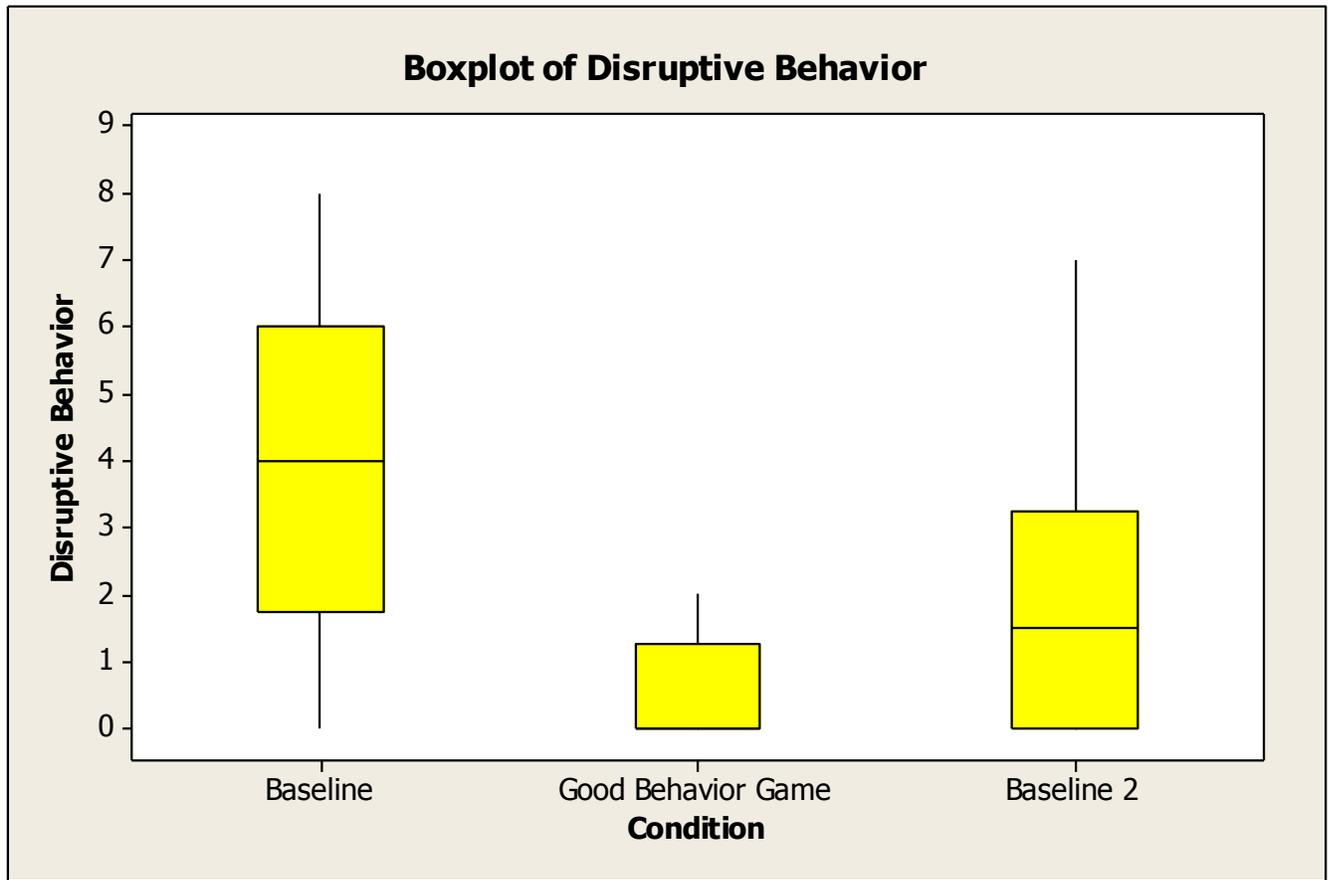


Figure 2. Frequency rates of disruptive behaviors observed during each phase of the ABA design study, including the baseline, intervention (Good Behavior Game) and withdrawal phases.

In regards to disruptive behaviors recorded among each phase of this study, Figure 2 displays the frequency rates of these behaviors. During the initial baseline of the study, the disruptive behaviors of the students were recorded at the highest rate among the entire study of 27% (M= 3.786). With the implementation of the intervention, the frequency rates of disruptive behaviors decreased significantly by 24%, resulting in a total of 4% (M= 0.692) showing an effective change directly due to the intervention contingency, the Good Behavior Game. In the

final phase of this study, the withdrawal stage, the Game and chance of rewards won was taken away and the disruptive behaviors among the students increased slightly by 4%, resulting in a 8% (M=2.143) overall disruptive behavior rate, yet they did not return to or exceed original baseline levels, which proved that the intervention had a positive effect on the students' behaviors, even without an offering of any type of reward. According to ANOVA, the collective standard deviation of the frequency rates of disruptive behaviors in correlation to each phase of this study resulted in 1.791% with a p-value of 0.000, which ultimately reveals a 95% confidence rate within this study and statistically significant differences among the three stages, proving a direct improvement in behavior, specifically disruptive behaviors among students, in direct correlation to the use of the Good Behavior Game.

