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Perceptions of acceptability and effectiveness of interventions for ADHD: A comparison of teachers and school psychologists

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Perceptions of Acceptability and Effectiveness of Interventions for ADHD:
A Comparison of Teachers and School Psychologists

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A thesis submitted to the Graduate Faculty of

JAMES MADISON UNIVERSITY

In

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Abstract

This study compared school psychologists' and teachers' perceptions of classroom interventions for students with attention deficit hyperactivity disorder (ADHD). Participants read vignettes of a student with ADHD. They then read descriptions of the Daily Report Card and Response Cost Techniques, two proposed interventions to help the student. They then rated the interventions using the Behavioral Intervention Rating Scale (BIRS; Elliot & Von Brock Treuting, 1991). Differences were observed between which intervention was rated as more acceptable and effective. School psychologists rated the Daily Report Card as less acceptable than teachers did. They also rated the Daily Report Card as less acceptable and effective than school teachers and themselves rated the Response Cost Techniques. Overall, there was widespread support for Response Cost Techniques. Implications of these results are discussed.

CHAPTER 1

Introduction

Many students today are struggling to succeed in school due to the inability to focus, pay attention, stay on task, and follow classroom expectations. An estimated 3 - 7% of school age children are affected by attention-deficit hyperactivity disorder (ADHD), making it the most common mental health problem among children (APA, 1994; Mannuzza & Kline, 2000). This is a concern for parents, educators, and administrators. Fortunately, many studies are demonstrating that there are evidence based practices that can help children with ADHD learn to cope with their disorder. The challenge that remains for schools is to effectively select and implement the most acceptable and effective interventions in the classroom.

There are many factors that affect which interventions are chosen for students with ADHD. Some of these factors include age of the student or the severity of the behaviors displayed (Bennet, Power, Rostain, & Carr, 1996). A student's ethnicity may also affect teacher's perceptions of which interventions would be most acceptable (Wood, Heiskell, Delay, Jongeling, & Perry, 2009). Wood et al. (2009) found that teachers are less likely to recommend interventions requiring more family support for some ethnic minority students than they did for Caucasian students. Teachers also tend to prefer positive interventions over negative interventions (Power, Hess, & Bennett, 1995). And teachers tend to prefer interventions that take less time to implement and those that are less intrusive to the classroom (Fairbanks & Stinnett, 1997).

School psychologists have a unique role in the selection and implementation of these interventions as members of child-study teams, and as they engage in consultation

with teachers. It is important for school psychologists to be aware of their own biases as well as the biases of school teachers as they give recommendations to teachers. One important aspect of being aware of biases is understanding the perceptions of acceptability and effectiveness of interventions. It has been shown that there is a positive relationship between treatment acceptability and treatment fidelity among interventions for children with ADHD (Mautone, DuPaul, Jitendra, Tresco, Junod, & Volpe, 2009). Some research has been done to assess teacher perceptions of various classroom interventions, but little research has been done to evaluate school psychologist perceptions of the acceptability and effectiveness of classroom interventions. Information regarding both psychologist and teacher perceptions would be important for a number of reasons. First, if there is a mismatch between teacher and psychologist perceptions of acceptance, then there may be a barrier to communication and collaboration. Second, how acceptable teachers view the intervention will affect how faithfully they implement it. Third, the rationale that psychologists use for recommending treatments affects how acceptable teachers will view the intervention (Elliott, 1988). The purpose of this study was to gain information about school psychologist and teacher perceptions of acceptability and effectiveness for commonly used evidence based interventions.

CHAPTER 2

Background

Commonly Used Evidence Based Interventions

The first step in treating the symptoms of ADHD is finding interventions that have been shown to be effective. In 1995, the American Psychological Association (APA) commissioned a task force to review commonly used interventions and compile a handbook of those that have empirical support (Task Force on Promotion and Dissemination Psychological Procedures, 1995). Pelham, Wheeler, and Chronis (1998) specifically reviewed the evidence of the efficacy of treatments for ADHD to see which treatments met the criteria from the task force. Among those interventions that have been “well established” in managing the symptoms of ADHD in the classroom are: home contingency programs through the use of a daily report card (DRC), and response cost techniques such as a token economy (Pelham et al., 1998).

