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Parental involvement in improving academic success for students with ADHD: a comparison of daily behavior report cards and homework self-monitoring

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PARENTAL INVOLVEMENT IN IMPROVING ACADEMIC SUCCESS FOR STUDENTS
WITH ADHD: A COMPARISON OF DAILY BEHAVIOR REPORT CARDS AND
HOMEWORK SELF-MONITORING

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Arts

in

The Department of Psychology

by
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B.A., Loyola University New Orleans, 2006
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TABLE OF CONTENTS

LIST OF TABLES.....	iv
LIST OF FIGURES.....	v
ABSTRACT.....	vi
INTRODUCTION.....	1
Daily Report Cards.....	2
Homework Problems in ADHD.....	4
The Importance of Homework.....	4
Homework Self-Monitoring.....	5
Confined, Combined, and Collateral Effects	7
METHOD.....	11
Participants.....	11
Procedure.....	13
Parent Consultation.....	15
Daily Report Card.....	15
Homework Self-Monitoring.....	16
Measures.....	18
Homework Problems Checklist.....	18
Observation Coding System.....	19
Homework Completion/Accuracy.....	19
Classwork Completion/Accuracy.....	20
Conners Parent Rating Scale-Revised Short Form.....	20
Conners Teacher Rating Scale-Revised Short Form.....	20
Anxiety Disorder Interview Schedule for DSM-IV- Parent Version.....	20
Achenbach Child Behavior Checklist.....	21
Teacher Report Form.....	21
Wechsler Intelligence Scale for Children, Fourth Edition.....	21
Woodcock-Johnson Test of Achievement, Third Edition.....	22
RESULTS.....	23
Analyses.....	23
Daily Report Card- Confined and Collateral Effects.....	23
Homework Self-Monitoring Intervention- Confined and Collateral Effects.....	28
DISCUSSION.....	34
Limitations.....	37
Future Directions.....	38
REFERENCES.....	40

APPENDIX A: DAILY REPORT CARD.....	45
APPENDIX B: HOMEWORK CHECKLIST.....	46
APPENDIX C: IRB APPROVAL.....	47
VITA.....	48

LIST OF TABLES

1. Participant Demographic Information.....12
2. Participant Qualifying Information.....12

LIST OF FIGURES

1a. Sarah and Esther's Time On Task.....	25
1b. Sarah and Esther's Classwork Completion and Accuracy.....	26
2. Sarah and Esther's Homework Completion and Accuracy.....	27
3. Ruth and Michael's Homework Completion and Accuracy.....	29
4a. Ruth and Michael's Time On Task.....	30
4b. Ruth and Michael's Classwork Completion and Accuracy.....	31

ABSTRACT

The current study examined the confined, combined and collateral effects of a daily report card (DRC) and a homework self-monitoring intervention (HSM). Four 4th or 5th grade students with ADHD, who often had problems staying on task and completing classwork and homework accurately were randomly assigned to one of two conditions in a multiple baseline design. Initially each student received either a DRC or HSM and was then given whichever intervention they had not yet received in addition. As expected, both the DRC and HSM improved the initially targeted behavior as found in previous research; the DRC improved on task behavior and classwork completion and accuracy and the HSM intervention improved homework completion and accuracy. Partial collateral effects were found, with improved homework completion and accuracy following implementation of a DRC and improved on task behavior, classwork completion and accuracy following HSM. Students had additional improvement when a second intervention was combined with the first, resulting in a greater reduction of problem behavior overall.

INTRODUCTION

Students with a diagnosis of Attention-Deficit/ Hyperactivity Disorder (ADHD) have poorer academic outcomes than do their normal developing peers. These problems often culminate in academic underachievement and poor grades (Biederman, Petty, Evans, Small, & Farone, 2010; Eccles, 2004). Students with ADHD also are more likely to be retained due to failing grades. (Loe & Feldman, 2007) and drop out of school (Barkley, 2003; Biederman et al., 2010; Eccles, 2004). Students with ADHD often exhibit numerous classroom problems including inaccurately or not completed classwork and homework disorganization, difficulty following directions, negative teacher and peer relationships and disruptive behavior (Robin, 1990; 1998; APA, 2000). These problem behaviors, particularly those symptomatic of ADHD may act as “academic disablers” (Gresham, 2005; Gresham & Elliot, 1990), such that the behavior is incompatible with academic success. Further, research suggests that these issues often are chronic and not transient (Biderman et al., 2010; Loe & Feldman, 2007).

Problem behaviors such as inattention and disruptiveness as well as related academic problems associated with ADHD are addressed in one of several ways. Effective interventions include stimulant medication, behavioral interventions, and environmental modifications. (Jensen et al., 2007; Loe & Feldman, 2007). Although the majority of students experience behavioral improvements as a result of pharmacological interventions (Jensen et al., 2007), behavioral interventions may be preferred due to concerns about medication side effects. A number of effective behavioral interventions are evident in the literature. For example, varying contingency management interventions have been shown to be effective at reducing off-task behavior and increasing work completion (DuPaul,

Ervin, Hook, & McGoey, 1998; Kazdin, 1989; Witt & Elliot, 1982). In addition, home based interventions such as homework interventions and daily report cards have been shown to improve classroom behavior and homework completion (Jurbergs, Palcic, & Kelley, 2007; Kahle & Kelley, 1994; McCain & Kelley, 1994; Meyer & Kelley, 2007; Miller & Kelley, 1994; Raggi, Chronis-Tuscano, Fishbein, & Groomes, 2009). Power and his colleagues (2010) have suggested that the problems associated with ADHD are complex and thus, a multimodal treatment approach addressing multiple aspects of student behavior is required; specifically, Powers highlighted the importance of incorporating the parents and the home environment in the treatment program. Two home-based interventions often utilized in schools are daily report cards (Chafouleas, Riley-Tilman, & Sassu, 2006) and homework self-monitoring with goal setting (Kahle & Kelley, 1994). The following literature review will address the daily report card and self-monitoring homework interventions.

Daily Report Cards

Daily report cards, or school home notes, involve teachers evaluating student behavior daily and parents providing consequences based on the evaluation. The procedure has been effective in increasing levels of on task behavior and academic productivity in children with ADHD of varying ethnic and socioeconomic backgrounds (Chafouleas, Riley-Tillman, & McDougal, 2002; Kelley, 1990). As noted by Chafouleas and colleagues (2002) daily report cards can be used to address a wide range of problems. Daily report cards have been used to address problems ranging from being off task, disruptive behavior, inadequate classwork completion, and homework completion (Chafouleas, Riley-Tillman, & McDougal, 2002; Dougherty & Dougherty, 1977; McCain & Kelley, 1994).

Daily report cards have been found to be acceptable to both parents and teachers (Chafouleas, Riley-Tillman, & McDougal, 2002; Chafouleas, Riley-Tillman, & Sassu, 2006). Daily report cards meet criteria for targeted interventions (Sprick & Borgmeier, 2010), as they have been deemed feasible, flexible, and acceptable (Chafouleas, Riley-Tillman, & McDougal, 2002; Chafouleas, Riley-Tillman, & Sassu, 2006; McCain & Kelley, 1993) as well as simple and effective (Jurbergs, Palcic, & Kelley, 2007). Daily report cards therefore are an important tool for those working with children with a variety of behavior problems.

Past research has shown daily report cards to be effective in reducing problem behavior and increasing on task behavior, classwork completion, and accuracy of elementary school students with ADHD (Jurbergs, et al, 2007; Palcic, Jurbergs & Kelley, 2009). In addition, daily report cards have been shown to be more effective with the addition of a response cost component (McCain & Kelley, 1994). Although implicitly thought to be a critical component of the daily report card intervention, few studies had previously examined the role of parental involvement within this intervention. Recent research by Jurbergs and her colleagues (2007) explored the importance of the parental involvement component of the daily report card intervention by comparing the daily report card intervention with and without home-based consequences. In the no parent consequences group students were given response feedback from the teacher without an accompanying school-home note, while students in the parent consequences group were given the same response feedback as well as a school home note with an associated contingency contract, which outlined rewards that could be obtained if the student met daily point goals for appropriate behavior. Although both groups exhibited greater on task

behavior than the control group, children in the group whose parents received a school home note and who provided daily consequences exhibited significantly higher levels of on task behavior than those students who only received teacher feedback only. This study illustrates the critical nature of parental involvement within the daily report card intervention, essentially illustrating that part of the effectiveness of the daily report card intervention is dependent on parental participation and commitment to reinforcing appropriate student behavior. Indeed, a recent meta-analysis by Hill and Tyson (2009) support school-home communication as a means of parental involvement that improves overall academic achievement.

