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Using daily behavior report cards as intervention for primary school students with ADHD

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Using daily behavior report cards as intervention for primary school students with ADHD

Abstract

This study is a secondary analysis of the Daily Behavior Report Card (DBRC), for three primary school aged children diagnosed with ADHD. These children are characterized as having difficulty sustaining attention at school and play, as well as exhibiting inappropriately high levels of hyperactivity-impulsivity. The DBRC data were collected over an eight week period and chartered similar to a single system design for each student. Results showed steady improvement for some, but not all three students.

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USING DAILY BEHAVIOR REPORT CARDS AS
AN INTERVENTION FOR PRIMARY SCHOOL
STUDENTS WITH ADHD

By

Kristina Schaefer

A Senior Thesis Submitted to the

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Honors College

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With Honors in Social Work

Approved at Ypsilanti, Michigan, on this date _____

Supervising Instructor

Honors Advisor

Department Head

Honors Director

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Abstract

This study is a secondary analysis of the Daily Behavior Report Card (DBRC), for three primary school aged children diagnosed with ADHD. These children are characterized as having difficulty sustaining attention at school and play, as well as exhibiting inappropriately high levels of hyperactivity-impulsivity. The DBRC data were collected over an eight week period and charted similar to a single system design for each student. Results showed steady improvement for some, but not all three students.

Introduction

Today, many children struggle with a medical condition known as Attention Deficit Hyperactivity Disorder (ADHD). These children are characterized as having difficulty sustaining attention at school and play, as well as exhibiting inappropriately high levels of hyperactivity-impulsivity (APA, 2000; DuPaul & Stoner, 2003) . When the child diagnosed with ADHD enters school, the difficulties with inattention, impulsivity and hyperactivity may become more troublesome. This is due in large part to the nature of the classroom environment where children are expected to sustain attention, complete schoolwork on time, and organize their activities (APA, 2000; U.S. Department of Education, 2003) .

A child diagnosed with ADHD often has a very difficult time attempting to fulfill the requirements for student achievement in classroom. They are expected to sit still, listen to the teacher, not disrupt the class, and finish their assignments in a timely manner. If one reviews the primary symptoms of ADHD, it is clear that most children diagnosed

with ADHD will not easily meet these expectations. ADHD's core symptoms which include inattention, hyperactivity, and impulsivity, make meeting the daily rigors of school challenging (DuPaul & Stoner, 2003; Shillingford et al., 2007; Zentall, 1993) . Symptoms do not only make the classroom experience challenging for the student diagnosed with ADHD, but also for classmates. Additionally, the teacher may have more difficulties with classroom instruction due to the hyperactivity, impulsivity, and inattention of this student. Because of these challenges, a teacher who has a student with ADHD may choose to implement a behavior modification tool such as the Daily Behavior Report Card for student with ADHD.

This study evaluated secondary data which was already collected by an unnamed primary school in the Mid West. This primary school has implemented school-wide Positive Behavioral Interventions and Supports (PBS) and is currently collecting data for a larger study (Dunlap et al., 2008; Hieneman et al., 2005; Sugai et al., 2000) . Currently in this primary school, students who are disruptive in the classroom, including some students diagnosed with ADHD, are given goals for their Daily Behavior Report Cards by their teachers. This data is collected by the primary school, and is part of the larger PBS School wide study which tracks positive interventions that have been implemented throughout the school.

Currently the data from the Daily Behavior Report Cards are not being studied or evaluated by the school, other than filling out the cards on a daily basis. This study evaluated this secondary data for three specific students in order to examine to what extent the DBRC increased on-task behavior and decreased disruptive behavior in these

select students. The 3 students selected by their teacher for this secondary data analysis were medically diagnosed with ADHD and were already identified to receive the DBRC intervention due to their inappropriate classroom behavior.

This researcher did not have direct contact with the students, but rather collected the de-identified DBRC forms weekly from the teachers for secondary data analysis. The results from this secondary data analysis of DBRC could help school personnel to better understand to what degree the DBRC forms were effective over time in decreasing students' negative behaviors in the classroom.

Literature Review

ADHD as a Childhood Diagnosis

What are the symptoms of ADHD? The DSM-IV-TR (APA, 2000) lists 18 core symptoms of ADHD, which are divided into 2 major behavioral domains: (1) inattention and (2) impulsivity-hyperactivity. Among the 9 symptoms of inattention are: often makes careless mistakes, often has difficulty sustaining attention in play or other activities, often does not follow through on instructions and fails to finish schoolwork, and often does not seem to listen when spoken to directly (e.g., APA, 2000; U.S. Department of Education, 2003) . If one were to list these attributes to many parents of young children, they might agree their child exhibits these symptoms to some degree as well. That is because many children exhibit these characteristics on occasion. “The symptoms of inattention and hyperactivity are not abnormal in themselves; they are only

abnormal when they are excessive. What characterizes children with ADHD is the intensity, the persistence, and timing of these symptoms” (Wender, 2000, p. 8) .

The individual with ADHD has difficulties in the home, school or work environment due to the symptoms of ADHD. The individual’s success is impaired because of these symptoms. Researchers have found that this is a prevalent diagnostic disorder for many students, which correlates with negative academic, social, and personal consequences (DuPaul, 2007; Miranda et al., 2006; Shillingford et al., 2007) . An individual with symptoms of ADHD, but without impairment at home, school, or in the workplace, should not be diagnosed with ADHD. The DSM-IV-TR specifically states that this diagnosis should only be made if symptoms cause clinically significant impairment in social, academic, or occupational functioning, and are present in at least two settings (APA, 2000) .