The daily report card is a home-school intervention in which a number of target behaviors are identified that can be rated on a daily basis. The teacher then rates the child on his or her target behaviors and sends a daily report card home to the parents. The parents then review the report card and provide some type of reward or consequence based on the child’s behaviors for that day (Murray, Rabiner, Schulte, & Newitt, 2008). The daily report card has been shown to be effective as part of a multi-component psychosocial intervention (Barkley, 1998). Murray et al., (2008) found that using the daily report card as a single intervention for improving behavior had a significant effect on classroom behavior ($p < .05$) and a moderate effect size ($d = .72$).

Response cost techniques provide a child with an opportunity to earn rewards for appropriate behavior. A child earns points or tokens for exhibiting specific positive behaviors (e.g. staying seated) and loses points for exhibiting negative behaviors. Then at a predetermined time the child is able to exchange his points or tokens for a reward (Curtis, Pisecco, Hamilton, & Moore, 2006). The response cost behavior management program has been shown to be effective, with a large effect (Pelham et al., 1998).

Reasons Why Evidence Based Interventions Are Not Used

Despite having knowledge of effective interventions for children with ADHD, these interventions are not always used or implemented with fidelity. A study done in 1999, found that only 17% of the interventions used for students with ADHD had empirical support of efficacy (Sloan, Jensen, & Kettle, 1999). A study of 45 teachers, found implementation rates of treatment integrity to be between 35-77% depending on the level of consultation follow up they received (Noell, Witt, Slider, Connell, Gatti, & Williams, 2005). One of the reasons for the gap between research and practice may be the level of acceptability of evidence based treatments. Kratochwill and Stoiber (2000) discussed that empirically based “clinic” interventions may not be acceptable, feasible, or effective when applied to more complex settings out of the clinic, such as a school classroom.

Early Research on Effectiveness and Acceptability

The literature looking at acceptability of interventions with ADHD has a long history. Kadzin (1981) defined treatment acceptability as judgments of whether procedures are appropriate, fair, and reasonable for the problem or client. He found that reinforcement was rated as the most acceptable intervention, followed by positive

practice and time out, with medication being rated as the least acceptable intervention. A limitation to Kadzin's research was that he used 112 undergraduates from beginning psychology courses rather than practicing professionals.

There is mixed research on how the effectiveness of treatments influences acceptability. Kadzin (1981) found no relationship between effectiveness of a treatment and ratings of acceptability. However, his study has been criticized as using an unrepresentative sample and giving a limited range of significance, which may have contributed to the lack of significance (Reimers, Wacker, & Koeppel, 1987; Elliott, 1988). Further investigation of the area suggests that when teachers understand the treatments being presented, information about treatment strength does affect acceptability (Elliott, 1988).

Teacher Perceptions of Effectiveness and Acceptability

Elliott (1988) built upon Kadzin's research, but specifically focused on the variables that influenced treatment acceptability rather than on which treatments were most acceptable. Positive interventions (praise, home-based reinforcement, and token economies) were rated as more acceptable than negative interventions (ignoring, response cost, and seclusion time-out). Interventions that required less time to implement were rated as more acceptable than those that require more time. It is noted, however, that when presented with a severe problem teachers did rate interventions that took more time equally as acceptable as those requiring less time to implement. A similar review of the research found similar findings, plus the effects of cost and side effects (Reimers et al., 1987). As would be expected, treatments which are very costly or have negative side

effects are consistently rated as less acceptable than alternative treatments which are less costly or do not have negative side effects.

A number of studies of acceptability of evidence based interventions have looked at three of the “well established” interventions mentioned earlier: the daily report card, response cost techniques, and stimulant medication (Power, Hess, & Bennett, 1995; Curtis, Pisecco, Hamilton, & Moore, 2006). Power et al., asked 147 elementary and middle school teachers to read vignettes giving descriptions of children with ADHD and either a behavioral intervention (daily report card or response cost techniques) or a pharmacological intervention (Methylphenidate). They were then asked to rate the acceptability of each using the Intervention Rating Profile-15 (IRP-15). Results demonstrated that the daily report card was rated as significantly more acceptable than response cost techniques and stimulant medication.