Homework Problems in ADHD

Daily report cards are often used to address problems functioning in the classroom for students with ADHD. However, problems of academic functioning are not limited to the classroom; many ADHD students have particular difficulty with academic tasks performed outside of school such as test preparation, studying, and homework completion (Robin 1990; 1998; 2006). Students with ADHD are less likely to complete homework (Robin, 1998) and often, lack the necessary skills, (organizational, self management, etc) to effectively complete and turn in homework (Robin, 2006). In addition, students with ADHD are reported to have more homework problems (Power et al, 2006) than their non-disabled peers.

The Importance of Homework

The importance of homework to augment academic skills taught in the classroom has been widely researched (Cooper, Robinson, & Patall, 2006; Keith, 1982; Trautwein, 2007). Early work by Keith (1982) suggested that homework was the most important

predictor of academic success other than ability. However, more recent results have been somewhat contradictory, with some research suggesting a relationship between homework and academic functioning and others finding a limited or moderated relationship. For example, Cooper and colleagues' (2006) meta-analysis suggested that the impact of homework on academic functioning may be differentially important for students depending on age, with greater importance for older students in higher grades starting at 7th grade. These results should be interpreted with caution as the authors focused on time spent on homework, not on homework completion or accuracy; thus, the literature may not target the specific homework behavior linked to academic success. (Dougherty & Dougherty, 1977; Kelley & McCain, 1993; McCain & Kelley, 1994; Palcic, et al., 2009). Indeed, many individual studies have found positive associations between homework completion and accuracy with academic success (achievement). In either case, given the importance of homework to academic success in middle and high school, homework may serve an important function at earlier grade levels to establish appropriate task completion and study habits (Raggi et al., 2009). For younger students transitioning to middle school, it is critical to address homework problems before entering middle school to avoid many of the problematic academic outcomes faced by students with ADHD.

Homework Self-Monitoring

Commonly prescribed interventions for improving homework completion and accuracy include the establishment of homework routine procedures including establishing a quiet time, location, and habit for completing homework, the use of homework self-monitoring and goal setting as well as contingency contracting (Axelrod, Zhe, Haugen, & Klein, 2009; Kahle & Kelley, 1994; Meyer & Kelley, 2007). Homework self-monitoring

involves making the student more aware of their homework behaviors through the completion of a daily homework checklist (Meyer & Kelley, 2007). The checklist consists of behavior consistent with successful homework completion, working in a distraction free environment, recording homework assignments and checking work for accuracy, reviewing notes, or making note cards. Homework goal setting, used to address homework inefficiency, involves dividing the homework assignments into smaller, clearly defined goals, setting a time limit recording whether the assignment was completed within the time limits, and rewarding goal achievement. (Miller & Kelley, 1994). A number of studies have established goal setting as a useful way to improve homework problems including increasing homework completion and accuracy (Kahle & Kelley, 1994; Miller & Kelley, 1994). Likewise, self-monitoring has also been found to be a useful approach to improving homework problems (Axelrod, et al., 2009; Meyer & Kelley, 2007). In particular, self-monitoring has been found to increase homework completion and time on task (Axelrod, et al, 2009). These homework interventions, including self-monitoring and goal setting, have been shown to reduce homework related problems such as distractibility or inattention when completing assignments and failure to record assignments during class, (Kahle & Kelley, 1994; Meyer & Kelley, 2007), increase the percentage of completed homework (Meyer & Kelley, 2007), as well as increase the accuracy of completed homework (Kahle & Kelley, 1994).

Despite the reported effectiveness of homework self-monitoring, the current literature is limited by the fact that previous research has only used homework self-monitoring interventions as an approach to address homework problems with adolescent students (Axelrod, et al., 2009; Kahle & Kelley, 1994; Meyer & Kelley, 2007); the use of

self-monitoring of homework behavior for elementary students has yet to be fully evaluated. As noted by many individuals in the field, interventions must be adjusted based upon the developmental level of the child (McCain & Kelley, 1993), with increased parental involvement in interventions for younger children. The role of parental involvement for younger students may need to be much greater as these students may lack established homework routines or maturity to structure assigned tasks. Interestingly, recent research by Meyer and Kelley (2007) found that parent monitoring of homework behavior was equally as effective as self-monitoring of homework behavior in increasing homework completion and accuracy in adolescents. Despite reports that adolescents respond negatively to close parental monitoring of homework (Hill & Tyson, 2009), close parental monitoring may be more appropriate for younger children.

Confined, Combined, and Collateral Effects

The majority of research studies have focused on the “confined” or “combined” effects of treatment. Confined effects are defined as “effects that are specific to the purpose or designed intent of the intervention” (Cook et al., Under Review, pp. 6). The combined effects are defined as “the additive effect that is observed when adding or layering on another intervention to one in place” (Cook et al., Under Review, pp. 6). Commonly, combined effects evaluated treatment packages, while confined effects are merely evaluations of single treatment efficacy. Recently, however, treatment outcome research has begun to examine the collateral effects of treatment on problem behaviors. Collateral effects of treatment are “those effects that are secondary byproducts of the intervention that are not necessarily specific to the intent of the intervention” (Cook et al., Under Review, pp. 6). Indeed, Cook and colleagues (2010) suggests it may be important to explore the

additional effects of behavioral interventions on related aspects of academic and behavioral functioning not directly targeted by the original intervention. Cook and colleagues (2010) reported transactional collateral effects of reading and behavioral interventions such that reading problems were improved when a behavioral intervention was instituted; behavioral problems decreased following the implementation of a reading intervention. These unexpected positive collateral results have important implications illustrating the possible wider applicability of some interventions.

The confined effects of both daily report cards for improving classroom behavior and homework self-monitoring and goal setting for improving homework completion are well established. However, there are no studies that have examined the potential collateral effects of these interventions on other. However, it is quite possible that either a homework intervention or a daily report card may have collateral effects. For example, daily report cards have been used to improve homework accuracy and completion. However, researchers rarely measure homework completion or accuracy as a possible outcome of use of a daily report card. One early study found an increase in the percentage of homework completed (Doughterty & Doughterty, 1977), however, more recent research on the use of daily report cards to improve homework problems is lacking. Likewise, Meyer and Kelley (2007) reported improved scores on the Classroom Performance Survey for students receiving either a parent or self-monitoring homework intervention, though this improvement was not statistically significant. Finally self-monitoring for improving classroom behavior consistently has shown to be effective. (Lam, Cole, Shapiro, & Bambara, 1994). However, the transportability of these skills between environments has

not previously been evaluated. Furthermore, the collateral benefits of self-monitoring of homework behavior on classroom behavior have not been evaluated.

The current study examined the confined effects of homework self-monitoring and daily report cards for ADHD students. In addition, the collateral effects of daily report cards on homework behavior and the collateral effects of homework self-monitoring on classroom behavior were examined. Finally, the study examined the combined effects of the two interventions.

Thus, the purpose of the current study was to examine the confined, combined, and collateral effects of two efficacious interventions for ADHD. The research was designed to answer the following questions:

- 1.) To what extent are previously reported confined effects of homework self-monitoring and daily behavior report card replicable?
- 2.) To what extent will the effects of a daily behavior report card impact homework completion and accuracy (collateral effects)?
- 3.) To what extent will the effects of a homework intervention impact students' classroom behavior (collateral effects)?
- 4.) To what extent do the combined treatments result in home and school behavior improvements above and beyond the individual treatments?

In light of the research consistently demonstrating the efficacy of each treatment individually, it was hypothesized that students would demonstrate confined effects, replicating previously reported improvements. Students given a daily behavior report card intervention would show improved classroom behavior including time on-task and

classwork completion and accuracy; students given a homework intervention would show improved homework completion and accuracy.

Further, based upon reported improvement in behavior in the classroom following the implementation of a homework intervention (Meyer & Kelley, 2007), it was hypothesized that students given a homework intervention would display improvements in classroom behavior and class work completion. Conversely, daily report cards have been effective at increasing homework completion and accuracy (Dougherty & Dougherty, 1977) it was hypothesized that students given a daily report card intervention would show increased homework completion and accuracy.

Finally, given the established efficacy of each of these interventions individually, as well as the proposed collateral effects, it was hypothesized that combining the two interventions would have an additive effect over and above the contribution of each intervention alone, with greater increases in on-task behavior and greater increases in homework and classwork completion and accuracy than either intervention alone.