Impact on Society

ADHD affects many communities, at both the school level and at the individual and family level. Epidemiologic studies indicate that approximately 3 – 7% of the school-age population in the United States exhibits clinically significant levels of ADHD (APA, 2000; DuPaul, 2007; Evans et al., 2006; Miranda et al., 2006; U.S. Department of Education, 2003) . ADHD has become a relevant educational issue due to the number of students diagnosed with this medical condition, as well as due to the costs associated with ADHD. In the United States, additional expenditures by public schools on behalf of students with ADHD amounted to over \$3 billion annually during the 1990s (Miranda et

al., 2006; Shillingford et al., 2007) . This \$3 billion figure is certain to rise in the future because the number of students diagnosed with ADHD is on the rise.

In 2006 students “diagnosed with ADHD comprised the largest group of students in special education, under the category of ‘Other Health Impaired’. Since 1993 the number of elementary school aged children classified as ‘Other Health Impaired’ increased 204%.” (Evans et al., 2006, p. 360) . Educating children classified as “Other Health Impaired” involves numerous expenditures by school districts. Per pupil special education expenditures for each student classified as “Other Health Impaired” i.e., (above and beyond regular education costs) were \$6,510 for the 1999-2000 school year (Chambers et al., 2003; Pelham et al., 2007) .

The State of Michigan cut \$165 of funding per student in 2009, and school districts throughout Michigan are facing an economic crisis with unavoidable spending cuts. As Michigan school districts deal with budget shortfalls, there is a need to identify cost effective, empirically supported, behavioral interventions for “Other Health Impaired” students diagnosed with ADHD. One type of cost effective, empirically supported behavior interventions is the Daily Behavior Report Card.

Current Status of the Treatment Research for Children Diagnosed with ADHD

“Only three treatments have been empirically supported as effective treatments for ADHD: (1) central nervous system (CNS) stimulants, (2) behavior modification, and (3) the combination of (1) and (2)” (Pelham et al., 1998, p. 190) . Pharmacological intervention is the most widely used intervention for children with ADHD (DuPaul,

2007; Parens & Johnston 2007; Pelham, et al., 2000; Trout et al., 2007) . Although medication is the most commonplace treatment, there are also behavioral treatment options which have also been empirically tested and proven effective (Chafouleas et al., 2002; Parens & Johnston, 2009; Pelham et al., 2000; Todd et al., 2008) .

A parent whose child is diagnosed with ADHD has to decide which treatment option they will choose for their child. The diverse literature and research studies regarding treatment for ADHD can make this decision very complicated for parents. “The efficacy of a range of interventions for attention deficit disorder is still a matter of lively debate, and there is growing concern over the increase in diagnosis, the rate of prescription drugs, and the use of medication as the sole method of treatment. Juxtaposed with the increase in diagnosis is a phenomenal growth in literature on this topic” (Purdie et al., 2002, p. 61) . Due to the disruptive and pervasive nature of ADHD, parents need to work with professionals in order to identify effective treatment choices which will manage the symptoms and improve their child’s chance of classroom success. (Parens & Johnston, 2009; Shillingford, et al., 2007; Zwi, et al., 2000) .

Medical Intervention

Ritalin or methylphenidate (MPH) is the most commonly researched treatment for ADHD. “Overall the state of the literature on stimulant treatment suggests that (a) stimulants are efficacious, but produce improvement rather than normalization of functioning...and more studies need to be conducted that examine the interaction between psychosocial interventions and stimulant medication” (Evans et al., 2006, p.

360) . There has been extensive literature published regarding the efficacy of pharmacological treatments for the symptoms of ADHD.

One of the cornerstones of ADHD research is the federally funded Multimodal Treatment Study of Children with Attention-Deficit/Hyperactivity Disorder published by the MTA Cooperative Group (MTA Cooperative Group, 1999a, 1999b) . This national randomized clinical trial, funded by NIMH, followed a group of 579 children, diagnosed with ADHD over the span of 14 months. This study is often regarded by medical researchers as a benchmark of research. The MTA Cooperative Group found that “combined behavioral intervention, and stimulant medication – multimodal treatment...yielded no significantly greater benefits than medication management for core ADHD symptoms” (MTA Cooperative Group, 1999a, p. 1078) . The MTA Cooperative Group found that medication alone proved to be more effective than combined intervention or behavioral intervention.

Citing the effectiveness of the medical model as treatment for ADHD has not been without controversy. Behavioral researchers have raised serious methodological issues regarding the MTA Cooperative Group’s quantitative results. These results pointed to the ineffectiveness of non-pharmacological, behavioral interventions (e.g., Miranda, 2007; Trout et al., 2007; Zwi et al., 2000) .

