

Reducing Defiant Behaviors Among Elementary School Students with Behavioral Difficulties
through Self-Monitoring and Behavioral Incentives

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Table of Contents

List of Tables	i
Abstract	ii
I. Introduction	1
Statement of Problem	
Hypothesis	2
Operational Definitions	3
II. Review of the Literature	5
What is Oppositional Defiant Disorder?	5
Interventions to Improve Classroom Performance/Motivation	8
Role of Parents/Families in Intervention	11
III. Methods	13
Design	13
Participants	13
Instrument	14
Procedure	15
IV. Results	18
V. Discussion	20
Implications of Results	20
Threats to Validity	22
Connections to Previous Study/Existing Literature	23
Implications to Future Research	24

List of Tables

1. Table 1- Baseline and Intervention Data	19
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Abstract

The purpose of this study was to determine whether the implementation of self-monitoring strategies tied to incentives would decrease the amount of argumentative and noncompliant behaviors within the intermediate elementary classroom setting. This study utilized a pre-experimental design with a variant of the one-group pretest-posttest design. Students served as their own controls. Data was collected during a weighted baseline period and during an intervention period. This study included 9 students enrolled in a Harford County public school. The participants in this study ranged in grade levels from grades 3 to 5, all with Individualized Education Plans including documented disabilities. The study hypothesized that there will be no significant difference in the mean arguing, noncompliant, and total defiant scores of intermediate grade students with behavioral difficulties during a weighted baseline period and an intervention period involving self-monitoring and incentives. All facets of the null hypothesis that there will be no significant difference in the mean Arguing, Noncompliant, and Total Defiant scores of intermediate grade students with behavioral difficulties during a weighted baseline period and an intervention period involving self-monitoring and incentives were rejected. Students displayed significantly less of these problematic behaviors during the intervention. Further study of the usefulness of a self monitoring system and similar interventions appears warranted.

CHAPTER I

INTRODUCTION

In today's school system, parents, guardians, and educators are highly focused on rigor, higher level thinking, and mastery of academic material. However, many students today struggle with emotional and environmental factors which inhibit their ability to fully access the daily curriculum. These include children with Oppositional Defiant Disorder (ODD) which is a behavioral disorder characterized by a persistent pattern of negative behaviors towards others including hostility, defiance, and disobedience (Lindheim, Bennett, Hipwell, & Pardini, 2015). Characteristics of this disorder include students who are less likely to learn from their mistakes, who have difficulty making appropriate decisions in situations where punishment and rewards are concerned, and who have difficulty interpreting social cues or responding appropriately in social situations (Matthys, Vanderschuren, Schutter & Lochman, 2012). Students who display characteristics of ODD have a hard time demonstrating compliance within the classroom setting, which reduces their ability to learn new information and skills and access higher level thinking. This study will explore how self-monitoring and incentives can impact specific defiant behaviors in the classroom setting.

Although compliance is not something that is typically taught through direct instruction at an intermediate elementary age, it can be taught through classroom instruction and supplemented with one to one meetings with the student. Students who do not comply with adult directives are at risk to struggle with academics, peer relationships, as well as adult careers (Ezpeleta, Granero, Trepato, & Domenech, 2016). The literature related to this study explains the importance of working with students and teaching them to respond in a compliant manner. It explains the

importance of incentives and encouragement to decrease defiant behaviors within the classroom setting.

This researcher became interested in behavior disorders, such as ODD, as a special educator had who been trained primarily to work with students with simply academic deficits. Within the first year working as a special educator, this researcher found that many children with academic difficulties also struggled with controlling their behavior, which made it difficult for them to acquire and demonstrate academic skills. An increasing amount of time was spent correcting behavior instead of delivering instruction within the co-taught classroom, and more and more Individualized Education Plans (IEP) were developed to include goals related to behavior and self-management.

Statement of Problem

More students are coming into the school system displaying characteristics of ODD. If these characteristics are not addressed, these displays of defiance can lead to decreased academic performance within the classroom setting as well as poor self-esteem, poor social interaction, and decreased peer relationships. This study sought to explore how self-monitoring and incentives could impact the frequency of arguing/talking back and the frequency of refusal of adult directives in the intermediate elementary classroom.