METHOD

Participants

The participants for the current study were four 4th or 5th grade students. All participants met the following inclusion criteria: 1) Students must exhibit at least 50% off task behavior during a 20-minute classroom observation 2) Students must have scored at least 1.5 SD above the mean on the Homework Problems Checklist (Anesko et al., 1987) 3) Students must meet criteria for Attention-Deficit/ Hyperactivity Disorder according to established *Diagnostic and Statistical Manual for Mental Disorders- Fourth Edition, Text Revision (DSM-IV TR)* (APA, 2000) criteria. 4) Students must not have a concurrent diagnosis of Conduct Disorder or an Autism Spectrum Disorder 5) Students must be of normal intelligence based on scores on WISC-IV subscales with an estimated IQ of at least 85 6) Students must have average academic skills based on scores on the WJ-III achievement test subscales of Letter-Word ID, Calculation and Spelling. Relevant demographic information for the students can be found in Table 1 and Table 2.

In addition, the parents and teachers each completed the Conners' Rating Scales (Conners, 1997) and scores of 1.5 standard deviations above the mean by either reporter were required. Finally, the participants met diagnostic criteria for Attention Deficit-Hyperactivity Disorder on the Externalizing Disorders section of the Anxiety Disorders Interview Schedule-IV (ADIS-IV) (Silverman & Albano, 1996) based on parent report.

Michael. Michael was a Caucasian 10- year-old 5th grader. Michael had received a previous diagnosis of dyslexia and received extended test time services, though he was otherwise completely enrolled in general education. Michael's teacher reported that he was often off task and failed to complete classwork effectively. His parents indicated that he

often struggled to complete homework in a timely manner and often forgot to bring home books and materials.

Table 1. Participant Demographic Information

Participant	Gender	Age	Grade	Ethnicity	Condition	Diagnosis
Michael	Male	10	5 th	Caucasian	HSM (8)	Inattentive
Ruth	Female	9	4 th	African American	HSM (3)	Combined
Esther	Female	10	4 th	African American	DRC (8)	Inattentive
Sarah	Female	10	5 th	Asian American	DRC (3)	Combined

Table 2. Participant Qualifying Information

Participant	Conner's Parent	Conner's Teacher	WISC-IV Est. IQ	Woodcock Johnson-III Academic Skills	HPC
Michael	Inattentive –(Subclinical)	Inattentive	85	SS-90	19
Ruth	Inattentive/Hyperactive	Inattentive/Hyperactive	105	SS-102	50
Esther	Inattentive	Inattentive/Hyperactive	85	SS-85	50
Sarah	Inattentive/Hyperactive	Inattentive	90	SS-89	54

Michael's total score on the HPC was 19. Michael's parents reported middle class income of greater than \$30,000 per year.

Esther. Esther was a 10 -year-old African American female, 4th grader at an urban charter school. Esther's teacher reported that she frequently failed to complete or turn in homework and was often off task during class. Her teacher indicated that she had problems sustaining attention, completing work independently and was easily distracted. Based on parent report, Esther scored 51 out of 60 on the HPC, indicating serious homework problems. Esther's mother reported income below \$30,000 per year and acknowledged receiving public assistance.

Ruth. Ruth was a 9 year-old African American female 4th grader at an urban charter school. Ruth's teacher reported that she often was inattentive during class and her work was inaccurately completed. Ruth's score on the HPC was 50 indicating serious problems completing homework effectively. Ruth's parents reported income below \$30,000 and indicated receiving public assistance.

Sarah. Sarah was an Asian American female 5th grader enrolled in general education classes as well as ESL classes at an urban charter school. Sarah's teacher reported that she was often inattentive and failed to complete any homework. Sarah scored a 54 on the HPC indicating serious homework related problems. Sarah's mother reported middle class income above \$30,000 per year.

Procedure

Following obtaining of approval from the Institutional Review Board at Louisiana State University, fourth and fifth grade teachers at participating schools (N = 5) were asked to nominate students that often failed to complete homework accurately, were often

inattentive, and failed to complete classwork. Identified students were solicited via a letter sent home explaining the study and asking for informed consent. Once consent was obtained, students underwent further screening to determine if clinical levels of homework and classroom problems were present. First, parents were asked to complete the Homework Problems Checklist (Anesko et al., 1987). Second, participants were observed in the classroom using the Observational Coding System (Pfiffner & O'Leary, 1987). Students were observed during independent classwork times in order to ascertain the percentage of time the student was on-task. Next, students who met criteria of at least 50% off-task behavior and significant homework problems (at least 1.5 SD above the mean) were further assessed for Attention-Deficit/Hyperactivity Disorder using the aforementioned procedure. Parents and teachers completed the Achenbach Child Behavior Checklist (Achenbach & Rescorla, 2000) for parents and Teacher Report Form (Achenbach, 2001) by teachers to screen for concurrent psychological problems. Once criteria had been met for study inclusion, participants were screened for intellectual functioning by administering the Vocabulary and Matrix Reasoning subtests of the Wechsler Intelligence Scale for Children, Fourth Edition (WISC-IV; Wechsler, 2004). Students' performance on the Letter-Word Identification, Calculation, and Spelling of the Woodcock Johnson-III (Woodcock, McGrew, & Mather, 2001) was the measure of academic performance.

Approximately 50 participants were approached regarding his or her willingness to participate in the study based on teacher nomination. Teachers were told to nominate students currently experiencing problems completing classwork and homework as well as difficulty focusing in class. Parents were told that their child had been nominated for participation in a study on ways to improve their child's academic functioning through

behavioral interventions. Of the 50 parents who were approached regarding participation in the study, 18 volunteered and returned informed consent. Of these 18, approximately five did not meet criteria for inclusion in the study, three are in the process of proceeding through the study and ten began the study. Of the ten that met criteria for participation in the study, two were not reachable to begin the study, while eight other progressed through baseline to the first intervention. An additional four participants were unable to be reached or failed to attend the session for implementing the second intervention. Four participants completed both phases of the study.

Qualifying students were randomly assigned to one of two counterbalanced conditions. In each condition, the participant's behavior, as well as their classwork and homework completion and accuracy were recorded. A multiple baseline design was used in which two participants received the daily report card (DRC) intervention first while the other two students received the homework self-monitoring (HSM) intervention first. Treatment implementation was staggered across participants in order to control for the effect of time. In the first condition, participants were provided the DRC or HSM intervention. After establishing a stable baseline, the second intervention was added. In this way, the confined, combined, and collateral effects of the treatments were evaluated.

Parent Consultation. Each intervention consisted of a parent and teacher consultation meeting at the school in which the intervention components were described in detail and any pertinent questions were answered.

Daily Report Card. Those students randomly assigned to the daily report card (DRC) condition were brought into the clinical office at the school as well for an initial session lasting approximately 1.5 hours. Parents, and teachers of the students in the DRC

condition met with the researcher to provide instruction on the use of the DRC. Next, 3-5 operationally defined, target behaviors were generated. The flexibility to address the unique problem behaviors of each student is an important feature of daily report cards (Chafouleas, Riley-Tillman, & McDougal, 2002). Teachers were instructed to rate the degree to which the student engaged in each behavior throughout the day using a 0 to 2 scale. A rating of 2 equated with “Yes,” 1 with “So-so,” and 0 with “No.” Next, parents and teachers established an initial daily point goal necessary for the student to obtain positive consequences. The generally accepted initial level of appropriate behavior is approximately 75% of possible points earned (Crone, Hawken & Horner, 2002) and this was the criteria that was used.

Once the behaviors and point totals required for earning rewards were agreed upon, parents were instructed in the delivery of home-based reinforcement based on satisfactory daily reports from the teacher. Parents and students were shown samples of daily report cards and were instructed to expect this communication daily. [See Appendix A] Contingency contracts were renegotiated weekly in order to gradually increase the requirement necessary to earn a reward. Parents were instructed to sign and return the daily report card daily and indicate whether the agreed upon consequences were delivered. Weekly follow-up calls were conducted to review treatment implementation.

Homework Self-Monitoring. Those students randomly assigned to the homework self-monitoring condition were brought into the clinical office at the school as well for an initial session lasting approximately 1.5 hours. Parents met with the researcher to receive instruction in the appropriate use of homework self-monitoring and goal setting. First the clinician explained the importance of homework for improving academic success. A focus

on independent but monitored, accurate, and efficient homework completion was emphasized. Self-monitoring was explained as a means to achieve these goals.