In response to these methodological concerns, researchers conducted refined secondary data analyses of the MTA Cooperative Group Study data. The outcomes of these secondary analyses differed from the outcomes of the MTA Cooperative Group Study. The secondary data analyses indicated that the highest percentage of

improvement was seen in children involved with combined intervention (68%), followed by children under medication management (56%), and children involved exclusively in the behavioral intervention (34%). Additionally, children who participated with the combined intervention received lower dosages of medication compared to children who were receiving only medication management (Miranda et al., 2006; Parens & Johnston 2009; Swanson et al., 2001) . These interesting findings suggest that some children participating in a behavioral intervention could be treated successfully with a lower dosage of medication (Fabiano & Pelham 2003; Fairbanks et al., 2007; Parens & Johnston, 2009; Pelham et al., 2000; Shillingford et al., 2007; Todd et al., 2008) .

Additionally, much controversy surrounds the side effects and the frequent prescription of stimulant medications. Two common negative side effects of Adderall, MPH, Ritalin or Vyvanse are appetite suppression and difficulty falling asleep. Other side effects include headaches, stomachaches, increased blood pressure, and increased heart rate (Parens & Johnston, 2009; Purdie et al., 2002) . Additionally, this medication only works for fifty to eighty percent of the prescribed population (DuPaul, & Eckert, 1997; Parens & Johnston, 2009) . Thus, medication is not the exclusive empirically tested treatment to improve functioning of children diagnosed with ADHD.

Behavioral Interventions

Although it is true that pharmacological treatments have been proven effective in improving the symptoms of ADHD; one must also be aware that there are also effective empirically tested behavioral treatments for ADHD that do not require the use of

medication. There are certainly parents of children diagnosed with ADHD who would prefer a non-pharmacological treatment.

In contrast to the findings of medical researchers, behavioral researchers have found evidence for behavioral treatments as a means of lowering problematic symptoms associated with ADHD treatments (Fabiano, 2003; Fairbanks et al., 2007; Parens & Johnston, 2009; Pelham et al., 2000; Shillingford et al., 2007; Todd et al., 2008) . For example, at 8 week summer treatment programs (STP), at the University of Pittsburgh, University of California-Irvine, and the University of California-Berkley, researchers studied 57 children who were receiving medication and behavior treatment and 60 children who received only behavioral treatments (Pelham et al., 2000) .

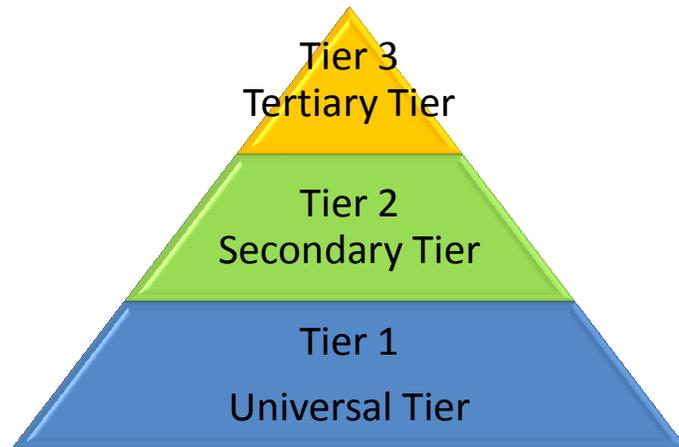
The researchers discovered that “children who received behavioral treatment alone performed as well as those who received concurrent medication throughout the summer on 25 of 30 dependent measures...Almost all children were rated as improved and the treatment was seen as beneficial by parents of the children” (Pelham et al., 2000, p. 520) . This contrasted with the researchers’ beliefs prior to the study. The researchers initially hypothesized that with concurrent medication, children would respond to behavioral treatments at a faster rate. “Daily medication added little to performance and improvement on objective measures in the STP” (Pelham et al., 2000, p. 520) . The finding that behavioral treatments are as effective as medication for some children gives teachers additional tools which can be utilized in order to improve the classroom experience for the child diagnosed with ADHD. As a first step, teachers could implement

a behavior modification tool. The Daily Behavior Report Card could be implemented order to reduce the negative symptoms of the student diagnosed with ADHD.

Universal Intervention/School Wide Positive Behavior Support

Schools throughout the United States use empirically supported behavioral modification tools as classroom interventions for children with ADHD. One of these classroom interventions, the Daily Behavior Report Card (DBRC), is part of a School wide Positive Behavior Support program (Dunlap et al., 2008; Hawken & Horner, 2003; Todd et al., 2008) .

Positive Behavior Support, (PBS) is an evidenced-based 3 tiered integrated system of support for the student, classroom and school. The PBS program is a prevention model which focuses on encouraging student's positive behaviors and addresses the needs of the school as a whole (see Figure 1). Tier 1 is the universal tier while the classroom and individual students with moderate behavioral issues are Tier 2, or secondary tier. Finally, individual students with chronic, frequent, dangerous, or highly disruptive behaviors are in Tier 3 or tertiary tier. (Dunlap et al., 2008; Hieneman et al., 2005; Sprague & Golly, 2005; Sugai et al., 2000) .

Figure 1

The PBS program has been empirically tested in a series of studies conducted by researchers at the University of Oregon. These studies have shown reductions in office discipline referrals of up to 50 percent (Metzler et al., 2001; Sprague & Golly, 2005; Taylor-Greene et al., 1997). There have also been studies documenting the reduction of antisocial behavior, vandalism and aggression as well as increased academic achievement and school engagement of students involved with the PBS program (Sprague et al., 2005; Mayer, 1995). Hundreds of schools in Michigan have chosen to adopt the PBS program because of the positive student changes documented in the research studies at the University of Oregon.