Hypothesis

The null hypothesis is that there will be no significant difference in the mean arguing, noncompliant, and total defiant scores of intermediate grade students with behavioral difficulties during a weighted baseline period and an intervention period involving self-monitoring and incentives.

Operational Definitions

Accommodation: action or strategy that changes how a student accesses/learns the material.

(Maryland Department of Education, 2017)

Individualized Education Program (IEP): program/plan designed to support a student with a documented disability in ensuring their access to an educational curriculum appropriate for their needs, including accommodations, modifications, and services. (Maryland Department of Education, 2017)

Intervention: service designed to stop and modify behavior; applies to both social and academic settings.

Self-Management: ability to regulate one's emotional response and respond in a socially acceptable manner.

Supplementary Aids and Services: aids, services, and other supports that are provided in regular education classes, other education-related settings, and in extracurricular and nonacademic settings, to enable children with disabilities to be educated with nondisabled children to the maximum extent appropriate. (United States Department of Education, 2018)

Arguing: speaking in response in a challenging way (using tone of voice and phrasing) to a person in authority, This includes 1) argumentative comments indicating some type of disagreement with statement or directive from an authority figure and 2) statements that are rude/insolent in response to a teacher statement or directive.

Noncompliant: actively defying or refusing to comply with requests from authority figures. This excludes students who simply appear distracted when given directions. This refers to the behavior of students who, based on verbal and/or nonverbal cues, appear to be intentionally refusing to comply.

Students with Behavioral Difficulties: children with special education or counseling services or supports met through an IEP or 504 plan related to self-management and/or behavior.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Behavioral concerns are a growing issue within the school setting. Many of these behavioral concerns can be perceived to be an act of defiance. When drawing conclusions about a student and their behavior, when is it time to consider that the behavior may not be a choice they are making but in fact a behavioral disorder?

This is the case with students diagnosed with ODD. This review will discuss and address questions and intervention strategies in order to motivate elementary-aged children with ODD to complete non-preferred tasks within the classroom setting. Section 1 will explore what ODD is including characteristics of the disorder, how it is diagnosed, and how it impacts performance in the classroom. Section 2 explores various levels of intervention that can be used to help students with ODD cope with their disorder. Finally, section 3 identifies the importance of the role of families in the intervention process.

What is Oppositional Defiant Disorder?

Characteristics of Oppositional Defiant Disorder

ODD is one of the most commonly diagnosed behavioral disorders in children (Lindheim et al., 2015). It is characterized by a specific criteria; students who are diagnosed with ODD have a persistent pattern of negative behaviors towards others. These behaviors can often be hostile, defiant, and disobedient. Impairments in executive functioning (organizing and decision making) and impaired functioning of the paralimbic system have been connected to students who have ODD (Mattys et al., 2012). Furthermore, students with ODD are less likely to learn from their mistakes; they have difficulty making appropriate decisions in situations where punishment and

rewards are concerned, meaning they have difficulty interpreting social cues or responding appropriately in social situations. Reactive aggression is also likely to occur when a child with ODD has an expectation of a reward and violations of that expected reward occur.

The origin of the symptoms can be traced back to three areas: biological, psychological, or social factors. Biological factors can include a family history of mental or behavioral disorders (Archambault, Vandenbossche, & Fraser, 2017). Psychological factors can include poor relationships with peers or guardians as well as neglect. Social factors could include poverty, abuse, uninvolved parents, or an instability in their lives. The cause of ODD can stem from any of these factors.

Children who are diagnosed with ODD based on criteria in the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5) (American Psychiatric Association, 2013). To be diagnosed with ODD according to DSM-5 criteria, a child or adolescent must demonstrate over a period of at least 6 months, 4 of 8 symptoms related to angry/irritable mood, argumentative/defiant behavior, and vindictiveness in interactions other than with siblings. The DSM-5 symptoms consist of the following: *Angry/Irritable Mood*: loses temper; touchy or easily annoyed; angry and resentful; *Argumentative/Defiant Behavior*: argues with authority figures; often actively defies or refuses requests from authority figures or rules; deliberately annoys others; blames others; and *Vindictiveness* spiteful or vindictive at least twice over past six months. In individuals with the diagnosis, the behaviors are consistent, typically directed at an authority figure, and are excessive compared to same-age peers (Lindheim et al., 2015).