Students were instructed in the appropriate steps for establishing a homework routine. Students and parents collaborated in the selection of a distraction free environment within the home, away from all electronics. Students and parents were further instructed to designate a specific time for completion of homework, preferably within 30 minutes of getting home, in addition to a minimum length of time for homework each day. Students were instructed to record all assignments daily in an assignment pad as well as to bring home all needed materials. In order to promote time efficiency during homework completion, the students and parents were instructed in goal setting techniques, including breaking assignments down into more manageable sections and setting time and accuracy goals for completion of each smaller section. The student and parents were instructed to agree on a challenging but feasible goal for completing the smaller sections of homework. Once the student had recorded the time and accuracy goals, parents were instructed to set a timer for the given goal. Following the time limit, the student was instructed to record whether the goal was achieved on the goal setting worksheet. Parents provided feedback on the student's appropriate completion of the specific goal. Once the student's homework was completed, parents were instructed to check over it for accuracy and completeness.

Students and parents were shown a sample self-monitoring checklist and goal setting form outlining the daily steps comprising the aforementioned homework routine. [See Appendix B] Parents were instructed to allow students to complete the self-monitoring on their own and then check their sheet for accuracy. Both the self-monitoring checklist and goal-setting table were placed on the same worksheet, which was also be sent

home daily and filled out and signed by the parent each day and returned to the school. These sheets were collected daily as evidence of treatment integrity.

Parents were instructed to prompt the student to follow the steps of the homework routine initially and gradually fade the prompts and promote independent completion, providing follow up prompts as necessary. Parents were discouraged from completing the checklist or homework for the student. The clinician then modeled appropriate completion of the checklist and goal setting form.

Next, the clinician facilitated the establishment of a contingency contract outlining the criteria necessary to gain desired rewards for completion of 75% of the steps outlined on the checklist. In addition, the clinician aided in the development of a menu of preferred reinforcers from which the student would choose from each night their percent completion goal was met. Goals were renegotiated each week in order to increase the percent completion required for reinforcement. Parents were contacted for weekly follow-up via telephone. Parents were instructed to monitor the completion of these tasks and the checklist.

Measures

Homework Problems Checklist. The HPC (Anesko et al., 1987) is a 20-item parent rating scale for homework-related behavior. Parents are asked to rate the frequency of problematic homework behaviors on a 4-point Likert scale from “*never*” to “*very often*.” Alpha coefficients ranged from .90 to .92 exhibiting acceptable internal consistency (Anesko et al., 1987). In addition, more recent research has illustrated the HPC’s usefulness at detecting changes in levels of homework problems exhibited by students as well (Langberg, Arnold, & Flowers, 2009). The clinical cut off score has been established

at a HPC score of 19. Parents were asked to rate their child's behavior at the outset of the study to establish clinical levels of homework problems.

Observation Coding System. The Observation Coding System was adapted from the coding system used by Pfiffner and O'Leary (1987). The Observation Coding System is a method of rating on task classroom behavior in a systematic way. Twenty-minute observations were conducted for each participant each day of the study. Whole interval recording was used, in which student behavior was coded as on-task or off-task during 15-second intervals. On-task behavior was defined as the student engaging in appropriate, non-disruptive task-oriented behavior for the entire interval with no more than 2 seconds off task. Off-task behavior was defined as being oriented away from tasks for at least 3 seconds or behaving in a disruptive manner, such as calling out, out of seat behavior or bothering other students. Observations were conducted by the researcher, graduate assistants and trained undergraduates in the classroom daily. Interrater reliability was conducted for at least 20% of intervals (n=14) to ensure accuracy of ratings. The interrater reliability ranged from 85% to 100% exact agreement of intervals with a mean of 92%.

Homework Completion/Accuracy. Homework completed each day was collected the next morning. The classwork was evaluated for completion by calculating the percentage of problems or questions attempted/completed divided by the total number of problems assigned. The classwork was evaluated for accuracy by establishing the percentage of problems answered correctly. The reliability of homework completion and accuracy scores was calculated for 20% of observations (n=14). Agreement for homework completion scores was 100% agreement for all observations. Likewise, agreement of scores for homework accuracy ranged from 87% to 100% with a mean of 97.79% agreement.

Classwork Completion/Accuracy. During the same period observed daily, completed classwork was collected immediately and evaluated for completion and accuracy. The classwork was evaluated for completion by calculating the percentage of problems or questions attempted/completed. The classwork was evaluated for accuracy by establishing the percentage of problems answered corrected and dividing by the total number of problems. The reliability of classwork completion and accuracy scores was calculated for 20% of observations (n=14). Classwork completion agreement was high with a mean of 99% agreement and a range of 95-100 for completion. Likewise, agreement of scores for classwork accuracy ranged from 83.3% to 100% with a mean of 98% agreement.

Conners Parent Rating Scale-Revised Short Form. The Conners Short Form (Conners, 1997) is a rating scale consisting of 27 items used to assess behavioral and attention problems. Parents are asked to respond to questions on a 4-point Likert scale, from “*never*” to “*very often*” regarding their child’s behavior. The CPRS-R:S has been normed on children ages 3 to 17 years old. Cronbach’s alpha was reported to range from .73-.94, suggesting adequate internal consistency. Parents were asked to complete the CPRS-R:S before the outset of the study to confirm an ADHD diagnosis.

Conners Teacher Rating Scale-Revised Short Form. The Conners Short Form (Conners, 1997) is a rating scales consisting of 28 items completed by teachers to assess the presence of ADHD symptoms observed in the classroom. The CTRS-R:S has shown adequate internal consistency. Teachers were asked to respond to the CTRS-R: S for each child they recommended prior to the onset of the study

Anxiety Disorders Interview Schedule for DSM-IV, Parent Version. The ADIS (Silverman & Albano, 1996) is a structured clinical interview based on DSM-IV diagnostic

criteria used to diagnose mood, anxiety, and externalizing disorders in children and adolescents. The ADIS has been shown to have adequate levels of internal consistency and test-retest reliability with a kappa equal to .92 for primary diagnoses (Lyneham, Abbott, & Rapee, 2006). Parents and children were asked to respond to questions related to their feelings and behavior for the Externalizing Disorders section only.

Achenbach Child Behavior Checklist. The Child Behavior Checklist (Achenbach & Rescorla, 2000) is a 140-item scale used to screen for behavior and attention problems in children ages 6 to 18 years old. Cronbach's alpha was reported to range from .78-.97, suggesting adequate internal consistency. Parents or teachers are asked to respond to questions regarding the presence or absence of the child's behavior on a 3-point Likert scale ranging from "absent," "occurs sometimes," or "occurs often." Parents were asked to complete the CBCL prior to the study beginning. The CBCL contains 8 subscales including depressed, anxious/depressed, somatic complaints, social problems, thought problems, attention problems, rule-breaking behavior, and aggressive behavior.

Teacher Report Form. The Teacher Report Form (TRF; Achenbach, 2001) is a 182 item scale normed on children ages 6 to 18 years old. The TRF requires teachers to respond to questions evaluating students' problem behavior observed in the classroom on a 3-point Likert scale from "not true" to "very true". Test-retest reliability for the TRF has been reported as ranging from .72-.97 indicating adequate levels of reliability. Teachers were asked to complete the TRF for students recommended for inclusion into the study.

Wechsler Intelligence Scale for Children, Fourth Edition. The WISC-IV (Wechsler, 2004) is a measure of intellectual functioning for children ages 6 through 16 years. It contains four subscales: Verbal Comprehension, Perceptual Reasoning, Working

Memory, and Processing Speed. The Full-Scale score is a combination of the four scales, reflecting overall thinking and reasoning skills. The mean score of each subtest is 10, with scores of 8 through 12 in the average range. The following WISC-IV subtests were administered: Vocabulary and Matrix Reasoning.

Woodcock Johnson Test of Achievement, Third Edition. The WJ-III

(Woodcock, McGrew, & Mather, 2001) is an individually administered test of achievement with subtests grouped into three primary areas: math, reading, and written language. The WJ-III is a test used to delineate students' academic strengths and weaknesses. The WJ-III exhibits adequate reliability, as Cronbach's alpha has been reported as ranging from .81 to .94. Students were administered the Letter-Word Identification, Calculation and Spelling subscales to estimate current academic functioning.

RESULTS

Analyses

Results were analyzed via visual analysis. Effect sizes were calculated using the Points Exceeding the Median (PEM) approach, which evaluates the percentage of data points exceeding the median of the baseline as proposed by Ma (2006). Effect sizes are related to the median rather than the percentage of non-overlapping data points to better control for the effect of outliers during the baseline phase. The PEM method is considered an improvement over the previous Percentage of Non-Overlapping Data Points (PND) approach to conducting single case analyses (Ma, 2006). PEM scores were calculated based on pairs of baseline and treatment conditions. A horizontal line was drawn through the median point of the baseline. Next, the median line from the baseline phase was extended into the treatment phase and the number of points in the treatment condition, which fell above the median line were calculated as a percentage of the total number of points. This percentage was then used to calculate the effect size.