Due to the empirically based evidence regarding the success of the PBS program, the Michigan State Board of Education has had the policy since 2006 that, “each school

district in Michigan implement a system of School wide positive behavior support strategies” (Dunlap et al., 2008, p. vii) . School wide behavioral data collection systems such as the PBS program can be used to identify young students who may just be beginning to experience behavioral difficulty (Dunlap et al., 2008; Fairbanks et al., 2007; Todd et al., 2008) .

Once individual students with behavioral challenges are recognized, they are identified as tier 2, requiring moderate support e.g., the DBRC for students with behavioral challenges, or tier 3 requiring intensive support (Dunlap et al., 2008; Sprague & Golly, 2005; Sugai et al., 2000). The PBS program provides students with ADHD, who struggle in the classroom, additional opportunities for individual behavior support through tier 2 support interventions, such as the DBRC.

Classroom Interventions

A child who has mild to moderate ADHD can often be helped in school with the implementation of a personalized Behavior Modification Plan, such as the Daily Behavior Report Card. It must be noted that within the literature, Daily Behavior Report Cards have been referred to under a number of different titles, including Check in-Check out (Todd et al., 2008; Fairbanks et al., 2007), Behavior Chart (Shillingford et al., 2007), Daily Behavior Report Card (DuPaul, 2007; Pelham et al., 2000; Shillingford et al., 2007), and Daily Report Card (Arnold, & the ADHD Parent Cooperative Group, 2002; Morisoli and McLaughlin 2004). Even though Daily Behavior Report Cards are often labeled with different terms, all these terms refer to behavioral interventions which share

common characteristics (Chafouleas et al., 2002; Fairbanks et al., 2007; Todd et al., 2008).

The characteristics of the DBRC include (a) list of 1 - 3 target behavior(s) for the student, (b) the student's target behavior(s) is rated by teacher following each school period, (c) these behavioral ratings are communicated throughout the school day with the student on the DBRC, (d) the tallied DBRC is sent home with the student at the end of each school day for parent's signature, (e) the student returns the DBRC to school the following morning with parent's signature and any parental comments or concerns. (Arnold and the ADHD Parent Cooperative Group, 2002; Chafouleas et al., 2002; Dunlap et al., 2008; Hawken & Horner, 2003; Todd et al., 2008). Once the DBRC is reviewed by the parents and returned to school the data from the DBRC is collected and evaluated. This data is summarized weekly in order to monitor the progress of the student and the success of the DBRC. The student's DBRC target behaviors are reviewed periodically and modified according to the student's developing needs (Dunlap et al., 2008; Hawken & Horner 2003; Sugai et al., 2000; Todd et al., 2008) .

The individualized format of the DBRC allows teachers to provide at risk students with customized targeted behavior support. The DBRC flexibility also allows for multiple criteria to be organized according to the needs of the individual student (Dunlap et al., 2008; Hawken & Horner, 2003; Hieneman et al., 2005; Todd et al., 2008) . For example, the DBRC can be customized for the individual student's targeted behavior. This targeted behavior could be behavioral, academic, or attempting to increase or decrease a target behavior (Chafouleas et al., 2002; Chafouleas, et al., 2007; Hawken & Horner 2003; Morisoli & McLaughlin, 2004; Todd et al., 2008) .

The DBRC also shares characteristics of both systematic direct observation and behavior rating scales. The rating process of the DBRC is similar to a behavior rating scale (e.g. “On a scale of 1 – 5 how well did Susie follow classroom instructions?”). The DBRC is similar to systematic direct observation because the teacher rates the student’s target behaviors frequently, approximately every hour (Chafouleas et al., 2002; Chafouleas et al., 2007; Hawken & Horner, 2003; Todd et al., 2008) .

The DBRC can, if supported fully by collaboration of the student, parent, teacher and counselor, greatly increase the student’s success at school. The DBRC has the potential to fill in several gaps for students who are at risk to have learning and behavior problems (Burke & Vannest, 2008; Fabiano & Pelham 2003; Fairbanks, 2007; Morisoli & McLaughlin 2004) . The DBRC provides the student increased monitoring and teacher’s feedback regarding the student’s classroom behavior. Additionally, the DBRC is a tool which is utilized between the teacher and the parents in order to communicate the student’s daily behavior.

In summary, children with ADHD may be affected by a variety of distracting, impulsive, and inattentive behaviors. In school these behaviors can cause distractions and disruptions to classroom instruction and student learning. There are currently three treatment options which are empirically supported for the treatment of children diagnosed with ADHD: medication, behavioral intervention, or a combination of both medication and behavioral intervention.

The most common intervention for children diagnosed with ADHD is medication, i.e., Adderall, MPH, Ritalin, or Vyvanse. Behavioral interventions are another option

which may appeal to classroom teachers. The teacher may implement an empirically supported Behavioral Modification Plan for students with ADHD and disruptive classroom behaviors. This intervention can be used alone or in combination with medication. Recent literature supports the use of the Daily Behavior Report Card as an effective tool for managing the disruptive behaviors of children with ADHD in the classroom.

Method

Setting

The study took place in a public primary school (Grades K-5) of 450 students. This primary school is located within a city in southeastern Michigan with a population of 4,264 as of the 2000 census. The population of the city is comprised of 96.74% Caucasian, 0.52% African American, 0.33% Native American, 0.40% Asian, 0.59, other races, and 1.43% from two or more races.