Curtis et al., asked 420 teachers from both the United States and New Zealand to read vignettes giving descriptions of children with ADHD and either a behavioral intervention (daily report card, classroom lottery, or response cost techniques) or a pharmacological intervention (Methylphenidate). They used the Behavior Intervention Rating Scale (BIRS) to assess the perceived acceptability, effectiveness, and timeliness of effect of the proposed interventions. They found that teachers from both the United States and New Zealand considered the daily report card to be the most acceptable intervention (significantly more than response cost techniques and classroom lottery). Teachers in both the United States and New Zealand rated medication as being the least acceptable intervention, although it was only rated significantly lower than other interventions by teachers in New Zealand.

School Psychologist Perceptions of Effectiveness and Acceptability

For this investigative purpose, there was no research found regarding school psychologist perceptions of acceptability and effectiveness of interventions for ADHD. This is concerning because the school psychologist often collaborates with the teacher in establishing and implementing interventions for children with ADHD. There is a need to gain further understanding on the perceptions of school psychologists regarding the acceptability of treatments as compared to teachers in order to address a discrepancy if there is one and work towards decreasing that discrepancy.

Hypotheses

Hypothesis one was that school psychologists would rate the classroom interventions as significantly more acceptable than teachers would rate them. It was hypothesized that school psychologists would rate the interventions as more acceptable because, in addition to knowing the literature stating the effectiveness of the interventions, school psychologists generally do not implement the interventions in the classroom. The teachers are usually given the responsibility of implementing the classroom interventions. Teachers may see the interventions as “one more thing they have to do” in addition to the heavy demands already placed on them and consider an intervention to not be acceptable.

Hypothesis two was that school psychologists would rate the classroom interventions as significantly more effective than teachers would rate them. The support for this hypothesis was that school psychologists would rate the interventions as more effective is that they are more likely to know the research regarding the effectiveness of

the interventions. Part of the training that school psychologists receive is focused on selecting interventions that have been shown to be effective.

Hypothesis three was that school psychologists and teachers would differ significantly on which intervention they rate as more effective and acceptable. Past research has shown that school teachers rate the daily report card as more acceptable than response cost techniques. There is no research that suggests that school psychologists also consider the daily report card as more acceptable. Because of differences in training and job demands, it was hypothesized that there would be a significant difference in how teachers and school psychologists rate the daily report card and response cost techniques.

The independent variable in the experiment was the profession of the participants (school psychologist vs. school teacher). The study is designed to identify differing perceptions between members belonging to these two demographics. The profession of the participants was identified using a background questionnaire completed by the participant.

The first dependent variable was the ratings of acceptability of interventions using the Behavior Intervention Rating Scale (BIRS). The BIRS has been a commonly used instrument in previous studies to determine the perceived level of acceptability and effectiveness of classroom interventions (Curtis et al., 2006). A unitary score of “general acceptability” was calculated by summing the ratings of fifteen statements regarding acceptability of an intervention (e.g. “I would be willing to use this intervention in the classroom setting”). The statements were rated using a 6-point Likert scale ranging from [1 (strongly disagree) – 6 (strongly agree)].

The second dependent variable was the ratings of effectiveness as measured by the BIRS. A unitary score of “effectiveness” was generated by summing the ratings of nine statements regarding the effectiveness of an intervention (e.g. “The intervention would produce a lasting improvement in the child’s behavior”). The statements were rated using a 6-point Likert scale ranging from [1 (strongly disagree) – 6 (strongly agree)].

CHAPTER 3

Method

Participants

Subjects were school psychologists and general education elementary school teachers from a large urban school district in the northwestern region of the United States. The school district has a very diverse student population. Fifty-two percent of students in the school district come from minority populations and 91 different languages are spoken by students in their homes. Teachers were randomly selected from 10 elementary schools and asked to participate. All school psychologists in the school district were asked to participate in the study. All participated in the study as volunteers.