All interventions were implemented with 100% integrity with the exception of Esther, with 20% treatment integrity for the homework intervention and Ruth with 92.2% integrity during the homework intervention.

Daily Report Card-Confined and Collateral Effects.

Figure 1 presents the percent of on task behavior and classwork completion and accuracy for the students who received DRC first, while Figure 2 presents the homework completion and accuracy for these participants.

Sarah. As seen in Figure 1, Sarah's on task behavior was low and variable during baseline, ($M = 39\%$). With the introduction of a daily report card (DRC), her on task

behavior improved to a mean of 84%. Sarah's classwork completion and accuracy were low and variable during baseline ($M = 33\%$; $M = 18\%$). Following the introduction of a DRC, Sarah's classwork completion improved, to a mean of 89% for classwork completion and her accuracy to a mean of 74%.

Sarah's homework completion and accuracy prior to intervention was low and stable ($M = 0\%$; $M = 0\%$). Following the implementation of a DRC, her homework completion improved ($M = 59\%$), as did her homework accuracy ($M = 36\%$.) Sarah's homework remained at baseline levels for 2 additional days following the introduction of a DRC, then rose to 100% completion.

Following the introduction of homework self-monitoring (HSM) in addition to the DRC, Sarah's on task behavior remained consistent with that obtained with the DRC alone condition ($M = 86\%$) However, both her classwork completion and accuracy improved to averages of 96% and 85% respectively. Likewise, Sarah's homework completion ($M = 89\%$) and accuracy ($M = 72\%$) also improved with addition of a HSM intervention.

Overall, Sarah's on task behavior as well as her homework completion and accuracy were greatly improved with the implementation of both the DRC and HSM interventions in combination. Sarah's classwork completion and accuracy were also greatly improved with the combination of the DRC and HSM intervention.

Esther. Figure 1 shows that Esther's on task behavior was low and variable during baseline ($M = 48\%$). However with the introduction of a DRC, her on task behavior improved to a mean of 77%. Likewise, Esther's classwork completion and accuracy were

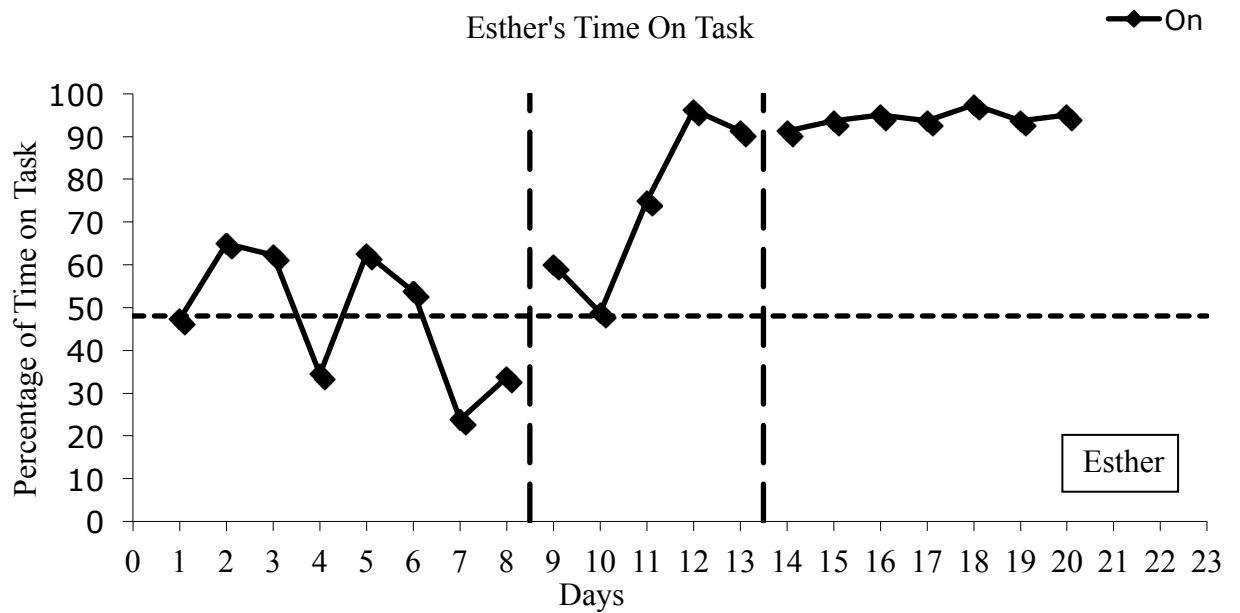
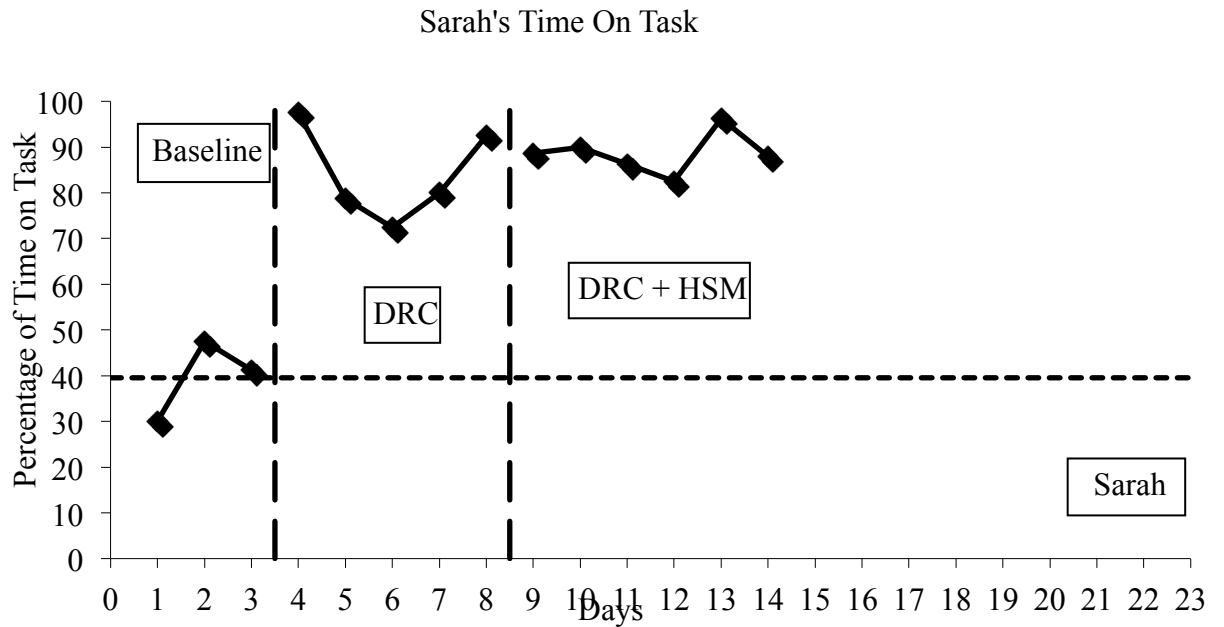