How is Oppositional Defiant Disorder Diagnosed?

ODD can be easily confused with other disorders such as Attention Deficit Hyperactivity Disorder and similar behavioral disorders. In order to determine if a child truly meets the criteria for the diagnosis of ODD, the individual is usually evaluated by a mental health professional using DSM 5 criteria (Lindheim et al., 2015). In addition to information provided by caregivers, teacher ratings are also often considered when determining if a child has a behavioral disorder. The complication of these rating scales, however, is that teachers often mistake hyperactivity and inattentiveness for a defiant behavior (Jackson & King, 2004).

Levels of Severity with Oppositional Defiant Disorder

All people are different, everyone has different personalities and ways they handle social situations. That being said, everyone learns differently as well. So, it can't be expected that all students with ODD are all the same. Children may all have similar symptoms of this disorder but the way they react and the level to which the behaviors occur are varied. When a child is specified as having mild ODD, this indicates that symptoms are confined to one area (i.e, classroom, home, etc.). When they are specified as having moderate, students are presenting the symptoms in at least two settings. Finally, in order for the diagnosis to be specified as severe, symptoms would be present in three or more settings (Lindheim et al., 2015) The level of severity of a behavior depends on the consistency that is present. That level would then determine the intensity of an intervention.

How Behaviors of Students with Oppositional Defiant Disorder Impact the Classroom

Matthys et al. (2012) describes students with ODD as having a disorder impacting the social learning process. The argumentative nature of students with this disability makes it difficult to instruct them within the classroom setting. Children often have a "reduced sensitivity

to punishment and to reward” (pg. 234); this can impact the associations they make between behaviors and negative and positive consequences. Learning appropriate behaviors and refraining from certain behaviors is also affected due to this reduced sensitivity (Jackson & King, 2004). Problem solving can also be impaired due to deficits in executive functioning, including difficulties with attention. All of these behaviors make it difficult to work with defiant students. A child with ODD will often argue when he or she does not want to complete a task or are presented with a challenge. It is often debated whether or not to discipline these children due to their skewed perception towards rewards and consequential behaviors.

Interventions to Improve Classroom Performance/Motivation

General Accommodations/Modifications to Implement in the Classroom

One of the most effective ways to accommodate students with ODD in the classroom is to control the antecedents to behaviors. A teacher or educational professional should avoid antecedents such as sharply worded verbal directions (Hall, Williams, & Hall 2000). This type of directive is often argumentative, which opens the door for a power struggle with the student. Avoid unannounced deviations from a routine, including poor transitions. Schedule changes interrupt a daily routine which can often make a student uncomfortable or on edge. Teachers should avoid assigning work that is above a student’s ability level. A child with ODD will shut down or argue when something is too challenging for them. Antecedents that trigger unwanted behavior are unique to every child; it is important to identify antecedents for your specific student and decide how to avoid those antecedents.

Promoting positive behaviors through antecedents is one way to accommodate students. Offering choices to students will give them some sense of control within the classroom; this accommodation could help avoid power struggles in the learning environment (Salend &

Sylvestre, 2005). Having a structured routine is one way to minimize the amount of verbal directives needed; this way, there should be no questioning a part of the school day (Hall & Williams, 2000). A teacher should also establish and teach rules; establishing rules early on and teaching expectations gives a clear sense of what is allowed and not allowed within a classroom setting (Salend & Sylvestre, 2005). Giving children a say in what the rules are also allows them to have some sort of power and responsibility within the classroom (Hall & Williams, 2000). Identifying specific antecedents that trigger a student and providing a positive antecedent will diminish the severity of behaviors within the school setting.