Table 2

Individual On-Task Student Behavior Percentages

Student	Baseline	Intervention	Withdrawal
1	72%	95%	91%
2	70%	99%	93%
3	76%	95%	81%
4	76%	100%	100%
5	65%	97%	96%

Table 3

Individual Disruptive Student Behavior Percentages

Student	Baseline	Intervention	Withdrawal
1	25%	5%	9%
2	28%	1%	7%
3	30%	5%	19%
4	24%	0%	0%
5	35%	3%	4%

Tables 2 and 3 both show the percentages of each individual student through each of the three phases within this study, including the baseline, intervention and withdrawal phases. The frequency rates of on-task behaviors (Table 2) and disruptive behaviors (Table 3) have been calculated in order to provide accurate data on the effectiveness of the Good Behavior Game within this study. Tables 2 and 3 directly correlate to figures 3 through 7, where each separate student's progression with behavior management was also evaluated and portrayed. Each student significantly decreased disruptive behaviors while increasing on task behaviors with the implementation of the intervention, the Good Behavior Game.

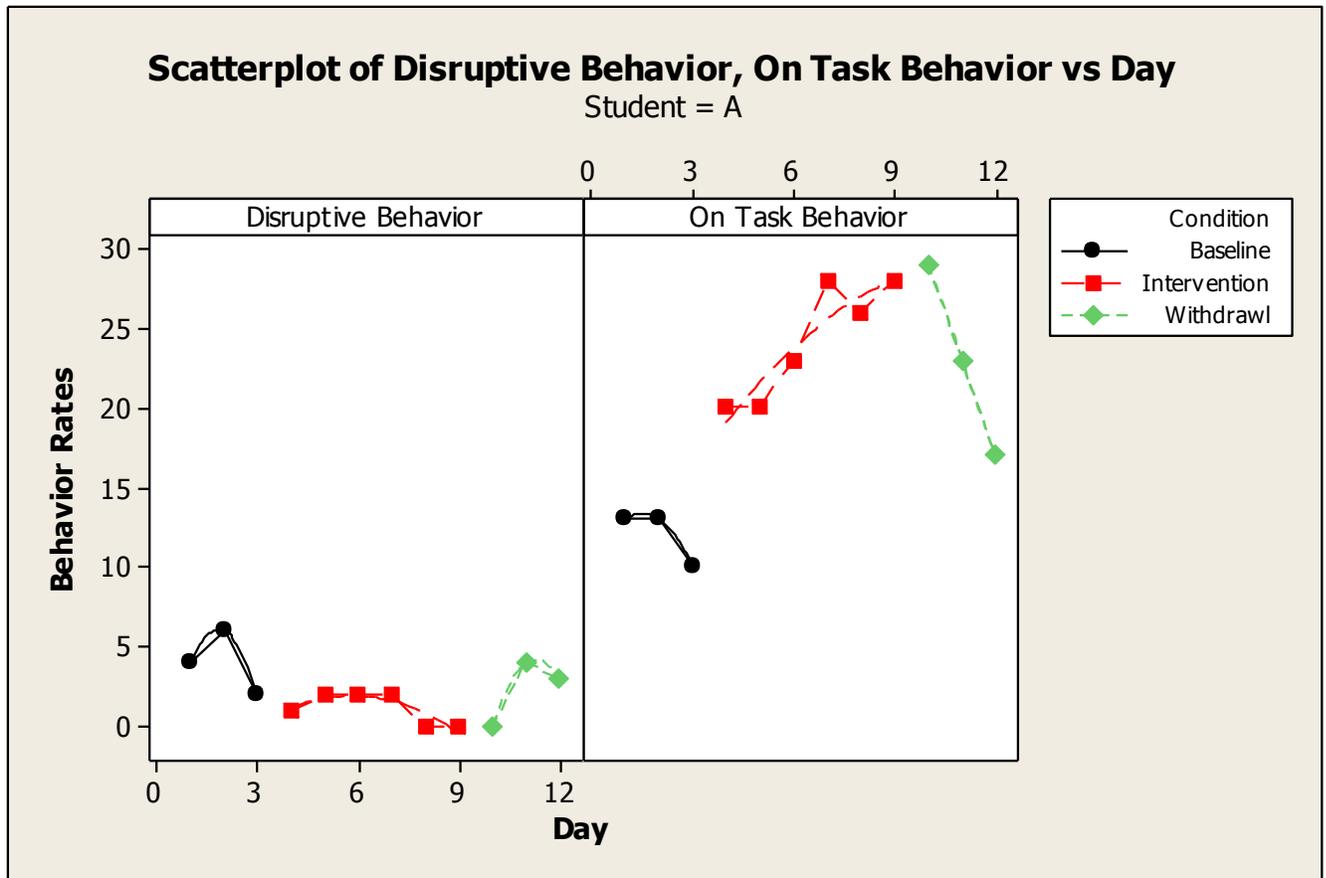


Figure 3. Frequency rates of the individual Student A of on task behaviors and disruptive behaviors during each phase of the study.

Within the baseline data, Student A had 75% on task behavior rate, and 25% disruptive behaviors rate. When the Good Behavior Game was implemented within the intervention phase, Student A had a 20% increase in on task behavior with a rate of 95%, while this student decreased their disruptive behaviors by 20% as well with a total rate of 5%. During the withdrawal phase, Student A's on task behavior rate decreased slightly from the intervention phase by 4% to 91%, while this student's disruptive behavior increased to a 9% frequency rate.