Apparatus

The school psychologists and teachers were asked to complete a packet of questionnaires requiring approximately twenty minutes. School psychologists received the packet at a staff meeting and general education teachers received the packet in their school mailboxes. The packet contained the following questionnaires:

The Behavioral Intervention Rating Scale (BIRS; Elliott & Von Brock Treuting, 1991). School psychologists and teachers were asked to complete the BIRS (see Appendix A). The BIRS is a reliable measure used to assess perceived intervention acceptability and effectiveness. The BIRS consists of fifteen statements that address various aspects of intervention acceptability (sample item: “I would suggest the use of this intervention to other teachers”), and nine statements that address effectiveness of treatment (sample item: “The intervention would produce a lasting improvement in the child’s behavior”). Subjects were instructed to respond to the statements by indicating

their level of agreement or disagreement with each item on a 6-point Likert-type scale. In past research the BIRS has been reported to have high internal consistency for acceptability (Cronbach's alpha = .97) and effectiveness (Cronbach's alpha = .92) (Elliott et al., 1991).

The Background Information Questionnaire. School psychologists and teachers were asked to complete a series of questions regarding demographic information, teaching experience, and what grade levels they work with (see Appendix B). Two open ended questions were included to give participants the opportunity to state what it is about the interventions that caused them to choose their ratings of acceptability and effectiveness.

Procedure

Participants were given a packet containing instructions, a vignette of a child with ADHD, descriptions of two interventions (DRC and RCT), the BIRS, and a background questionnaire (See Appendixes A, B, C, D, and E for complete examples). Participants began by reading the following vignette of a child with ADHD.

“Timmy is a student who attends an elementary school and is having behavioral problems. He often blurts out answers and interrupts the teacher during lectures by making comments or noises. He has difficulty paying attention and does not seem to listen when spoken to directly. Although he seems to understand the concepts, he obtains very low scores on homework because he makes careless mistakes and often loses assignments. Timmy has a hard time sitting still. He squirms and fidgets throughout class and often gets out of his seat when he shouldn't. At recess Timmy often has conflicts

with peers because he does not wait his turn or follow the rules of the game. Timmy has been diagnosed with attention-deficit hyperactivity disorder by his physician.”

The vignette was based on criteria for ADHD outlined by the American Psychiatric Association in the DSM-IV.

After reading the vignette, the participants read the description of two commonly used interventions for helping children with ADHD to manage their behavior. The descriptions are as follows:

- Daily Report Card (DRC). The use of a DRC is a possible intervention in which teachers and parents combine efforts to improve a child’s classroom behaviors. Teachers and parents will identify three to five problem behaviors and create some specific goals. At the end of the day, the teacher will complete a three to five item checklist that indicates whether or not the child met the goals. The child takes the slip home each day and the parents sign it. The parents then provide a reward to the child if the goals were met.
- Response Cost Technique (RCT). The use of the RCT is a possible intervention where the child would earn points or tokens for certain positive behaviors (e.g., completing tasks) and would lose points or tokens for exhibiting certain negative behaviors (interrupting the teacher). At a predetermined time the child could exchange the tokens for activities, prizes, or privileges (e.g. extra time to draw, choosing a prize out of a prize bag, or something specifically related to Timmy’s interests).

After reading the vignette and each intervention description, teachers and school psychologists read instructions asking them to complete the BIRS for each intervention.

They then completed the background questionnaire, and answered a few open ended questions concerning interventions for students with ADHD.

CHAPTER 4

Results

A total of eighty-four participants completed the survey. Forty-four participants were school psychologists and forty participants were general education elementary school teachers. Thirty-five school psychologists reported working in elementary schools, fifteen work in middle schools, nine work in high schools, and seventeen work at two different grade levels. School psychologists ranged in their work experience from one year to forty years, with the average being 12.5 years. Fifty packets were distributed to school psychologists at a staff meeting and forty-four were returned for a response rate of 88%. The high response rate the school psychologists is believed to be due to the fact that they were given time during a staff meeting to complete the questionnaire and asked to return it to a specified table before taking a break. School teachers ranged from grades one through six. Fourteen teach first grade, eight teach second grade, six teach third grade, seven teach fourth grade, four teach fifth grade, and one teaches sixth grade. Teachers ranged in their work experience from one to thirty-two years, with the average being 12.7 years. One-hundred packets were distributed to school teachers through their school mailboxes and forty were returned for a response rate of 40%.

A unitary score of acceptability was calculated for each intervention by summing the ratings of 15 statements relating to acceptability. The unitary score was then divided by 15 to indicate the average rating of each statement. Results were looked at by each profession and summarized in the table below.