Types of Interventions for Defiant Behaviors

There are many interventions for students with ODD, and some may work for one student but not for another. Every child is unique, therefore, every intervention is unique; because it is based off of a specific individual and planned for that specific individual. A simple but effective intervention could be to teach a child self-management strategies, which allows them to monitor their behavior and make appropriate changes (Salend & Sylvestre, 2005). This can be done by having students record their behaviors and indicate the frequency of them; they can then use self-reinforcement by selecting rewards if appropriate. When you teach a child self-management strategies, you are making them responsible for their behaviors and they need to identify problems and find solutions for each individual problem.

The use of a behavior contract may also be beneficial to a student with behavioral and defiant behaviors (Glee, 2015). These contracts can include a variety of behaviors, are individualized to a child's specific needs, and can be mutually created and agreed upon between the child and the student. Students can select an appropriate reward for exhibiting positive behaviors as indicated on their contract, which could lead to an increase in positive behaviors.

The use of peer interventions can also be an effective strategy for students (Glee, 2015).

Interventions that include classmates can improve upon social skills, which is an area of deficit for students with ODD. A teacher could assign recess partners; disruptive students can be paired with positive peer role models to deter negative behaviors from occurring. “Tootling” is also a good peer strategy. Instead of tattling, kids would offer “tootles” to peers in which they offer them a positive remark or compliment which would increase a child’s self-esteem.

Cross-age mentoring refers to an intervention in which an older child becomes a mentor to one that is younger. This type of intervention opens up an opportunity for an at-risk child to develop a positive peer relationship. It can improve a child’s self-esteem and in turn their confidence (Glee, 2015).

For more severe behaviors, individual intervention could take place. A child may also benefit from therapy involving a professional with experience working with children with behavioral disorders. In extreme cases, medication is also an intervention which would help a child handle this disorder.

Using Data to Track Progress with Interventions

Intervention at an early age is crucial in treating students with ODD. In order to know that an intervention is effective, one must track data and determine trends in data to understand what is helping to promote positive behavior and what is not. A study conducted by Ezpeleta et al. (2016) determined that the level of irritability of early childhood students increased as they got older. In order to decrease a level of irritability, interventions must take place. Risk factors should be identified early in order to increase the likelihood of effective intervention. Collecting data is crucial in providing effective intervention. One way to collect data is through direct observation of the student (Salend & Sylvestre, 2005). It is important to do this in a variety of

settings in order to provide insight into a child's behavioral and academic performance. Educators can also collect information through checklists, rating scales, and questionnaires. Analyzing this data frequently can help to improve on the effectiveness of interventions.

Role of Parents/Families in Intervention

Ways Parents/Guardians Can Improve Classroom Behavior

Communication with your child's educator is crucial in developing a united front when it comes to behavior. Family-centered practice in schools is described as a team working together to improve upon unwanted behaviors. "Parenting is linked to the quality of the social environments in which parents raise their children, such as neighborhoods, community, and schools" (Markward & Bride, 2001, p. 76). Parents working with schools and social workers, in order to improve child behaviors, create a support system and strong foundation for improvement when it comes to behaviors. When parents reinforce what an educator does at school and vice versa, a child is more likely to understand consequences as well as rewards (Grothaus, 2013). Communication is the most essential component when it comes to improving a child's behavior in all settings.

Strategies for Home

Parent and/or guardian participation in assessing and designing intervention efforts is vital to a successful outcome (Grothaus, 2013). Parents/guardians can work with school counselors in order provide a united supporting effort with their child. A counselor can work with a student if there are problems occurring at home. They can also work with parents with their child on problem-solving strategies to use at home. Parents can attend behavior management training; this training uses modeling, coaching, and observation of parent practice at home in order to determine cause of behaviors within the home (French & Kisicki, 2011).

Parenting programs are a great way to learn different strategies which can be implemented at home to promote positive behavior. Parents should also set expectations and consequences within the home similar to those in the educational setting so a child knows what will be tolerated and what will not.