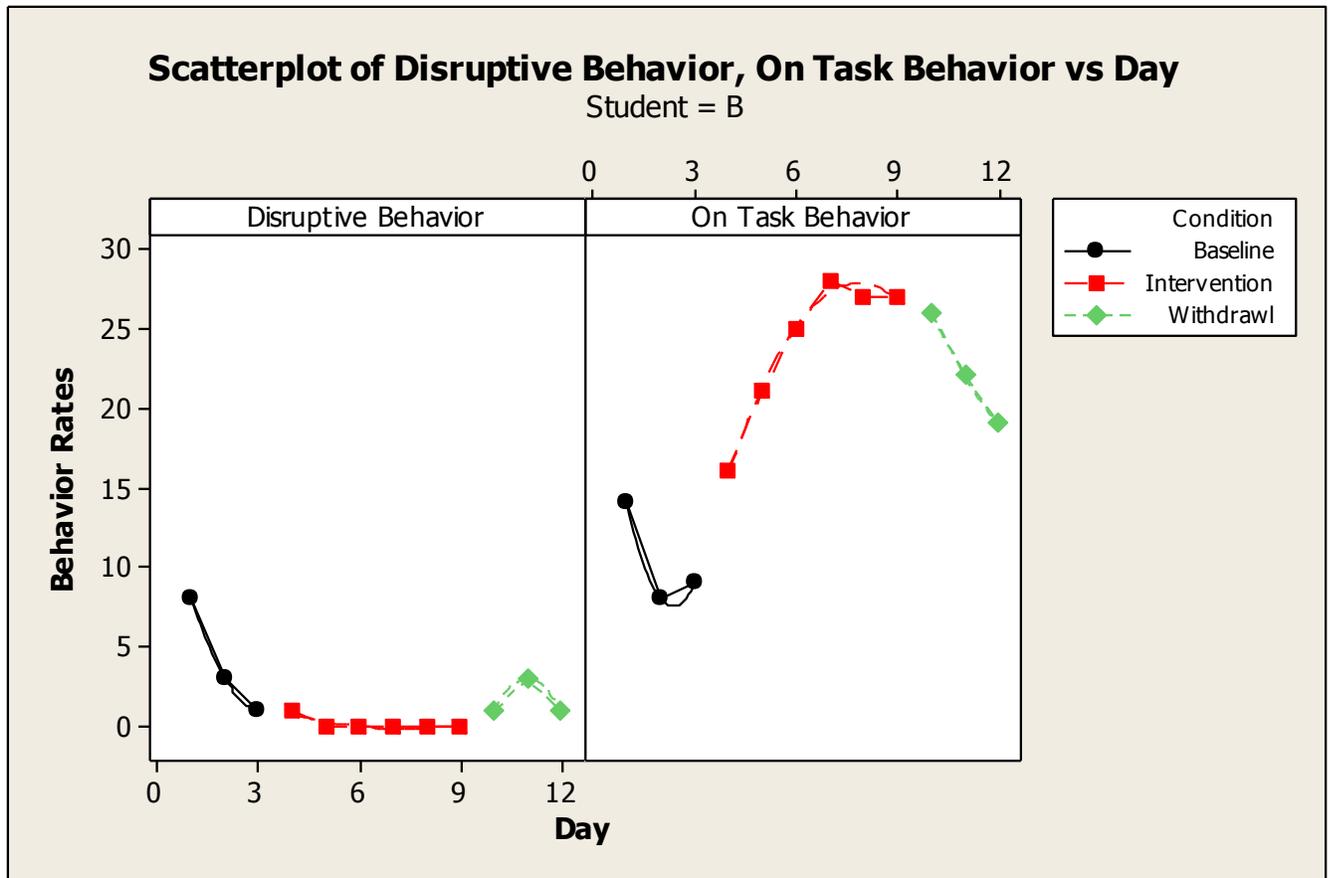


Figure 4. Frequency rates of the individual Student B of on task behaviors and disruptive behaviors during each phase of the study.

During the baseline phase, Student B had a 72% on – task behavioral rate and 28% disruptive behaviors. Through the intervention phase, Student B obtained a 99% on task behavior rate, which increased by 29% from the baseline phase. Student B had a low percentage of disruptive behaviors within this phase, which decreased to 1%. During the withdrawal phase, Student B decreased to a 93% frequency rate with a 7% disruptive behavior rate.