Table 1.

Ratings of Acceptability

	Average Unitary Score of acceptability on the BIRS	Standard Deviation	Average rating of 1 item	Nominal Category
School Psychologist- RCT	61.84	10.99	4.12	Between Agree and Strongly Agree
School Psychologist- DRC	52.30	14.97	3.49	Between Neutral and Agree
Teacher- RCT	60.35	13.76	4.02	Agree
Teacher- DRC	59.87	12.97	3.99	Agree

There was considerable variability within the ratings of each intervention as seen in the standard deviation listed. The average rating of one item as listed was 3.49 to 4.12 which corresponds to ratings between “neutral and agree” and ratings between “agree and strongly agree”. Ratings by participants from each profession for each intervention ranged from ratings of 1.7 to 5.6 which corresponds to ratings between “strongly disagree and agree” to ratings of “strongly agree.” There were some teachers and school psychologists who disagreed that the interventions would be acceptable, and some who strongly agreed.

A unitary score of effectiveness was calculated for each intervention by summing the ratings of 9 statements relating to perceived effectiveness. The unitary score was then divided by 9 to indicate the average rating of each statement. Results were looked at by each profession and summarized in the table below.

Table 2.

Ratings of Effectiveness

	Average Unitary Score of effectiveness on the BIRS	Standard Deviation	Average rating of 1 item	Nominal Category
School Psychologist- RCT	30.64	5.69	3.4	Between Neutral and Agree
School Psychologist- DRC	24.72	7.82	2.7	Between Disagree and Neutral
Teacher- RCT	29.45	7.25	3.27	Between Neutral and Agree
Teacher- DRC	27.20	7.45	3.02	Neutral

There was considerable variability within the ratings of each intervention as seen in the standard deviation listed. The average rating of one item as listed was 2.7 to 3.4 which corresponds to ratings between “disagree and neutral” and ratings between

“neutral and agree”. Ratings by participants from each profession for each intervention ranged from ratings of 1 to 5 which corresponds to ratings of “strongly disagree” and ratings of “strongly agree.” There were some teachers and school psychologists who strongly disagreed that the interventions would be effective, and some who strongly agreed.

The unitary score ratings of acceptability were analyzed using a 2 (profession of participant: school psychologist vs. teacher) X 2 (intervention: daily report card vs. response cost techniques) ANOVA. This model was chosen to compare the ratings of each intervention by each profession. The overall model was significant $F(3, 164) = 4.552, p = .004$. The effect size was small, with a partial eta squared of .08. The tukey post-hoc test was run and it was found that school psychologist ratings of acceptability for the DRC ($M = 52.3, SD = 14.97$) were significantly lower than their ratings of the RCT ($M = 61.84$), $p < .05$. School psychologist ratings were also significantly lower than teacher ratings of the RCT ($M = 60.35, SD = 13.76$) $p < .05$ and teacher ratings of the DRC ($M = 59.87, SD = 12.97$) $p < .05$. There were no other significant findings from the analysis.

The unitary score ratings of effectiveness were analyzed using a 2 (profession of participant: school psychologist vs. teacher) X 2 (intervention: daily report card vs. response cost techniques) ANOVA. This model was chosen to compare the ratings of each intervention by each profession. The overall model was significant $F(3, 164) = 5.9008, p = .00075$. The effect size was small, with a partial eta squared of .10. The tukey post-hoc test was run and it was found school psychologists rate the DRC ($M = 24.72, SD = 7.82$) significantly lower than they rate the RCT ($M = 30.64, SD = 5.69$), and

significantly lower than teachers rate the RCT ($M = 29.45$, $SD = 7.25$). There were no other significant findings in that area.

Hypothesis one was that school psychologists would rate the classroom interventions as significantly more acceptable than teachers would. Hypothesis one was not confirmed. School psychologists rated the acceptability of the RCT slightly higher than teachers did, but not significantly higher. On the contrary, school psychologists actually rated the acceptability of the DRC significantly lower than teachers rated either of the interventions.

Hypothesis two was that school psychologists would rate the classroom interventions as significantly more effective than teachers would. Hypothesis two was not confirmed. Again, School psychologists rated the effectiveness of the RCT slightly higher than teachers did, but not significantly higher. And again, school psychologists actually rated the effectiveness of the DRC significantly lower than teachers rated RCT. School psychologist effectiveness ratings of the DRC were slightly, but not significantly lower than teacher effectiveness ratings of the DRC.