Summary

Oppositional Defiant Disorder is a growing disability among elementary aged students. This disorder can be seen through behaviors such as refusing to comply with directions, blaming or arguing with others, losing their temper, getting easily frustrated or annoyed, and the use of inappropriate language, low self-esteem, aggressive outbursts, and inappropriate social skills (Salend & Sylvestre, 2005). When dealing with a child who has been diagnosed with ODD or children who exhibit these defiant behaviors, it is important to not engage in a power struggle and instead offer an alternative accommodation that gives them some sort of responsibility. Be sure to work closely with families and school teams to ensure that a united standard is set when confronting specific behaviors in all settings. You can speak with your guidance counselor, school nurse, or special education teams, which can also help if you have concerns about dealing with a students' defiance.

CHAPTER III

METHODS

The purpose of this study was to determine whether the implementation of self-monitoring strategies tied to incentives would decrease the amount of argumentative and noncompliant behaviors within the intermediate elementary classroom setting.

Design

This study used a pre-experimental design with a variant of the one-group pretest-posttest design. Students served as their own controls. Data was collected during a weighted baseline period and during an intervention period. The study examined the effects of a self-monitoring intervention and incentives on decreasing behaviors associated with ODD, specifically argumentativeness and noncompliance. The presence of the self-monitoring intervention and incentives program was the independent variable. The dependent variable was arguing, noncompliant, and total defiant scores.

Participants

Participants in this study include 9 intermediate elementary aged students (grades 3 to 5). These participants are currently enrolled in the public school system located in a suburban area. Four students currently in fifth grade, three in fourth, and two in third. The students were purposively selected based on having special education or counseling services or supports met through an IEP or 504 plan related to self-management and/or behavior. All of these students receive services in an inclusive setting within the general education classrooms: 4 students were identified with a primary disability coding of Other Health Impairment (OHI) (disabilities under the OHI coding include ADHD and ODD), 3 with Specific Learning Disability, and 2 with Multiple Disabilities (combination of disabilities include specific learning disabilities,

speech/language impairment, and/or ADHD). Three students in the study have a diagnosis of ODD. Of the 9 selected students, 5 were reported as white, 2 as African American, and 2 as Hispanic. Three of the participants are female and 6 are male.

Instrument

The data collection instrument in this study was a behavior tallying chart developed by this researcher. Teachers tallied the frequencies of arguing behaviors and noncompliant behaviors for each student for each class period. Teachers tallied each incident when a student talked back (argumentative). An argumentative response was one in which the child responded verbally in a challenging way (using tone of voice and phrasing) to a person in authority. This includes 1) comments indicating some type of disagreement with statement or directive from an authority figure and 2) comments that are rude/insolent in response to a teacher statement or directive. If a student made an argumentative statement more than once in an interaction, a tally was recorded for each incidence in the conversation. Teachers also tallied each time a direction was given and a student actively defied or refused to comply with the request and it appeared to be intentional based on verbal or nonverbal cues. This excludes students who simply appear distracted when given directions.

If a student was given the same direction multiple times, a tally was recorded for each time he/she did not comply. In a case where the child does not comply and is talking back to the authority figure, both noncompliant and talking back behaviors were be marked. The frequencies were added together to create an arguing score, a noncompliance score, and a total defiant behavior score (sum of arguing and noncompliant) for each student. Baseline frequencies were doubled because the baseline number of data collection days (4) was half the number of intervention data collection days (8). There is no reliability or validity data for this instrument.

Procedure

Baseline

Teachers were asked to complete the behavior tallying chart for the identified students in the study during a 4-day baseline period in the beginning of the school year. Students were selected randomly to be observed on specific days. It was pre-planned as to what students were to be the focus of the days observations. Students were observed every two days. Group A (2 students) were observed on day 1, group B (2 students) on day 2, and group C (1 student) on day 3. This pattern continued for the remainder of the baseline and intervention period.