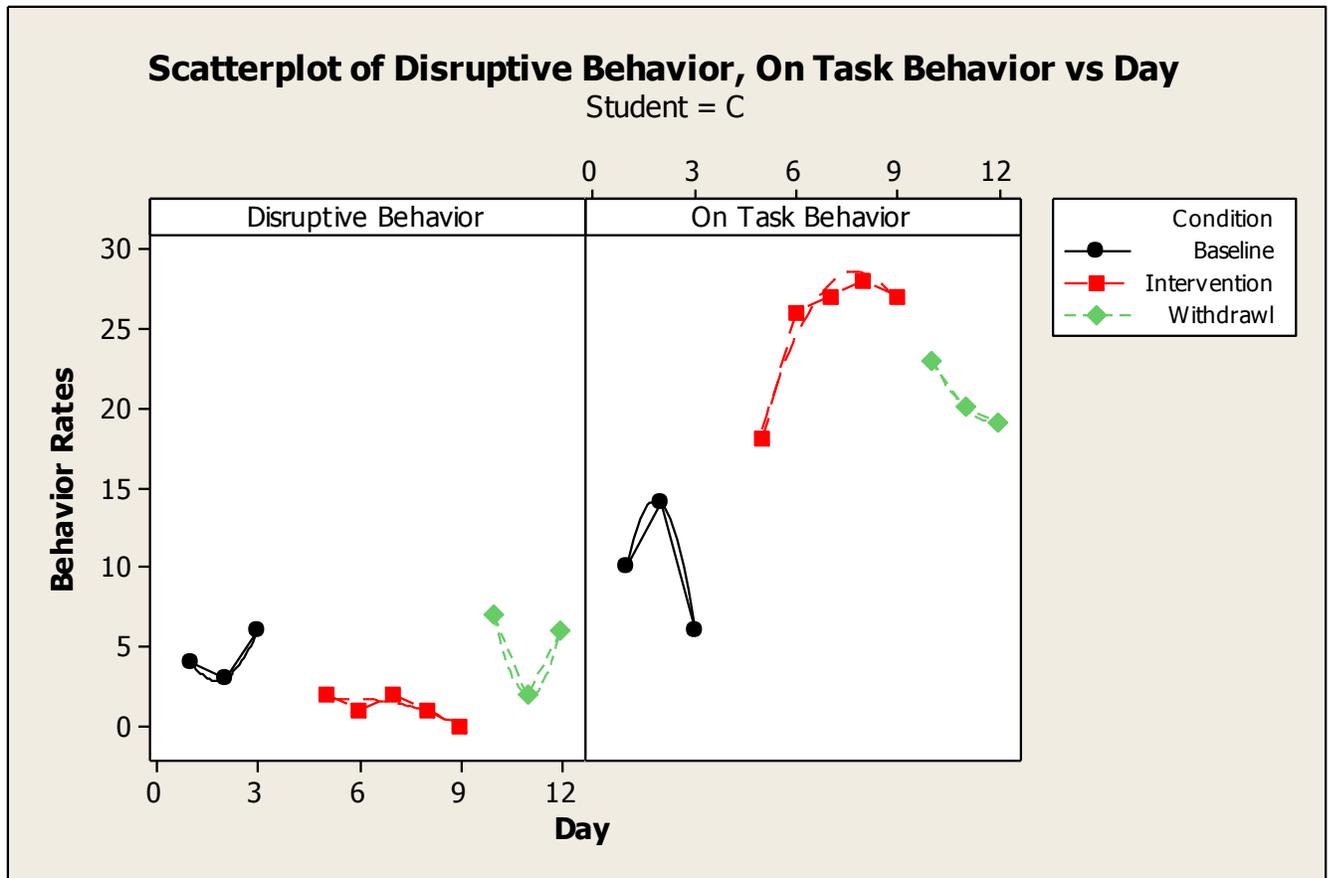


Figure 5. Frequency rates of the individual Student C of on task behaviors and disruptive behaviors during each phase of the study.

The baseline data suggests that Student C had an initial rate of 70% on task behavior and 30% disruptive behaviors. With the implementation of the Good Behavior Game, Student C increased disruptive behaviors by 90% with an on task behavior rate of 95% and a disruptive rate of 5%. Within the withdrawal phase, Student C decreased to an 80% frequency rate, with an increased rate of disruptive behaviors at 19%.