Hypothesis three was that school psychologists and teachers would differ significantly on which intervention they rated as more effective and acceptable. Hypothesis three was not confirmed. Both school psychologists and teachers rated the RCT as more effective and more acceptable than they rated the DRC.

CHAPTER 5

Discussion

It was found that school psychologists rated the daily report card as significantly less acceptable than they rated the response cost techniques, and significantly lower than teachers rated either of the interventions. This is surprising given the number of research articles that support the use of the DRC as an effective intervention such as Barkley (1998), Pelham et al. (1998), and Murray et al. (2008). In order to better understand the primary influences that affected the ratings, the cutting and sorting technique was applied to the participants' qualitative responses. Several themes were identified and are listed in the chart below in rank order for number of times mentioned.

Table 3.

Reasons Given for Ratings of the interventions on the BIRS

	Number of times a reason was listed that influenced Psych ratings of the DRC	Number of times a reason was listed that influenced Psych ratings of the RCT	Number of times a reason was listed that influenced teacher ratings of the DRC	Number of times a reason was listed that influenced teacher ratings of the RCT
Prior Experience	14	14	19	9
Concern with parent buy in and follow through	10	3	12	4
Research and Literature	3	11	4	3
Time needed to implement	5	4	6	6

Feel it's punitive	3	10	1	5
Teacher willingness (unspecified)	9	4	0	0
Training	5	1	2	1
Class Environment	4	1	2	2
There's no teach component	3	1	0	1
Immediacy	0	2	Lack of immediacy 2	2
Student Ownership	0	1	Lack of ownership 1	4
Concern about making it fair for the whole class	0	0	0	4
Heard from others	0	0	0	4

Other responses that were only mentioned once or less for each intervention include: ease of implementation, being able to control the factors in the classroom, students fidgeting with the prizes in class, worry of students becoming dependent on the intervention.

In looking at the factors school psychologists reported as influencing their responses, the number one factor was prior experience, mentioned the same number of times for both the DRC and RCT. Clearly, teachers and school psychologists use their own experiences in determining what the effectiveness of a proposed intervention will be. The second most influential factor, based on the number of times mentioned, was research and literature. However there was a large split between which ratings of

interventions were influenced by research and literature. Research was mentioned 11 times as influencing ratings about the RCT, and only mentioned 3 times as influencing ratings of the DRC. It would appear that school psychologists are using their own experiences rather than published research to guide their thinking of the interventions. These findings may also suggest that school psychologists are not as familiar with the research regarding the DRC and have less confidence in its acceptability and effectiveness. As mentioned previously the DRC has been shown to be both effective (Barkley, 1998) and acceptable to school teachers (Power et al., 1995; Curtis et al., 2006). Efforts should be made to familiarize school psychologists with the research regarding the acceptability and the effectiveness of the DRC.

One of the factors that influenced the school psychologists' ratings of the DRC was teacher willingness to implement it and follow through. The psychologists did not specify whether the perception of teacher willingness positively or negatively influenced the ratings, but due to the fact that the ratings were lower, it is assumed that this was a concern for the school psychologists. However, teachers' responses do not indicate a lack of willingness to implement the DRC. The fact that teachers rated the intervention as significantly more acceptable than school psychologists suggests that teachers are more willing to implement the DRC than school psychologists perceive. Six teachers did indicate that the time needed to implement was a factor that affected their ratings of the DRC, and the same number of teachers indicated that time influenced their ratings of the RCT as well. Overall, teacher's ratings of acceptability of the DRC on the Likert scale indicated that they agreed that it would be an acceptable intervention. This finding is

consistent with past research that suggests the DRC is an intervention that teachers perceive as acceptable (Curtis, et al., 2006).