Participants

The records of 3 children were used for this study. The participants were comprised of 2 males and 1 female student ranging between the ages of 6 and 9 and between the first through third grades. These students were involved in the school wide PBS program and were selected for the DBRC intervention due to classroom behavior problems.

Teachers selected the records of 3 specific students for the secondary analysis for this study who were currently already involved in the DBRC intervention for this study. These 3 students had received a medical diagnosis of ADHD by their physician. The

teachers selected these specific students' records in response to the researcher's interest in how students with ADHD were responding to this intervention. In the selection process of the records for the 3 students, the following criteria: 1) participant in PBS study, 2) formal diagnosis of ADHD (mild-moderate severity), 3) unmedicated, or if medicated, taking current medication for at least 6 months, and 4) parental consent in writing. These children's names and identities remained confidential and were referred to throughout the study as Student A, Student B, or Student C.

Three primary school teachers also participated in this study. The researcher conducted a qualitative interview with each of the three teachers independently. This interview consisted of 6 questions regarding the DBRC (see Appendix). The researcher obtained each teacher's informed consent to participate in the qualitative interview. The individual teacher's answers to the questions were not identified and their names remained confidential.

Informed Consent

Prior to the onset of this study, the principal of the primary school consented to have this secondary data analysis of the DBRC data performed in her primary school. Upon receiving approval from the primary school principal, the researcher applied to the College of Health and Human Services (CHHS) Human Subjects Review Committee for approval. The CHHS Human Subjects Committee gave approval on December 10, 2009. The parents of the three participants were contacted following approval from the CHHS Human Subjects Review Committee and the researcher obtained each child's parent's

informed consent. As noted earlier, the researcher also obtained the informed consent of the three teachers who participated in the DBRC Qualitative Interview.

Sample

This sample was a sample of convenience. The 3 participants were already identified to receive the DBRC intervention due to their inappropriate classroom behavior. The 3 students were receiving the intervention prior to the onset of this study, but the collaborative results were not analyzed. The DBRC data from the three students were made available to the researcher for secondary analysis.

Data from the following participants were analyzed: Student A) first grade female student diagnosed with ADHD and on medication for 6 months prior to beginning of study, Student B) second grade male student diagnosed with ADHD, not currently taking medication for ADHD, and Student C) third grade male student diagnosed with ADHD, not currently taking medication for ADHD.

Intervention – Independent Variable

Daily Behavior Report Card

Each school day the three children's individual teachers filled out a personalized Daily Behavior Report Card for each of them (see Figure 2). The DBRC was on an 8.5-inch x 11-inch piece of paper. The individual student's name and date were included on the upper left side of the DBRC; the student's target behaviors with a rating scale for each period were on the middle portion of the DBRC. Located on the upper right side of the DBRC were the total points possible, the points the student accumulated, the

percentage of points, as well as if the student met his/her daily 80% goal. The bottom of the DBRC contained space for the parent’s signature and the check in-check out mentor’s signature.

Figure 2

Daily Behavior Report Card

2 - Great Job!

1 - So, so

0 - Doesn't meet goal

Points Possible _____

Points Received _____

% of Points _____

Goal Met _____

Name: _____

Date: _____

Goals

Target Behaviors	Morning Work/ Centers	Math	Writing	Language Arts	Science/ Social Studies	Special Classes
Be quiet when the teacher and others are talking	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0
Follow directions the first time they are given	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0
Completes work on time	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0

Parent Signature: _____ Check In _____ Check Out _____

The DBRC listed 1-3 target behaviors daily for the individual student. These students had an individual “mentor” teacher with whom they ‘checked in” and “checked’ out with daily regarding their Behavior Plan. Each morning these “mentor” teachers gave the individual students a “pep talk” they reviewed the behavior plan together. The mentor focused on the student’s strengths, and his or her ability to reach their daily goal of receiving 80% of total DBRC points. The student’s classroom teacher rated targeted behaviors on the DBRC during each classroom period, approximately every hour. They utilized the following rating scale: 0 for target behavior not reached, 1 for target behavior

almost reached, and 2 for target behavior met (see Figure 3). Throughout the school day the DBRC was kept within the student’s sight, usually on top of his/her desk.

Figure 3

Sample Daily Behavior Report Card

2 - Great Job!

1 - So, so

0 - Doesn't meet goal

Name: **John Smith**
Date: **Nov. 25, 2009**

Points Possible **36**
Points Received **29**
% of Points **80%**
Goal Met **Yes**

Goals

Target Behaviors	Morning Work/ Centers	Math	Writing	Language Arts	Science/ Social Studies	Special Classes
Be quiet when the teacher and others are talking	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0
Follow directions the first time they are given	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0
Completes work on time	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0

Parent Signature: _____ Check In _____ Check Out _____

At the conclusion of the school day, the mentor’s check in–check out process was repeated. The student checked out with his/her mentor in order to review the number of points the student accumulated, and if the student was able to achieve their goal of 80% of total DBRC points. During the student’s check out process, the “mentor” teacher once again gave the student a pep talk regarding the student’s ability to reach his 80% target. This pep talk occurred regardless, whether the student reached the 80% target or not. One of the goals of the DBRC process was to empower the student and build on his or her strengths, rather than weaknesses.