Figure 1a. Sarah and Esther's time on task

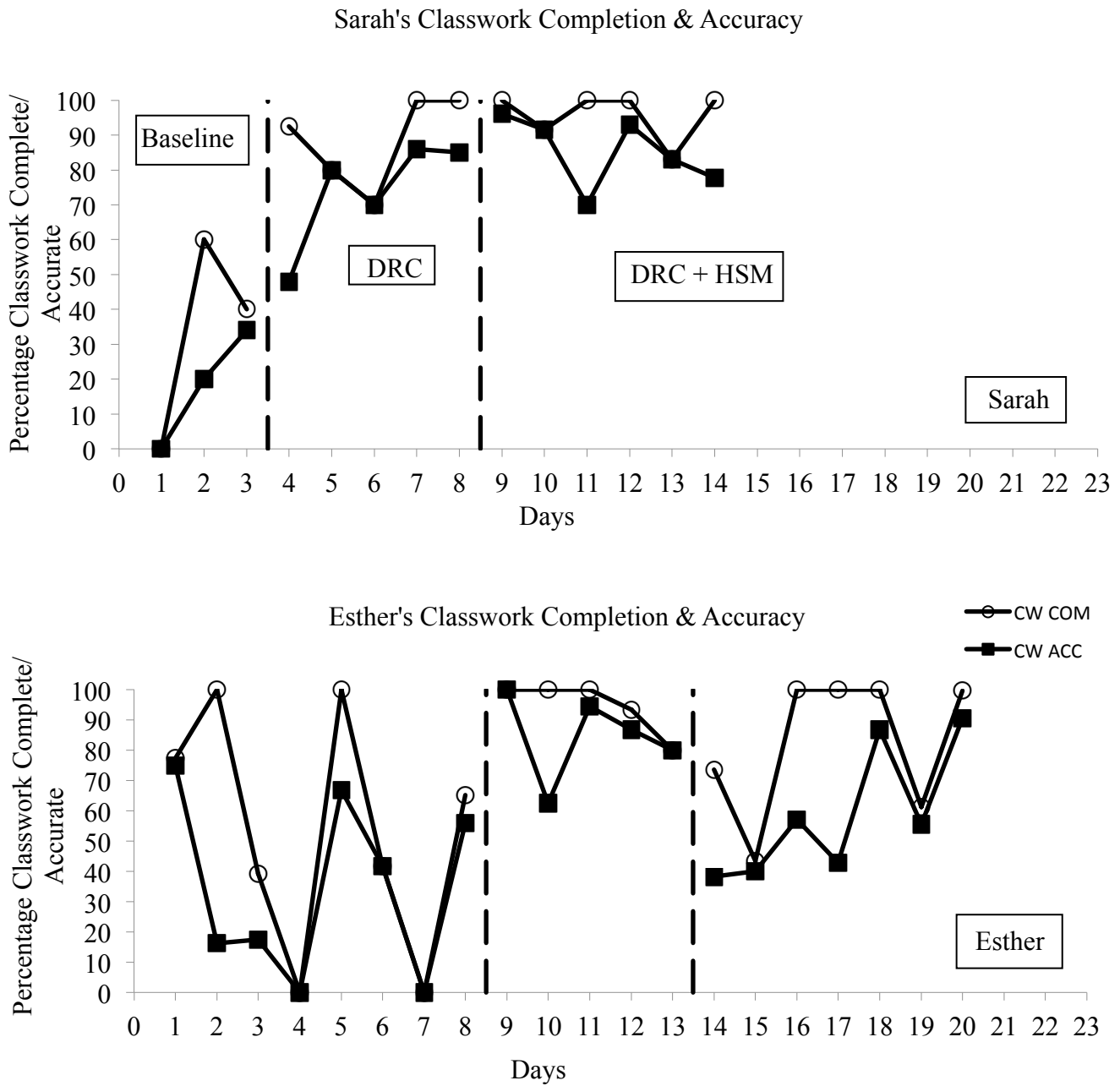


Figure 1b. Sarah and Esther's classwork completion and accuracy

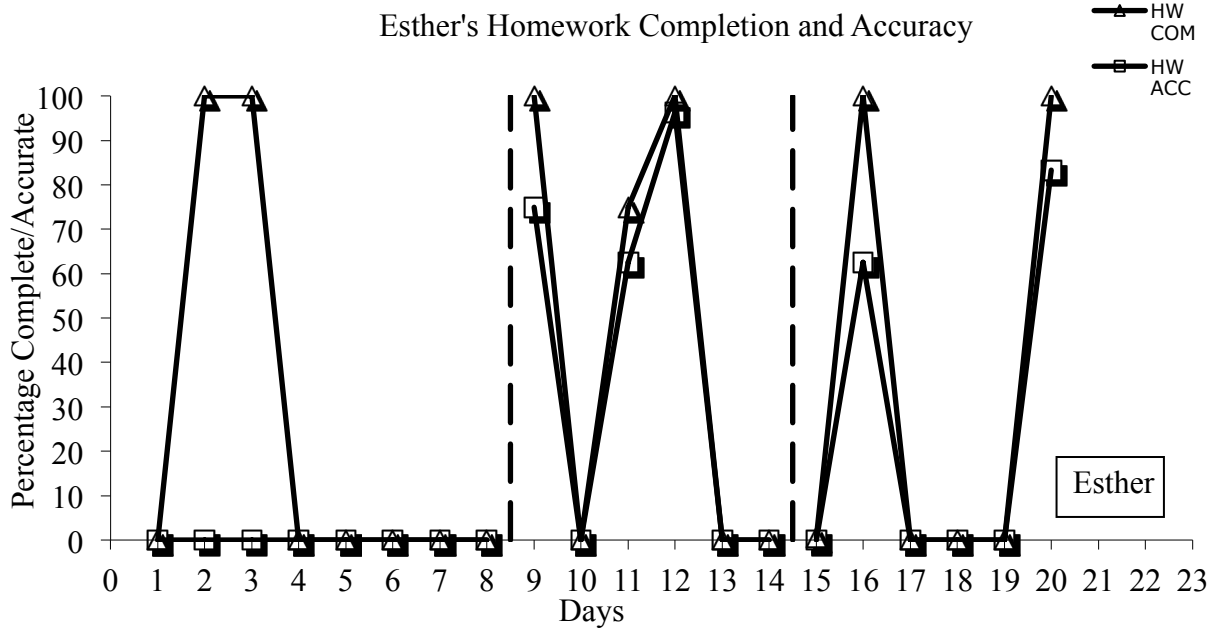
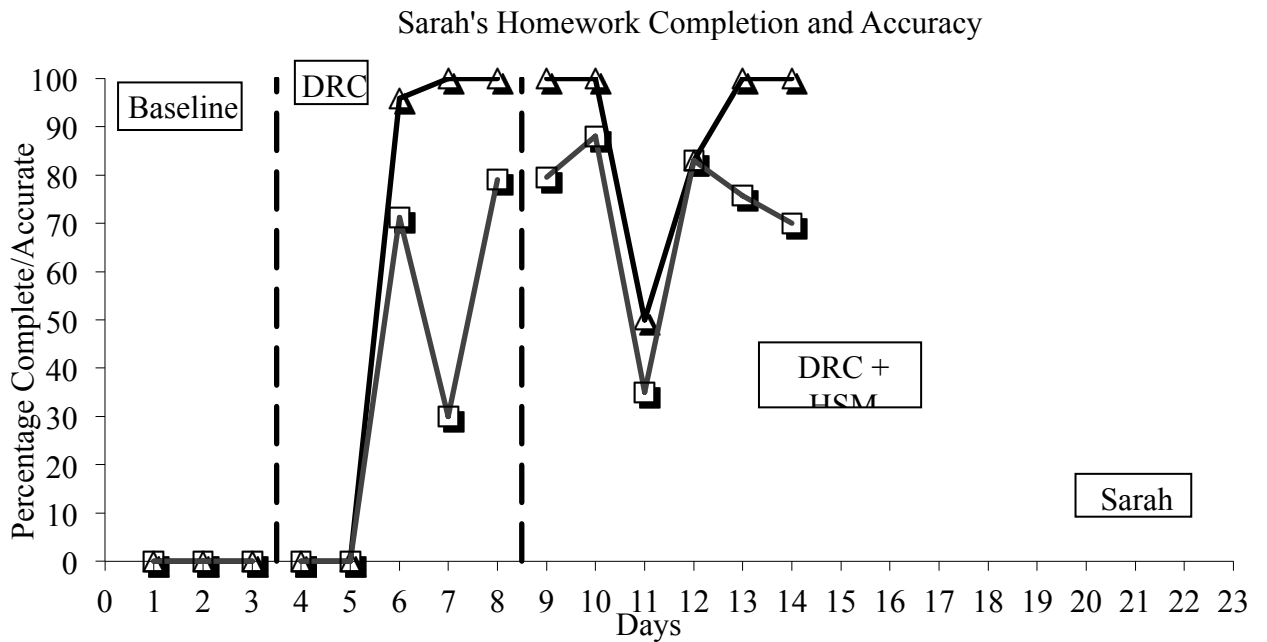


Figure 2. Sarah and Esther's homework completion and accuracy

highly variable during baseline ($M = 53\%$; $M = 34\%$) but, improved substantially with the introduction of the DRC, with means of 91% and 77%: respectively.

Figure 2 shows that during baseline Esther's homework completion during baseline ($M = 25\%$) and accuracy ($M = 0\%$) were very low. Although Esther's homework completion and accuracy improved following the implementation of a DRC with means of 46% and 39% respectively, her performance remained variable.

Following the addition of the DRC, Esther's on task behavior showed further improvement with a mean of 95%, as did her classwork completion ($M = 84\%$). However, there was no additional improvement in classwork accuracy ($M = 62\%$), homework completion ($M = 33\%$) or homework accuracy ($M = 24\%$); these behaviors actually dropped below DRC only condition levels.

Thus, Esther's on-task behavior and classwork completion improved with the implementation of a DRC. However, with the inconsistent implementation of HSM, Esther's homework completion and accuracy failed to improve and actually decreased.

Homework Self-Monitoring Intervention- Confined and Collateral Effects.