Concern about parent follow through was one of the most common factors that influenced both teachers' and school psychologists' ratings. Although comments suggested that parent involvement was sometimes viewed as a positive aspect of the interventions, the majority of the comments about parent involvement expressed some type of concern about parent follow through on the interventions. Comments such as "lack of follow through from parents" or "parents don't give the reward consistently" were typical responses regarding the parent involvement. It is possible that the diversity of the school district in which the survey was conducted affected perceptions of parent involvement. This is consistent with the research of Wood et al. (2009) who found that teachers are less likely to recommend interventions requiring more family support for ethnic minority students. Some school psychologists and teachers acknowledged the difficulty that can come from working with parents, but noted that with extra effort and increased communication with the parent, the DRC has proven to be effective for them. Other teachers mentioned involving the parents the RCT interventions as well. As a whole, both teachers and school psychologists need to acknowledge the difficulties that come from working with parents on an intervention and then take the necessary steps of increased communication and support to encourage parent follow through to occur more often.

The results of this survey show widespread support for the RCT as an intervention for students with ADHD by both teachers and school psychologists. In addition to prior experience and research, members of each profession listed that their ratings were

influenced by both the immediacy of the intervention and that students' ownership or involvement in the intervention (influences that negatively influenced responses of the DRC). A suggestion for implementing these or other interventions for students with ADHD is to include students throughout the process when designing interventions, and give them ownership over part of the intervention.

Although the RCT was rated highly, one concern expressed by both teachers and school psychologists was that it is perceived to be a negative or punitive approach. Some teachers did not feel comfortable taking away tokens that students had earned. When presenting response cost techniques, they should be presented as a positive intervention, rather than something negative or punitive. It is also possible to present a token economy in which tokens can be earned and redeemed for privileges but tokens will not be taken away. This approach can be used if the teacher is not comfortable taking away tokens from students for misbehavior.

A limitation of this study is that respondents were selected from a single school district. In order to gain a more representative sample of teachers and school psychologists a national survey could be conducted, and responses could be analyzed by region. It would also be beneficial to include students as participants in a study looking at the acceptability of these interventions. Student perceptions of these interventions, particularly students with ADHD, would add valuable information to the body of research that already exists. Also, gaining information from parents regarding their perceptions of the acceptability and effectiveness of the interventions would be very valuable. Another possible area of research could be to conduct a study including a wider range of interventions used with students who have ADHD. Participants in this study

reported having recommended or used additional interventions in the past for students with ADHD. The interventions, listed in order of frequency mentioned included: giving increased opportunities for movement, teaching self monitoring techniques, giving an increased number of breaks, giving the student a “fidget” or stress ball, preferential seating, teaching the student replacement behaviors for disruptive behaviors, additional sensory inputs (such as a weighted vest), teaching social skills instruction, and giving organizational supports.

As a whole, the Daily Report Card and Response Cost Techniques were found to be perceived as acceptable and effective interventions for students with ADHD. Results from this study suggest that school psychologists may need to familiarize themselves with the research regarding the DRC. It is important for them to understand that teachers view the DRC as well as RCT as acceptable interventions so they will be willing to recommend these interventions during collaboration. Responses suggest that it is also important for the school psychologists to present the interventions as positive rather than punitive in order to gain teacher buy in. Another suggestion is to involve students and parents in setting up the intervention to give them more ownership and involvement in the process. Of course, it is always important to reach out to parents to overcome barriers that might be there so the interventions can be implemented with fidelity. As teachers and school psychologists work together they can find ways to collaborate with parents and students to implement effective interventions for students with ADHD.

Appendix A

Behavior Intervention Rating Scale

Please evaluate the intervention by circling the number which best describes your agreement or disagreement with each statement. Please circle only one number for each item. Use 1 indicating you strongly disagree with the statement, 3 indicating a neutral response, and 6 indicating you strongly agree with the statement.