The DBRC containing behavioral ratings from the student's teacher was sent home daily with the student for a parent's signature and comments. The student returned the DBRC to school the following day with a parent's signature. Thus the DBRC process gave both the teacher and the parent of the child a form of daily communication regarding the child's progress at school.

Office Discipline Referrals

Office discipline referrals (ODRs) were instances in which a student's problem behavior placed him/her or others at risk, or resulted in a major disruption of instruction for other students. This administrative data of ODR were reviewed for the 3 months prior to the beginning of the study for all of the three students and then it was compared to the 2 months of the study's duration. ODR data were collected by the Principal's office in this school as routine administrative information. If the Principal needed to visit the classroom because the student was too disruptive to come to the office, it was not recorded in the usual dataset for ODR. Because it was a rare event, anecdotal information about it was considered reliable.

Qualitative Interview with Teachers

The purpose of the qualitative interview was to measure whether the 3 teachers perceived the DBRC as an effective behavioral modification tool. The researcher individually interviewed the 3 teachers involved with the DBRC intervention 6 weeks after the study commenced. Each teacher was asked a set of 5 open-ended questions (see Appendix). These questions assessed the following: if the teacher felt the DBRC was

working, what were the negative aspects of the DBRC, what the positive aspects of the DBRC were, what student behaviors prompted the implementation of the DBRC, and how they thought the 3 individual students perceived the DBRC.

Data Collection

The researcher collected the 3 research study participants' de-identified DBRC forms weekly from the 3 individual teachers at the primary school. These completed DBRC forms had not been further analyzed by the primary school and therefore constituted secondary data. The secondary DBRC data were analyzed for this study.

Data were collected for 4 weeks from November 23 – December 18, 2009 and for 4 additional weeks from January 4 – January 29, 2010. Data were not collected from December 19, 2009 – January 3, 2010 due to Christmas vacation. The students did not use the DBRC intervention during Christmas vacation.

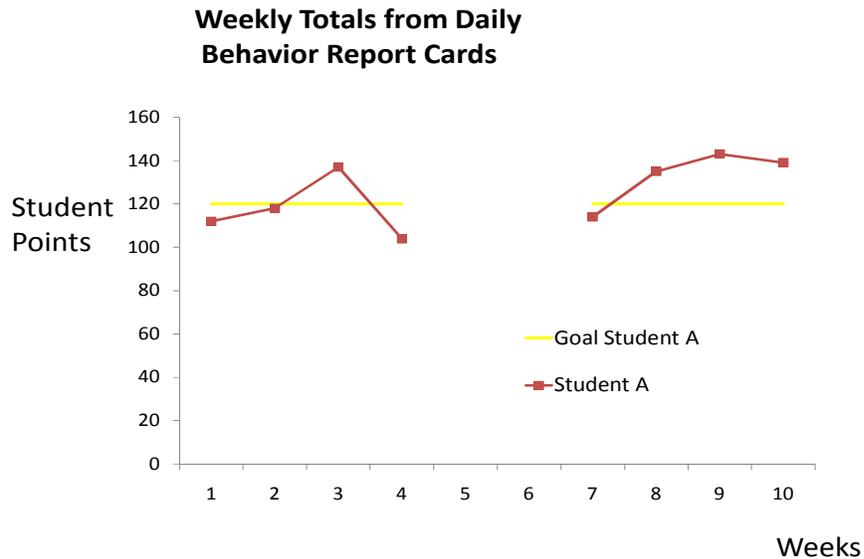
Results

The results for the analysis of the DBRC will be reported first for the 3 students on an individual basis. Following the individual results, comparisons will be made as a group. The DBRC data were analyzed according to a single system model and will therefore be presented in graphs. The DBRC weekly data results will be followed by the qualitative teacher interview results as well as the office discipline referral results.

DBRCs Weekly Data

Student A, the first grade female on medication for ADHD, met her weekly goal of receiving 80% of DBRC points for 4 of the 8 weeks, thus for 50% of the time. Her scores showed an upward trend (See Figure 5). There were no points calculated for weeks 5 and 6 due to the primary school’s holiday vacation. Student A was not receiving the DBRC intervention during weeks 5 and 6.

Figure 5



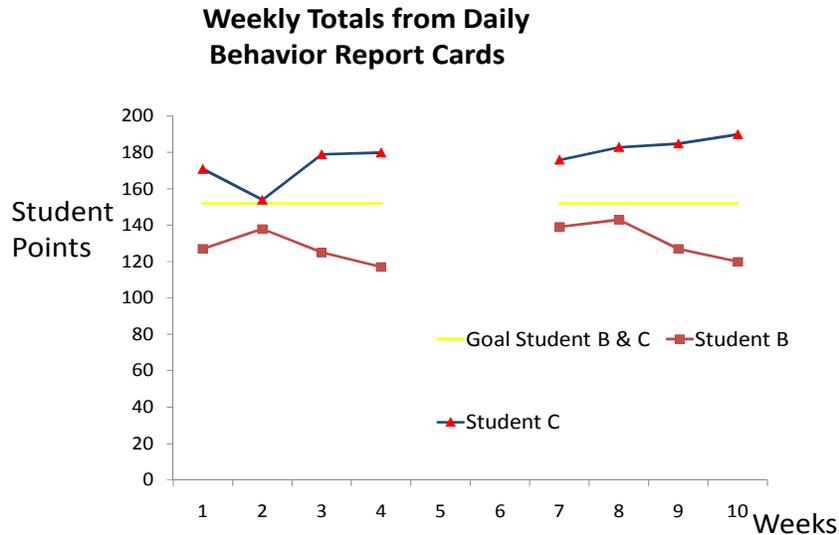
The DBRC data from student A were intentionally not put on the same graph as student B and C due to differences in their school schedules. Student A was in first grade and has 1 less school subject daily. The daily point total for the DBRC of student A is therefore 6 points less than student B and C, who each have 1 additional school subject daily. As a result, the DBRC data from student B and C can be located on the same graph (see Figure 6).