Figure 3 presents The percentages of homework completion and accuracy from the students whose first treatment was homework self-monitoring (HSM) and Figure 4 presents the on task, classwork completion and classwork accuracy for these students.

Ruth. As seen in Figure 3 Ruth's homework completion and accuracy was variable during baseline ($M = 67\%$; $M = 39\%$). However, with the introduction of HSM, Ruth's homework completion improved to a mean of 97% and her accuracy improved to a mean of 79%.

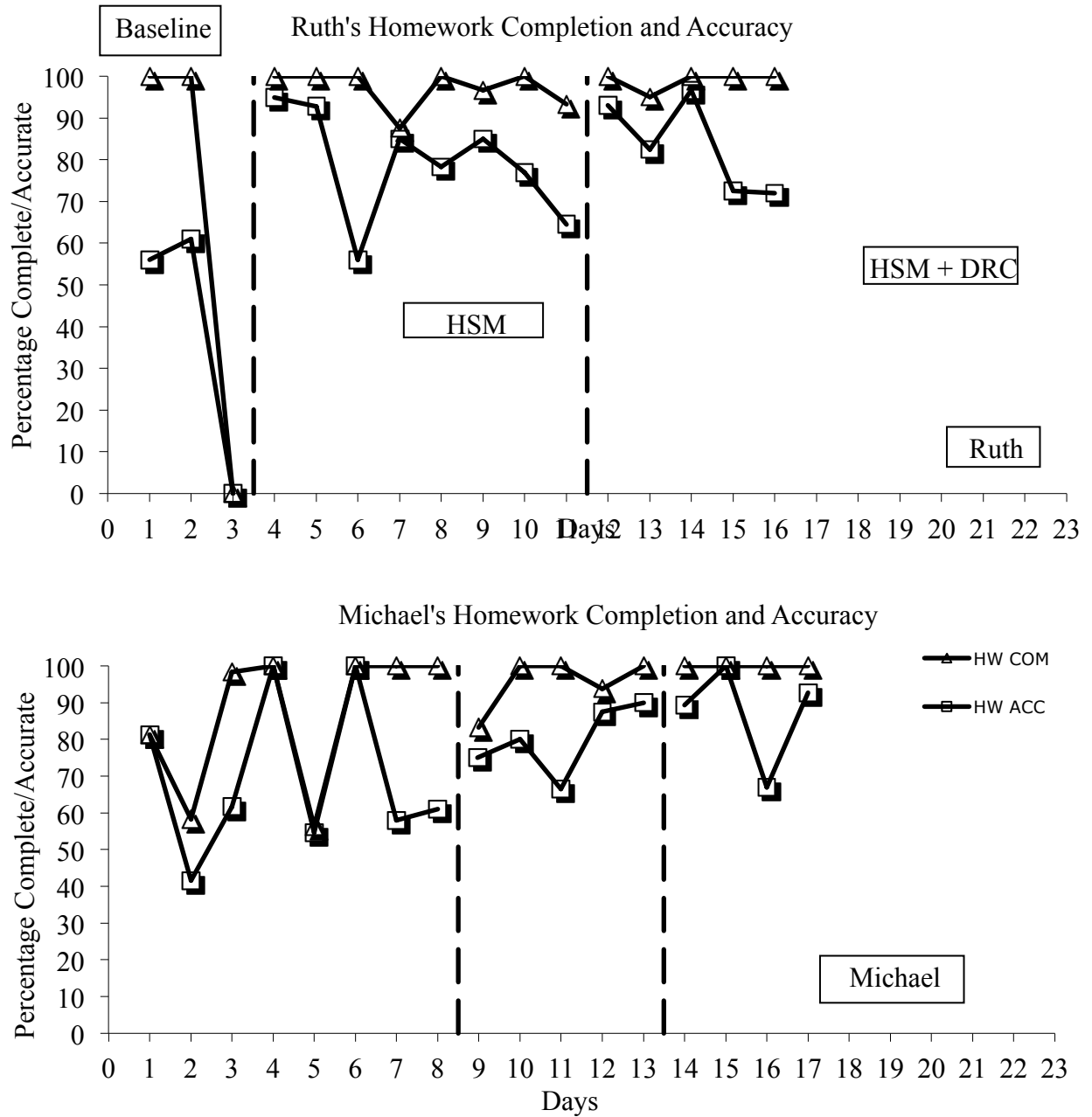


Figure 3. Ruth and Michael's homework completion and accuracy

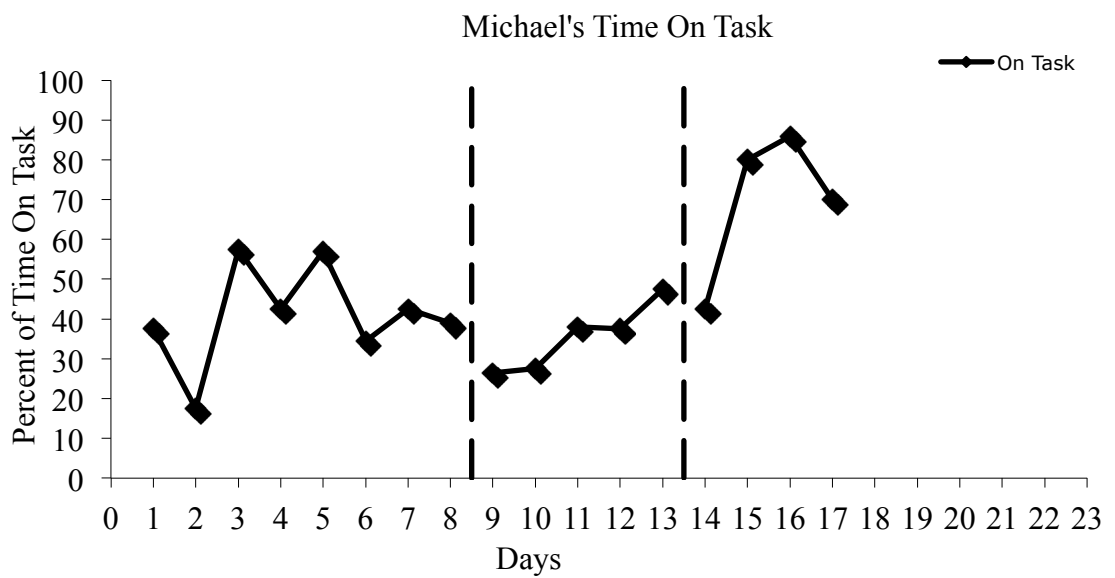
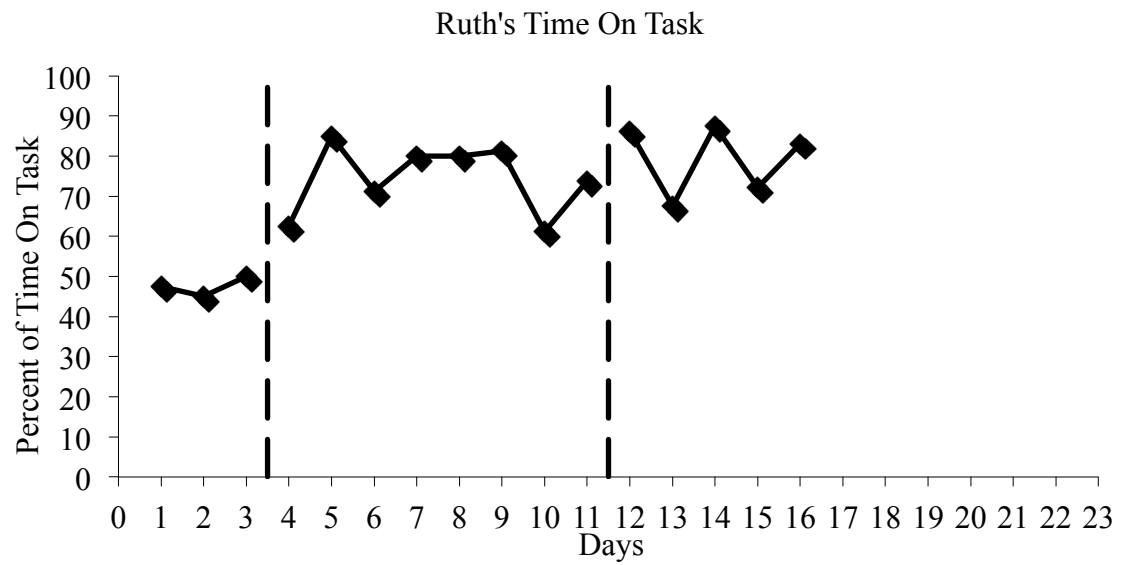