Arguing/talking back and noncompliance were selected as targeted behaviors because they relate to two of the DSM-5 (American Psychiatric Association, 2015) symptoms for Oppositional Defiant Disorder that are associated with classroom performance. Data was collected for 4 days per student. This information was used to produce arguing, noncompliance, and total defiance scores. Teachers were able to utilize co-teachers and support staff in order to collect baseline data. At times, teachers would have support staff/co-teachers teach lessons and/or support students so they could observe a student and collect data. At the conclusion of gathering baseline data, students were introduced to the self-monitoring system. Students rated themselves utilizing the following criteria:

1. Did I argue or talk back to an adult?

and

2. Did I follow directions the first time they were given?

They then rate the severity of each behavior indicated using the following rating criteria:

Did I argue or talk back to an adult?

- 1- argued or talked back more than once

- 2- argued or talked back once
- 3- did not argue or talk back at all

Did I follow directions the first time they were given?

- 1- didn't follow directions first time they were given more than once
- 2- didn't follow directions first time they were given once
- 3- always followed directions first time they were given

Students met with the researcher individually to be introduced to the self-monitoring system. They were taught how to use the self-monitoring chart as well as the rating system. Students were given examples of behaviors and were asked to determine if they met criteria for either of the two categories. They were also given samples of descriptions of student behavior throughout a school period (created by researcher) and asked to give each description a rating. This would teach the students directly what is expected for each rating on the self-monitoring scale. Students were also given a student-motivation survey which gave the researcher specific incentives that a student would want to work towards. Students chose to work for incentives ranging from teacher created coupons to earn computer time, sitting at the teacher's desk, lunch with the teacher, etc., to tangible incentives such as pencils, puzzle, and small cars.

Intervention

Students rated themselves after each 30 to 45 minute core class period (4 per day) over a 20 day period. The teacher would meet with the students briefly to confirm or deny their rating at the end of each class period. If the teacher and student ultimately disagreed on a rating, the teacher's rating was used to determine whether or not the child met the criteria for receiving the incentive. At the end of the week, the researcher awarded an incentive if a specific goal was met that week for a number of total points based on the self-monitoring scale. The weekly goals were

made individually for each student collaboratively by the researcher and student. Goals were selected to be achievable and were focused on a low frequency of identified behaviors. Teachers continued to collect data on the behavioral tallying chart.

At the end of the 20-day period, the arguing, noncompliant, and total defiant scores per student were calculated based on the teachers' tallying. Data during the intervention period was collected for 8 days per student.

The baseline and intervention scores were then compared using a paired samples *t*-test.

CHAPTER IV

RESULTS

The purpose of this study was to measure the effectiveness of a self-monitoring system and incentives on reducing behaviors (arguing and non-compliance) characteristic of ODD within the classroom setting. The weighted mean Arguing score (Mean = 29.78, SD = 16.41) was significantly higher during baseline than during the intervention period (Mean = 23.11, SD = 20.20) [$t(8) = 2.51, p = .04$]. The weighted mean Noncompliant score (Mean = 38.44, SD = 20.76) was significantly higher during baseline than during the intervention period (Mean = 32.00, SD = 21.90) [$t(8) = 4.32, p = .003$]. The weighted Total Defiant score (Mean = 68.22, SD = 35.29) was significantly higher during baseline than during the intervention period (Mean = 55.11, SD = 40.24) [$t(8) = 3.44, p = .009$] (see Table 1). Consequently, all facets of the null hypothesis that there would be no significant difference in the mean Arguing, Noncompliant, and Total Defiant scores of intermediate grade students with behavioral difficulties during a weighted baseline period and an intervention period involving self-monitoring and incentives were rejected. Students displayed significantly less of these problematic behaviors during the intervention.

Baseline and Intervention Data

Table 1.

Means, Standard Deviations, and t-Test Results for Arguing, Non-Compliant, and Total Defiant Scores under Weighted Baseline and Intervention Conditions

Scores	Baseline Weighted Means	Baseline Standard Deviations	Intervention Means	Intervention Standard Deviations	t-Statistics
Arguing	29.78	16.41	23.11	20.20	2.51 *
Noncompliant	38.44	20.76	32.00	21.90	4.32**
Total Defiant	68.22	35.29	55.11	40.24	3.44**

N = 9

df = 8

*Significant at $p < .05$

**Significant at $p < .01$

CHAPTER V

DISCUSSION

In today's school system, we are seeing an increase in the number of students who show symptoms and characteristics of ODD. These characteristics can range from mild to severe. Educators must teach appropriate behaviors and self-management strategies in order to encourage each student to meet their full potential in the classroom environment as well as outside of the classroom. These students require extra supports and direct teaching in order to demonstrate skills they will need to be successful.