Student B, the second grade male, who was not taking medication for ADHD, did not meet his weekly goal of receiving 80 % of DBRC points any week. His scores were erratic and did not show an upward or downward trend (see Figure 6). He was also not receiving the behavioral intervention during the school break.

Student C, the third grade male, who was not taking medication for ADHD, met his weekly goal of receiving 80% of DBRC points for all 8 weeks, 100% of the time. His scores showed an upward trend (see Figure 6). He was also not receiving the behavioral intervention during school break.

The 3 participants had differing results with the DBRC implementation. Student C had the most success, in fact 100% success, of meeting the 80% of the total points during the two months of data analyzed with the DBRC intervention. Student A had less success, namely meeting the targeted number of points 50% during the two months observed. Student B did not demonstrate success with the DBRC intervention. Student B did not demonstrate success with the DBRC intervention, in terms of the points acquired with the DBRC.

Figure 6

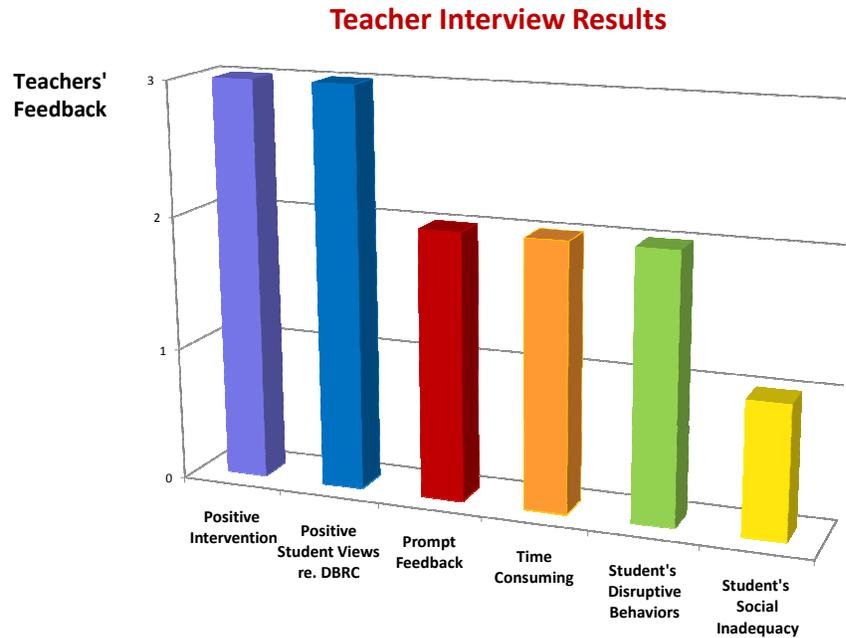


Qualitative Interviews with Teachers

The 3 individual teachers all found that the DBRC was a positive intervention, even though they may have thought differently when they initiated the intervention. One teacher stated “I did not look forward to using the DBRC initially. I was worried it offered too many rewards. However, I have been pleasantly surprised by the results.”

Two teachers felt that the prompt feedback given to student regarding his/her behavior was a key element in the effectiveness of this intervention. All 3 teachers stated that the DBRC intervention could be time consuming, and they found this to be a negative characteristic. The teachers all felt that the individual students involved with the DBRC intervention found it to be a positive experience. The qualitative answers from all 3 teachers were organized into a bar graph (See Figure 7).