	Strongly Disagree			Neutral			Strongly Agree
1.This would be an acceptable intervention for the child's problem behavior.	1	2	3	4	5	6	
2.Most teachers would find this intervention appropriate for challenging behaviors.	1	2	3	4	5	6	
3.The intervention should prove effective in changing the child's problem behavior.	1	2	3	4	5	6	
4.I would suggest the use of this intervention to other teachers.	1	2	3	4	5	6	
5.The child's behavior problem is severe enough to warrant the use of this intervention.	1	2	3	4	5	6	
6.Most teachers would find this intervention suitable for the behavior problem described.	1	2	3	4	5	6	
7.I would be willing to use this in the classroom setting.	1	2	3	4	5	6	
8.The intervention would not result in negative side effects for the student.	1	2	3	4	5	6	
9.The intervention would be an appropriate intervention for a variety of children.	1	2	3	4	5	6	
10.The intervention is consistent with those I have used in classroom settings.	1	2	3	4	5	6	
11.The intervention is a fair way to handle the child's problem behavior.	1	2	3	4	5	6	
12.The intervention is reasonable for the behavior problem described.	1	2	3	4	5	6	
13.I like the procedures used in this intervention.	1	2	3	4	5	6	
14.This intervention was a good way to handle the child's challenging behaviors.	1	2	3	4	5	6	
15.Overall, the intervention would be beneficial for the child.	1	2	3	4	5	6	
16.The intervention would quickly improve the child's behavior.	1	2	3	4	5	6	
17.The intervention would produce a lasting improvement in the child's behavior.	1	2	3	4	5	6	
18.The intervention would improve the child's behavior to the point that it would not noticeably deviate from other classmates' behavior.	1	2	3	4	5	6	
19.Soon after using the intervention, the teacher would notice a positive change in the problem behavior.	1	2	3	4	5	6	
20.The child's behavior will remain at an improved level even after the intervention is discontinued.	1	2	3	4	5	6	
21.Using the intervention should not only improve the child's behavior in the classroom, but also in other settings (e.g., other classrooms, home).	1	2	3	4	5	6	
22.When comparing this child with a well-behaved peer before and after use of the intervention, the child's and the peer's behavior would be more alike after using the intervention.	1	2	3	4	5	6	
23.The intervention should produce enough improvement in the child's behavior so the behavior is no longer a problem in the classroom.	1	2	3	4	5	6	
24.Other behaviors related to the problem are also likely to be improved	1	2	3	4	5	6	

Appendix B

The Background Information Questionnaire

What grade do you teach? (circle your answer)

Kindergarten 1st Grade 2nd Grade 3rd Grade 4th Grade 5th Grade 6th Grade

How long have you been in your profession? _____ years

Last school year how often did you use the following interventions for children with Attention-Deficit Hyperactivity Disorder? (circle your answers)

The Daily Report Card

Don't know 0 1-2 3-5 6-10 11-20 21-30 31+

Response Cost Techniques (or token economies)

Don't know 0 1-2 3-5 6-10 11-20 21-30 31+

What were the primary influences that affected your ratings of the Daily Report Card?

(e.g. training, time to implement, prior experience, classroom environment, research and literature, heard from others, etc...)

What were the primary influences that affected your ratings of the Response Cost Technique?

What other techniques did you use to help children with Attention-Deficit Hyperactivity Disorder?

Appendix C

Vignette of Student with Attention Deficit Hyperactivity Disorder

Timmy is a student who attends an elementary school and is having behavioral problems. He often blurts out answers and interrupts the teacher during lectures by making comments or noises. He has difficulty paying attention and does not seem to listen when spoken to directly. Although he seems to understand the concepts, he obtains very low scores on homework because he makes careless mistakes and often loses assignments. Timmy has a hard time sitting still. He squirms and fidgets throughout class and often gets out of his seat when he shouldn't. At recess Timmy often has conflicts with peers because he does not wait his turn or follow the rules of the game. Timmy has been diagnosed with attention-deficit hyperactivity disorder by his physician.

Appendix D

The Daily Report Card

Daily Report Card (DRC). The use of a DRC is a possible intervention in which teachers and parents combine efforts to improve a child's classroom behaviors. Teachers and parents will identify three to five problem behaviors and create some specific goals. At the end of the day, the teacher will complete a three to five item checklist that indicates whether or not the child met the goals. The child takes the slip home each day and the parents sign it. The parents then provide a reward to the child if the goals were met.

Appendix E

The Response Cost Technique

Response Cost Technique (RCT). The use of the RCT is a possible intervention where the child would earn points or tokens for certain positive behaviors (e.g., completing tasks) and would lose points or tokens for exhibiting certain negative behaviors (interrupting the teacher). At a predetermined time the child could exchange the tokens for activities, prizes, or privileges (e.g. extra time to draw, choosing a prize out of a prize bag, or something specifically related to Timmy's interests).

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