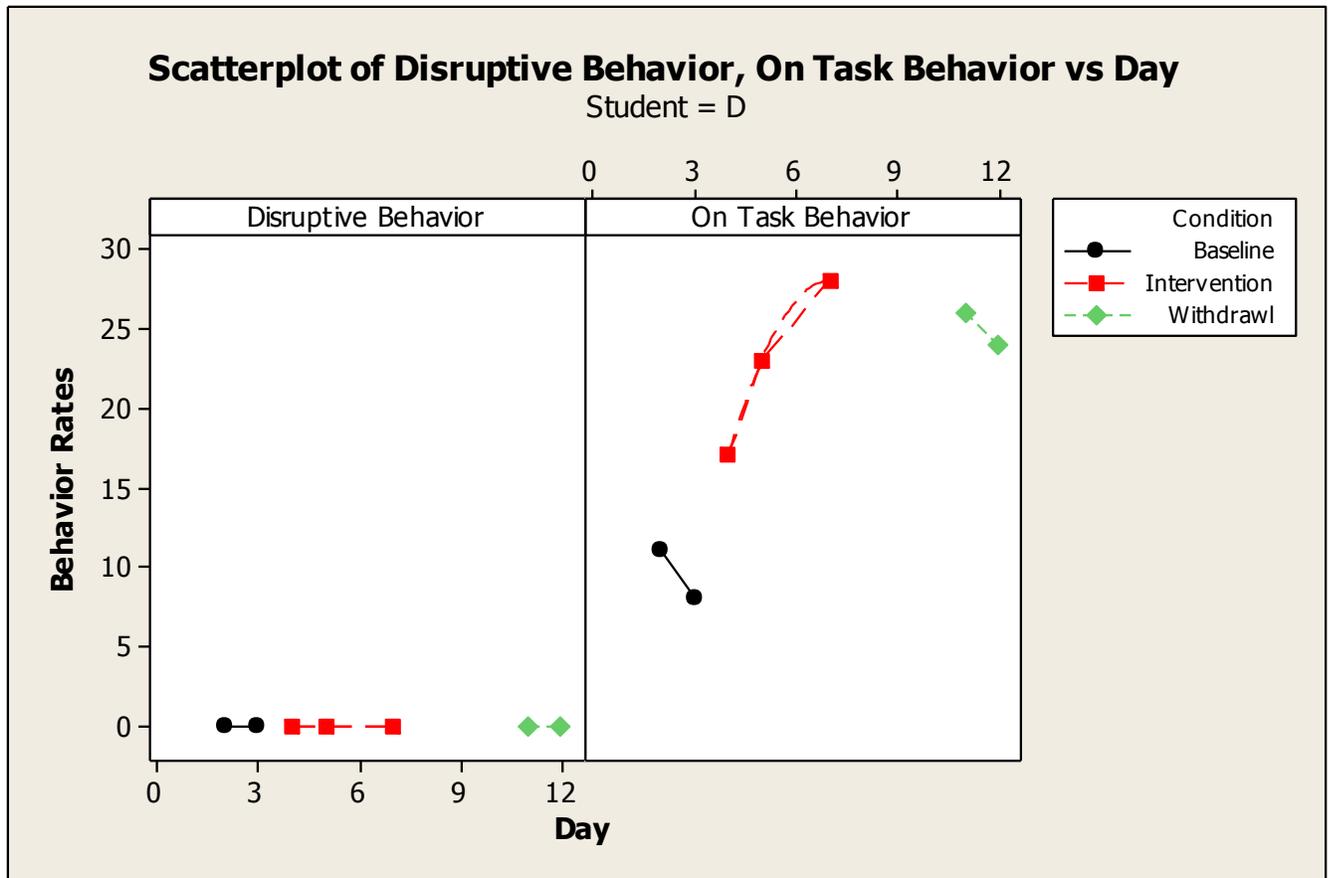


Figure 6. Frequency rates of the individual Student D of on task behaviors and disruptive behaviors during each phase of the study.

Within the baseline phase of this study, Student D had an on task behavior rate of 76% and a disruptive behavior rate of 24%. With the implementation of the Good Behavior Game during the intervention phase, Student D obtained a perfect 100% on task behavior rate, with a 0% disruptive behavior rate and remained consistent with a 100% on task behavior rate through the withdrawal phase as well.

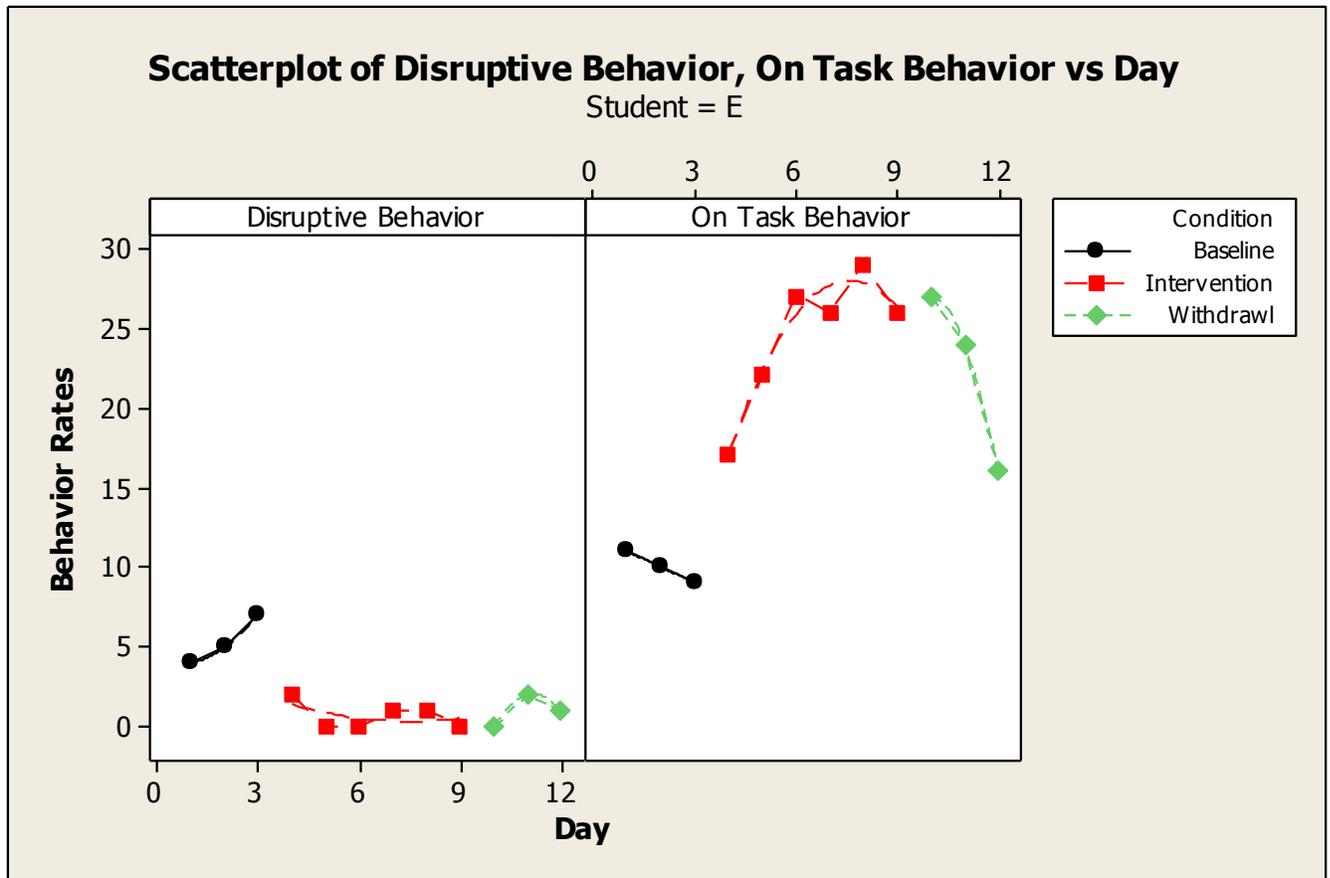


Figure 7. Frequency rates of the individual Student E of on task behaviors and disruptive behaviors during each phase of the study.