In this study, the null hypothesis, that there will be no significant difference in the mean Arguing, Noncompliant, and Total Defiant scores of intermediate grade students with behavioral difficulties during a weighted baseline period and an intervention period involving self-monitoring and incentives, was rejected. Students displayed significantly less of these problematic behaviors during the intervention. This study indicates that when given direct teaching of self-management strategies and self-monitoring tools, and when given positive reinforcement for desired behaviors, students can demonstrate appropriate classroom behaviors and decrease the amount of non-compliant/defiant behaviors.

Implications of Results

The purpose of this study was to determine the effects of direct self-management instruction and self-monitoring tools with the support of positive reinforcement, on reducing arguing and non-compliant behaviors among children with behavioral difficulties and characteristics of ODD. The study showed a decrease in all scores during the intervention period (decrease in arguing, non-compliance, and total defiance scores). Teacher interviews after the completion of the intervention indicated that teachers found it difficult at times to collect data.

They found it easier when more than one adult was in the room so they could focus on their teaching as opposed to teaching and observing for specific behaviors. Although sometimes difficult from a data collection perspective, teachers indicated that it was a simple intervention to implement. Observation notes taken during the intervention period indicated that students often would get upset if they rated themselves higher on their self-monitoring tools than the point value that the teacher indicated was appropriate. The conversations that took place about behaviors during this time was beneficial to the building of the student-teacher relationship, as one teacher pointed out. As the intervention continued, students were better able to rate their behaviors appropriately. The cost of this intervention was minimal. Self-monitoring charts and teacher collection data was created using school materials (paper, Microsoft word). Depending on the incentive, costs were generally low. Some students chose to earn coupons for the school day (sit in teachers chair, 5 minutes computer time, be in charge of whiteboard pen, etc.), while others chose tangible rewards such as pencils and small puzzles. Overall, the costs of this intervention were minimal and the intervention was simple to carry out.

Theoretical implications of this research include the relation of this intervention to various studies conducted in the field of behavior. Previous research has demonstrated that positive behavior reinforcement increases the frequency of desired behaviors. B.F Skinner (1938) concluded that behavior is determined by its consequences, be they reinforcements or punishments, which make it more or less likely that the behavior will occur again. This study reinforced the idea that reinforcement of positive behaviors (incentives) can produce a desired behavior. The design of this intervention made it impossible to tease out the impact of self-monitoring versus the impact of teacher provided reinforcers. Therefore, it is impossible to

conclude if the positive results of this study were caused by the impact of positive reinforcers and/or a self-monitoring strategy.

Threats to Validity

There are several factors that threaten both the internal and external validity of this intervention. Internal factors that are threats to the validity include factors such as sample size, lack of control group, and the overall integrity of the intervention. This intervention included a small sampling of students who exhibit a variety of behaviors associated with the characteristics of ODD. A sampling of 9 students would not be an adequate representation of the population. Also, with only 9 students involved in this study, significant outlier behaviors other than those included in this study would have an impact on the overall results of this intervention.

Another threat to internal validity would include the absence of a control group. Without a control group, it was not possible to assign students randomly to groups which would have helped control for validity factors such as history and maturation.

An important threat to the internal validity of the study is the reliability of the data collection. There were several different adults responsible for collecting data. Prior to baseline data collection, the observational system and the basis for assigning tally marks was explained. However, observers may have varied in some judgement decisions. There was also the potential for unintentional rater bias because observers were aware that a study was taking place. Observers may have missed occurrences of the specific behaviors because of the various factors that occurred during a class period (teaching, working in small group, addressing other student behaviors, etc.).