Figure 7



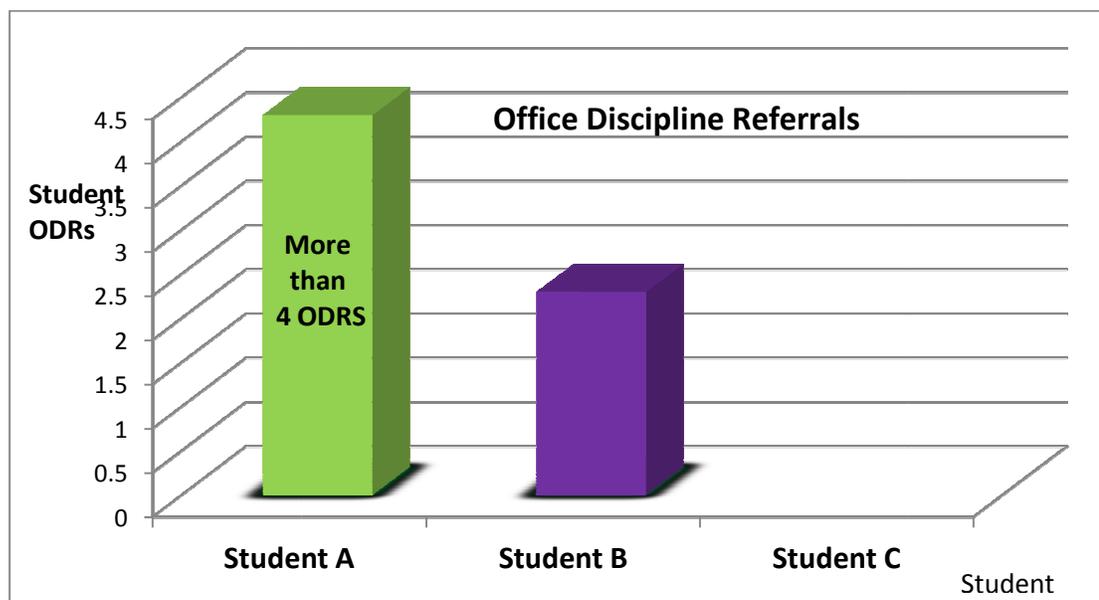
Office Discipline Referrals

Figure 8 provides the number of office discipline referrals (ODRs) for each student in the 3 months prior to the implementation of the DBRC intervention. This data had already been collected and documented by the school principal on a routine basis before the study began. Student C did not have any ODRs in the 3 months prior to the DBRC intervention while student B had 2 ODRs during that same time period.

Student A did not have any documentation for ODRs for the 3 months prior to the study, however, she required personal intervention by the school's principal periodically. The principal needed to go to this participant's classroom because of the significant problem behavior the student was exhibiting in her classroom. This participant's problem behavior was such that the student was not able to walk down to the principal's

office. This participant's required intervention by the school principal periodically. Since this type of referral to the principal's office was not yet collected in the ODRs, the data for this was gathered from anecdotal information from the student's teacher. This teacher stated the quantity was "more than 4" during the 3 months prior to the beginning of the study.

Figure 8



Following the implementation of the DBRC intervention the number of ODRs for these 3 students decreased. The 3 individual students had no ODRs for the 8 weeks of the intervention. Student A also required no further intervention from the school principal in her classroom.

Discussion

Limitations

This study has various limitations. First, the sample of 3 students is too small to know if gender difference played a role in study. In addition, because of the small number of participants in the study, the results should not be interpreted as documentation that the DBRC intervention will be effective for a large number of students diagnosed with ADHD. This study of 3 students was too small to make such generalizations.

An additional limitation is the fact that the primary school already was using the Positive Behavior Support Model throughout the school. The DBRC intervention might have differing results in a primary school that was not using the PBS model. The DBRC data was collected for a total of 8 weeks. This amount of time is too brief to conclude if the intervention was effective.

The present results support the findings which suggest that the DBRC can be effective as an early intervention for some children with ADHD (DuPaul, 2007; Miranda et al., 2006; Pelham et al., 2007) . It would appear that this method is a good first step before turning to medication. (Chafouleas et al., 2002; DuPaul, 2007; Evans et al., 2006; Fabiano et al., 2003) .

The DBRC intervention was moderately successful for student A. She met her weekly goal of receiving 80% of DBRC points 4 of the 8 weeks. Of interest is the fact that during 2 separate weeks student A came within 2 points of reaching her 80% goal. Following the implementation of the DBRC intervention student A did not require the

principal to intervene in her classroom. Student A's disruptive classroom behavior was reduced subsequent to the DBRC intervention.

It must be noted, however, that this intervention was not effective for each of these three children diagnosed with ADHD. For example, the DBRC intervention did not appear to offer enough intervention for student B. This student did not achieve his goal during any week of the study. This student's teacher may need to implement a different intervention. If further behavioral interventions are not effective, the child's physician may need to explore if medication is a viable option (MTA Cooperative Group, 1999a; Parens & Johnston 2009; Pelham et al., 2000).

The DBRC intervention showed the most promising results for Student C. This student met his weekly goal of receiving 80% of total DBRC points consistently. He reached his 80% goal during all 8 weeks. It is possible that if the DBRC intervention continues to be effective for student C, for example, he might not require medication. Behavioral interventions can be effective enough in certain children with ADHD that they can avoid taking medication (Shillingford et al., 2007; Trout et al., 2007; Pelham et al., 2000)

Recommendations

The DBRC intervention requires the cooperation of all teaching staff, the school principal, and parents in order for it to be effective. School social workers, too, can play an important role by either identifying students who could benefit from such an intervention, functioning as a liaison between the school and the parents regarding

ADHD issues. School social workers can also collaborate with the teachers and school administration in either introducing such programs or supporting the implementation of them. If interventions such as DBRC are not enough for a child with ADHD, school social workers can also support parents in exploring possible next steps, such as medication or therapy.

This intervention requires staff to be open minded enough to wait and see. It is true that the teaching staff should be prepared to invest extra time up front, but there are rewards. There are the daily rewards of being a child's mentor, the reward of starting a child's day off in a special way with a "pep talk". Also there is the reward of making a difference to that same child and possibly reducing his or her disruptive behaviors with the implementation of the DBRC. The results of the DRBC intervention can be promising in some students diagnosed with ADHD. It can enable a child at an early age to begin to manage some of these symptoms and behaviors in order to experience academic success both in high school and beyond to college.

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