At the beginning of this study during the baseline phase, Student E had the lowest beginning rate of on task behaviors, being 65% and a disruptive behavior rate of 35%. During the intervention phase, Student E followed a similar trend with an increased rate of 97% on-task behavior frequency rate, as well as a 3% disruptive behavior percentage. During the final phase of this study, with the withdrawal of the Good Behavior Game intervention, Student E had a very slight 2% decrease in on task behavior at a 95% frequency rate, with an increase in disruptive behaviors at a 4% rate.

Within the withdrawal phase, each student's on-task behavior frequency rate decreased, while their disruptive behavior rate increased, except for Student D who remained at a consistent

100% on task behavior rate with 0% disruptive behaviors for both the intervention and withdrawal phases. Student C had the highest decrease in on task behavior rates, which was a 14% decrease. This data suggests that the intervention contingency used, the Good Behavior Game was highly effective in reducing disruptive behaviors, while simultaneously increasing on task behaviors for each of the five students included in this specific study.

Behavior Chart

Good Behavior Game: Week #1

Wednesday	✓			
Thursday	✓	✓		
Friday	✓	✓		

Figure 8. Student self-recording of disruptive behaviors.

The researcher also had students self-record their own data of disruptive behaviors only, for each week of the intervention phase, which consisted of two weeks in length, with six total class sessions. Figure 8 is an example of Student A's self-recording of their own disruptive behaviors. These behaviors were also recorded by the researcher herself, so the analysis of this data was included in the disruptive behavior rates calculated and discussed previously. This recording sheet forced each individual student to be even more aware of their own behaviors, as

well as be able to track and monitor their peers' behaviors. This self-recording method also promoted responsibility and a sense of control among the students involved, over their own behaviors. The student self-report data was found to be consistent with the researcher's recorded data of disruptive behaviors.

Conclusion

Through analyzing the data of this study, the results indicate that the Good Behavior Game ultimately succeeded in the goal of reducing incidences of disruptive behaviors among first grade AIS (Academic Intervention Services) students, while simultaneously increasing on task behaviors among each of the five separate students. These results directly connect to previous findings in literature that the Good Behavior Game is an effective intervention strategy for behavior modification among students (Barrish, Saunders & Wolf, 1969; McCurdy, Lannie & Barbanas, 2009; Tingstrom et al., 2006). As this study included the Good Behavior Game as a group contingency, it really promoted responsibility among the first grade students and allowed the teacher to save time in administering consequences as the students were in control of managing their own behaviors in order to obtain the available reward (Tankersley, 1995).

While focusing on early childhood students within this study, specifically first grade students, the researcher focused solely on a plan that would introduce tangible reinforcements through a specified plan in order to show the young students the meaning of earning a reward for positive behavior. According to Duncan et al. (2000), one main goal of an intervention contingency including tangible rewards while working with early childhood students should be to ensure planned programs of systematic reinforcement strategies in order to provide consistency and involvement in the reward outcome. While working with early childhood aged

students, tangible rewards need to be seen by the students as being worthy of their time and energy, meaning that the reward must be more desirable than the disruptive behaviors that they are used to acting out (Duncan et al., 2000). Through conducting this study, the researcher found that each first grade student decreased disruptive behaviors greatly and improved their on task behavior rate, due to having responsibility of their own behaviors as well as working as a whole group to obtain the rewards which were valuable to them and rightfully earned.

The hypothesis of decreasing disruptive behaviors while increasing on task behaviors through the use of the intervention, the Good Behavior Game was affirmed through this study. During the baseline phase, each student was conducting on task behaviors, but also had frequency rates as high as 35% of disruptive behaviors. According to the classroom teacher, this was directly impacting the productivity of the small group of first grade students, and while their on task behavior rate was consistently higher than the disruptive behavior rate throughout the baseline phase, it was undesirable for academic achievement. Once the Good Behavior Game was implemented within the small group, the researcher immediately observed a positive change in disruptive behavior rates. During the withdrawal phase, when the reward contingency was removed these disruptive behavior rates increased but did not reach the baseline data level. Therefore, this study suggests that the Good Behavior Game provided long lasting positive effects of improving overall student behavior.

Limitations

There were several limitations within this study that may have impacted the outcome either positively or negatively. The first limitation was the issue of time. While there was a time constraint in regards to the amount of time in which the study could be conducted within the

classroom, the study included only three phases including the baseline, intervention and withdrawal phases. This time constraint did not allow the researcher to re-implement the intervention contingency directly following the withdrawal phase, which would have provided further data of the lasting effects of the Good Behavior Game. Also, the length of each phase was short, resulting in a 1-2-1 study. If each phase was lengthened, the effects of the intervention may have been more extreme

Another limitation that may have affected the study was the way in which data was collected. In order to obtain data from each separate student in the small group of first graders, the researcher conducted partial-interval observations of 15 second intervals over a period of 30 minutes, therefore not allowing the researcher to obtain completely accurate behavior rates of each separate student, but rather partial behavior rates. Multiple observation reporters may have benefited the study, as there would have been a more accurate representation of the true behavior rates, both disruptive and on task behaviors, of each of the five students included in this study.