Another internal validity threat is that there were no contingencies in place for children making accurate ratings of their behavior. There was also no analysis of how student ratings

corresponded with observer ratings. Consequently, it is unknown how much effort and reflection students put into their self-monitoring.

External validity was also threatened by several factors throughout this study. Although all the students in the study had behavioral difficulties and characteristics of ODD, not all students had officially been diagnosed with this disorder. Consequently, the results cannot be generalized specifically to students with ODD diagnoses. Further, even among students with official ODD diagnoses, there is variability in characteristics and severity. Not all students would display the same behaviors with the same intensity. Also, not all students would display the same behavior in identical ways. This limits the ability to generalize the results of this study to all students with ODD or ODD characteristics.

The timing of this intervention could also be a potential threat to external validity because the short intervention measures the change in behaviors only during a specific time period during the school year. The results cannot be generalized to a lengthy intervention. It is possible that the effectiveness of the intervention may have increased or decreased over a longer period. Students may also respond differently at the beginning of the school year.

Data was only collected during students' core classes (reading, writing, math, science/social studies). Therefore, data from non-structured times of the day were not taken into consideration for the purposes of this research study and findings cannot be generalized to these settings.

Connections to Previous Studies/Existing Literature

Many studies have been conducted involving how to work with students who display characteristics of ODD. With the increase in behavior issues in the classroom, teachers often become overwhelmed and are not equipped with the proper tools and training in order to deal

with these behavioral increases. Research has informed us that teachers should establish and teach rules early on so students can understand what is expected of them from the beginning. (Salend & Sylvestre, 2005). Implementing this research study and teaching these self-management strategies early on has helped the participating students develop more positive behaviors throughout the intervention period. Salend & Sylvestre (2005) mention that teaching a child self-management strategies allows them to monitor their behavior and make appropriate changes. This had been documented throughout this study; having the student's monitor their own behavior had given them the ownership and responsibility for their actions. When they have this ownership and responsibility, they are more motivated to have a positive result. Glee (2015) stated that behavioral contracts are a good strategy to implement when dealing with students with behavior issues. In this study, the students had individualized goals and incentives, similar to a behavioral contract. Consistent with what has been reported by Glee with behavioral contracts, the students were motivated by tracking data related to behavior.

In this study, students were motivated by tracking data and earning the most points they could earn daily in order to earn desired incentives. The current research confirms that interventions similar to behavioral contracts are effective with students displaying characteristics of ODD.

Implications for Future Research

Future research will need to focus on a longer duration of time for the intervention. The short time span of this intervention indicates negative behaviors can be decreased, however the lasting effects of this intervention over the length of the school year is not known. Future research could also compare the studied group to different populations such as students with

ADHD or other Emotional Disabilities. A control group could also be incorporated in future designs in order to control for more variables.

It has often been observed that many teachers do not have training in the area of behavior. In addition, they do not receive much support throughout the school environment. Educators must be aware of how to work with behavioral issues and ways to encourage positive feedback and experiences. Relationships with students with ODD characteristics is crucial in the development of positive behaviors. Future research could incorporate educator training as a factor when determining the effectiveness of this behavioral intervention.

Family support and communication with those close to the student are also an important factors in achieving the desired behaviors in the home and school setting (Grothaus, 2013). More needs to be done in order to better prepare educators for the role of behavior interventions within the classroom setting. In addition, more supports need to be made available to families and communities in order to present a united front when dealing with students with behavioral deficits. Future research could include a parental involvement component to determine if parent-teacher communication aids the effectiveness of the intervention.

Conclusions/Summary

The results of this study indicate that there was statistically a significant decrease in argumentative and non-compliant behavior as measured by teacher observation through the use of a self monitoring system and incentives with students exhibiting characteristics of ODD. However, the study had significant validity concerns that may have impacted these findings. Research has indicated that early intervention and the teaching of self-management and self-monitoring skills can have a positive impact on student behavior. The data collected during this intervention indicates the importance of continued research in the field of behavior. The success

of this intervention and the continuation of research could lead to better learners and in turn lead to more successful adults.

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