Finally, in regards to the location of the study, it was originally going to be conducted within the separate AIS classroom, but was changed to an inclusive setting of the students' first grade classroom. While the students were still separated into a small group which consisted only of the students included in the study, the other students in the classroom were curious as to what the Good Behavior Game was, which may have altered the behaviors of the students studied due to distraction. If there had been a separate room in which the study had been conducted, it may have provided a more personal and private experience for the students to truly focus on improving their disruptive behaviors and remaining on task, while also academically achieving their goals of improvement within their AIS guidelines. This particular limitation could also be

considered an advantage to future use of the Good Behavior Game, as implementation in an inclusive setting may be ideal to the teachers involved in this study.

Implications for Further Research

As research progresses among positive reinforcement contingencies, mainly the Good Behavior Game within the success of student behavioral rates, researchers should focus on broader uses of the Game, including varying ages and group sizes of students studied. Researchers should also examine the possible differences of genders among the students in response to the game. While this study included three boys and two girls, it would have been interesting to evaluate how the students responded to the game either similarly or differently based on gender. Also, it would be very interesting to include academic achievement rates in correspondence to behavior rates among students and to study how the intervention could possibly positively or negatively impact academic advances. Another factor that would be interesting to study through future research would be the amount of times the teacher spent verbally correcting the students' behaviors in regards to each phase within the study. While conducting this study, it was evident that as the intervention was introduced, the teacher spent much less time stopping instruction to verbally correct disruptions, so it would be interesting to see the increase in efficiency of instruction due to the Good Behavior Game. Finally, future research should focus on the emotional benefits of specifically early childhood students through each phase of the study while implementing the Good Behavior Game. This would provide more information on the developmentally appropriate aspects of the game in regards to young children, as well as how it may or may not help them conceptualize responsibilities of individual behaviors as well as their benefit of working in a group contingency where they cannot directly

control the behaviors of their peers, but rather use social skills to encourage others to improve their behaviors as well.

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Appendix

Appendix A

Description of the Good Behavior Game (Teacher)

The Good Behavior Game is an empirically based strategy and an interdependent group technique that was essentially created to promote pro-social behaviors within the classroom setting (Lastrapes, 2013). This specific technique has been used in various educational settings and has been altered in many ways to fit the needs of many different individuals with various abilities and age groups (Tingstrom, Sterling-Turning & Wilczynski, 2006). This game can be used during instruction time in order to either differentiate instruction or manage disruptive or off-task student behaviors.

Within the use of the Game, teachers and students will establish what disruptive behaviors are, what desirable behaviors are, and discuss how to achieve the desired behaviors. The teacher's expectations should be clear and understood by the students, in order to eliminate the need for constant redirection. Once the game is introduced to the students, the responsibility of behavior correction is no longer placed on the teacher, but on the students rather (Lastrapes, 2013). The students will be working as a group in order to earn tangible rewards as each game is played. Each game will be 30 minutes long, which will be the entire instructional period. The students will have their disruptive behaviors tracked on a large laminated board, which will be displayed for the group to see. In order for the "team" to win, there needs to be four or less behavioral disruptions during the duration of the game. As each week passes in which the Game interventional phase is in session, the students will have an opportunity to work towards a larger extrinsic reward. The ultimate goal of the Good Behavior Game is to decrease disruptive

behaviors during instruction time and also allow the students to take responsibility for their own behaviors.

Description of the Good Behavior Game (Students)

The Good Behavior Game is a reward system that we will be using within this classroom. This game will be played during the entire time that the teacher is teaching. This means that you will be playing this game while you are learning! The way that this game works is very simple, and allows you to take control of your own behavior. First, we will discuss what a “disruptive behavior” is, and why they are not supposed to happen while the teacher is teaching. We will also discuss what “good behaviors” are, and why it is important to pay attention to how you are acting in the classroom. Then, we will begin playing the game! All five of you will be playing this game together, so this means that it is important for everyone to be paying close attention to their own behavior during the entire class time.

If everyone behaves well, then you will win the game! If there are more than four disruptive behaviors acted out while the teacher is teaching, then you will lose the game. If you win the game, each person will get a secret prize from the treasure chest. Your winning and losing games will be tracked on a large board, so that you can keep track of how you are doing. If you keep winning as we continue playing, you could even earn larger secret prizes! So it is important to keep working towards that goal! We will be playing this game so that you can understand what “good” and “disruptive” behaviors are, as well as learn how you should behave while the teacher is teaching. Remember, it will be up to you to behave well!

Appendix B

Outline of the Good Behavior Game**Before the game begins:**

- The researcher and the teacher will develop guidelines for what will be considered “disruptive behaviors”
- Consent forms will be sent home to the parents of the students involved, as well as the students participating.

Implementation of the Game:

- The teacher will discuss with the students what “disruptive behaviors” are, and why they are not allowed during instruction time. The teacher will also discuss examples of “good behaviors” and why is it important for students to act in such a way.
- The game will start immediately at the beginning of each class session.
- Each game will be 30 minutes long, with three games played per week.
 - Rules:
 - No physical or verbal interruptions during the game.
 - You are responsible for you!
 - If there are 4 or more disruptive behaviors, then you will lose the game.
- The students will be playing the game as a group, and their progress of the game will be tracked on a large laminated chart, which will be visibly hung on the wall.

Rewards:

- Each student will win a small, tangible reward (e.g. stickers, a coloring sheet, small toy, etc.) at the end of each game from the “treasure chest”, which will be located at the front of the classroom. They will only be able to receive a reward if they have won the game for the day.
- If the students have lost one or less games within the first week, then they will receive an additional medium sized tangible reward (e.g. a marker, a glitter pen, candy, etc.).
- If the students only lose two or less games within the entire intervention phase (2 weeks, 6 games) then they will each receive a large “mystery” reward (e.g. homework pass, coloring book, a pack of crayons, etc.), which will be decided upon by the teacher.

Appendix D

Self-Recording Sheet:

Behavior Chart**Good Behavior Game: Week # (1-3)**

Wednesday			
Thursday			
Friday			

Appendix E

Consent Forms:**Parent Consent Form**

November 17, 2014

Dear Parent or Guardian:

I am Ashley Bartela, a graduate student of Guangyu Tan from the Education Department at Fredonia State University of New York and am also currently a substitute teacher for the Dunkirk City School District. I request permission for your child to participate in a research study to be used for my graduate thesis project. I am conducting a research project on the effects of positive reinforcement on student behavior.

The study consists of the following activities:

1. We will ask your permission for your child to take part in a positive reinforcement intervention, which will be the Good Behavior Game. This game is utilized during instruction time and will be used as a motivational method to promote non-disruptive behavior. This study will last for approximately 6 weeks.
2. The Good Behavior game will be used as a motivational tool which will reward students for good behaviors, using various forms of tangible reward items. If the student has 4 or less disruptive instances during instruction time, they will receive a reward.
3. This study will be using a design that will introduce the positive reinforcement method, withdraw it, and then implement it again to see the changes in behavior and if it had any effect. I will be recording data of the students' behaviors during each stage of this study using an observational checklist.
4. The study will conclude with the implementation of the Good Behavior Game, as it will hopefully improve any disruptive behavior during instruction and will positively affect the students' educational experiences.

The project will be explained in terms that your child can understand, and your child will participate only if he or she is willing to do so.

Only Dr. Tan, Ms. Alexander and I will have access to information from your child.. At the conclusion of the study a summary of the results of the group as a whole will be made available to all interested parents. Please indicate at the end of this consent form whether you wish to have these results. If so, please provide your mailing address.

Participation in this study is completely voluntary. Even if you give your permission for your child to participate, your child is free to refuse to participate and in turn, can end participation at any time.

If you have any further questions of concerns, please feel free to contact me:

Ms. Ashley Bartela

Guangyu Tan

Principal Investigator
(716) 410-1386
Bart7447@fredonia.edu

Faculty Sponsor
(716) 673-4856
Guangyu.Tan@fredonia.edu

Please indicate whether or not you wish to allow your child to participate in this project by checking one of the statements below, signing your name and returning it to me. Sign both copies and keep one for your records.

_____ I do grant permission for my child to participate in Ms. Ashley Bartela’s study of the effects of positive reinforcement on student behavior.

_____ I do not grant permission for my child to participate in Ms. Ashley Bartela’s study of the effects of positive reinforcement on student behavior.

Signature of Parent/Guardian

Printed Parent/Guardian Name

Printed Name of Child

Date

_____ Yes, I would like a copy of the results of this study. My mailing address is below.

Please indicate whether or not you wish to allow your child to participate in this project by checking one of the statements below, signing your name and returning it to me. Sign both copies and keep one for your records.

- I do grant permission for my child to participate in Ms. Ashley Bartela's study of the effects of positive reinforcement on student behavior.
- I do not grant permission for my child to participate in Ms. Ashley Bartela's study of the effects of positive reinforcement on student behavior.

Signature of Parent/Guardian

Printed Parent/Guardian Name

Printed Name of Child

Date

Yes, I would like a copy of the results of this study. My mailing address is below.

Student Consent Form

The Good Behavior Game!

My name is Ms. Bartela and I am from Fredonia State University of New York. We are asking you to take part in a research study because we are trying to learn more about how to encourage students to stay on task and pay attention during class time.

If you agree to be in this study, during your time in Ms. Alexander's class, we will be playing a game while you learn called the Good Behavior Game. This game will allow you to earn rewards as long as you pay attention and behave well! Playing this game will help you track your own behavior, and work towards a goal of earning a reward of the teacher's choice.

Please talk this over with your parents before you decide whether or not to participate. Your parents have given their permission for you to take part in this study. Even though your parents said "yes," you can still decide not to do this.

If you don't want to be in this study, you don't have to participate. Remember, being in this study is up to you and no one will be upset if you don't want to participate or even if you change your mind later and want to stop. You can ask any questions that you have about the study at any time. If you have a question later that you didn't think of now, you can ask me at any time during this study.

Signing your name at the bottom means that you agree to be in this study. You and your parents will be given a copy of this form after you have signed it.

Signature of Subject

Printed Name of Subject

Date

Appendix F

IRB Human Subjects Approval



1 December 2014

Ashley Bartela
c/o Guangyu Tan, Ph.D.
Curriculum and Instruction
College of Education
The State University of New York at Fredonia

Re: Ashley Bartela—The Effects of Positive Reinforcement on Student Behavior

Your research project using human subjects has been determined Category 1, Exempt, under the United States Department of Health and Human Services Code of Federal Regulations Title 45 Public Welfare, Part 46 Protection of Human Subjects, 46.101, Subpart A (b) (1) and/or (2). This document is your approval and your study titled "The Effects of Positive Reinforcement on Student Behavior" may proceed as described, beginning on **January 1, 2015 and ending on February 28, 2015.**

Thank you for keeping the high standards relating to research and the protection of human subjects under the auspices of the State University of New York at Fredonia.

Sincerely,

A handwritten signature in cursive script that reads "Judith M. Horowitz".

Judith M. Horowitz, Ph.D.
Associate Provost, Graduate Studies, Sponsored Programs
and Faculty Development
Human Subjects Administrator