Figure 4a. Ruth & Michael's time on task

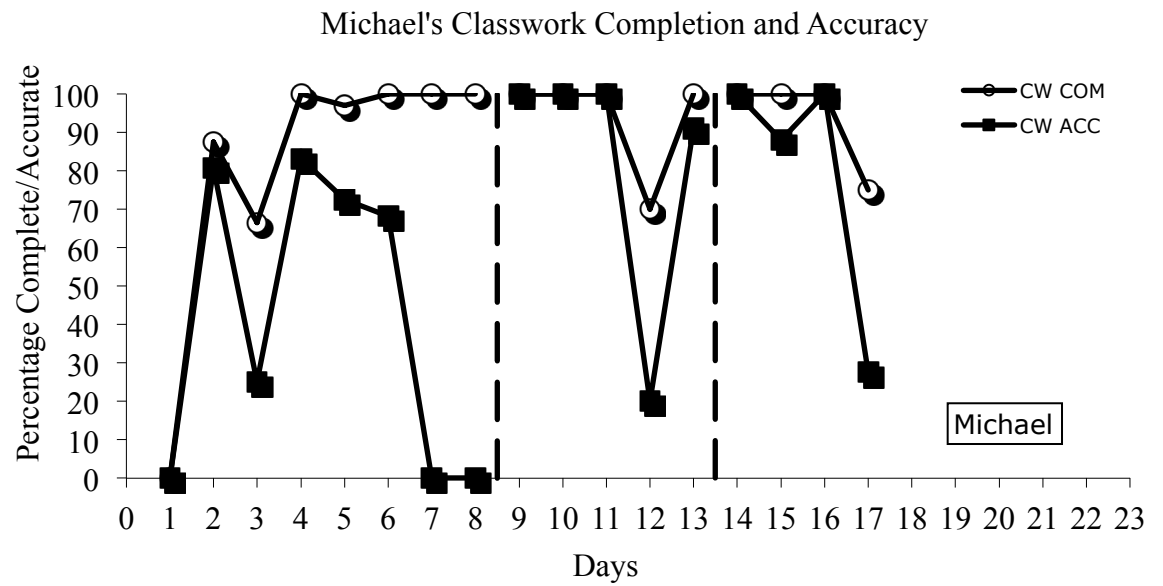
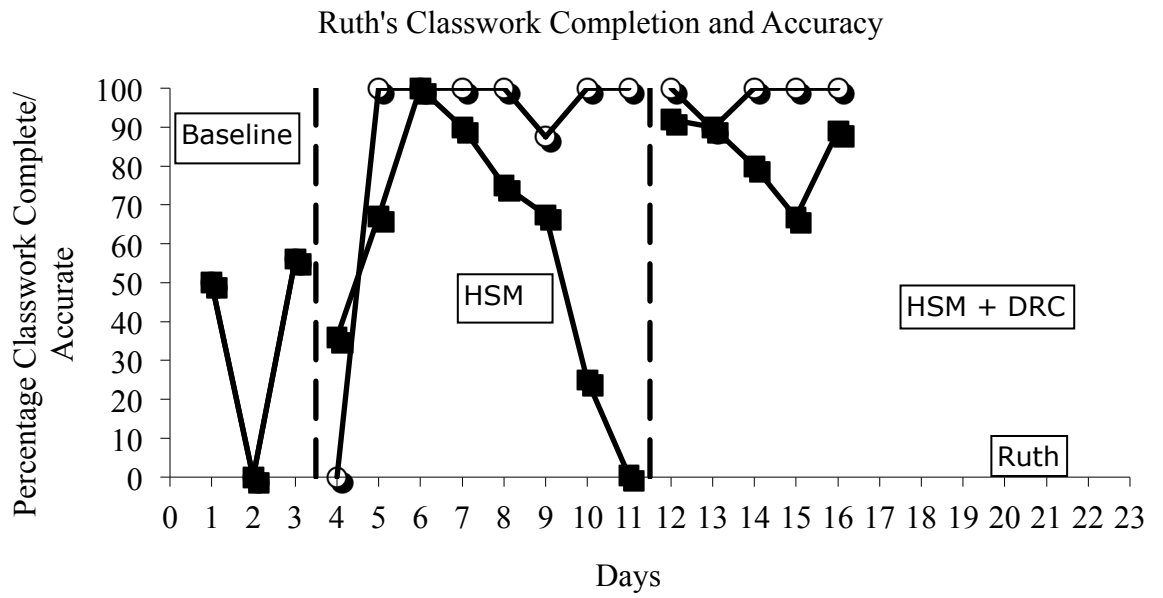


Figure 4b. Ruth and Michael's classwork completion and accuracy data

As Figure 4 shows, Ruth's on task behavior, was low and stable during baseline ($M = 48\%$), and increased to a mean of 74% with the introduction of HSM. Her classwork completion and classwork accuracy were low and variable during baseline ($M = 35\%$; $M = 35\%$). Following the introduction of HSM, Ruth's classwork completion improved to a mean of 86% and became quite stable. Her classwork accuracy improved to a mean of 53% however her accuracy remained variable during the HSM condition.

Following the addition of a DRC to the HSM intervention only, Ruth's on task behavior increased slightly ($M = 79\%$). In addition, her classwork and homework completion ($M = 98\%$; $M = 99\%$) remained high. Ruth's classwork accuracy ($M = 84\%$) as well as her homework accuracy ($M = 83\%$), improved with the addition of the DRC. Overall, Ruth's on task behavior, classwork completion and accuracy as well as her homework completion and accuracy improved following a HSM intervention and further improved with addition of a DRC.

Michael. As seen in Figure 3, Michael's homework completion was variable but improved prior to the intervention ($M = 87\%$). However, his accuracy was variable during baseline with no ascending trends. ($M = 70\%$). With the introduction of HSM, Michael's homework completion improved to a mean of 95% and his accuracy improved to a mean of 80%.

Figure 4 shows that Michael's on task behavior was quite low during baseline ($M = 41\%$) and remained low during treatment ($M = 35\%$). Likewise, his classwork completion was high but variable during baseline ($M = 69\%$). and increased and stabilized with treatment ($M = 94\%$). Finally, Michael's accuracy was low and variable during baseline ($M = 41\%$) but increased significantly with treatment ($M = 82\%$).

Following the introduction of a daily report card (DRC) in addition to the HSM intervention, Michael's on task behavior increased from a mean of 35% to an average of 69%. In addition, his classwork completion improved to a mean of 94% and his classwork accuracy improved to a mean of 79%. These improvements were not different from the HSM only phase. During the combined intervention phase, Michael's homework completion remained high with a mean of 100%, in addition his homework accuracy improved to a mean of 87%.

Thus, Michael's on task behavior, homework completion and accuracy as well as his classwork completion and accuracy were most improved following a combined intervention utilizing both HSM and a DRC.

DISCUSSION

The present study examined the confined, collateral and combined effects of a daily report card and homework self-monitoring interventions. The results of the current study provide a variety of information regarding best practices for intervening with students with ADHD. The results generally demonstrate that both interventions were effective prior to the introduction of the second intervention thus demonstrating confined effects. Likewise, when the second intervention was added there were additional improvements.

The DRC intervention produced strong effects for classwork completion, classwork accuracy and on task behavior, with large effects for both Sarah and Esther. This data confirms previous findings that daily report card interventions successfully increase positive classroom behaviors, including time on task and classwork completion and accuracy (Jurbergs, et al., 2007; Palcic, et al., 2009).

Likewise, the homework self-monitoring intervention produced moderate effects for improving homework accuracy post intervention for both Michael and Ruth. Although the interventions' effect on homework completion rates were difficult to assess due to ceiling effects, a reduction of the variability of responding was noted for both Michael and Ruth. Again, the results confirm previous research demonstrating that homework self-monitoring and goal setting result in improved homework completion and accuracy (Kahle & Kelley, 1994; Meyer & Kelley, 2007; Miller & Kelley, 1994).

These results represent the expected confined effects of the interventions on the initially targeted behaviors of interest. Overall, these data support the initial hypothesis that the two interventions being evaluated would exhibit confined effects, such that the interventions would improve targeted behavior. The second hypothesis, that

implementation of a DRC would improve homework and accuracy, was supported for both Esther and Sara. Interestingly, Sarah's improvements did not occur until the third day of treatment. It is possible that this staggered effect was due to a delay of the DRC to exert control over collateral behavior. However, Esther's homework completion and accuracy increased following intervention, although her responding remained highly variable. Taken together, these results indicate a partial collateral effect of the DRC on homework completion and accuracy. However, these effects were somewhat variable and did not fully impact the collateral behavior.

Likewise, HSM exerted partial control over classroom behavior. Ruth and Michael each had increased positive behavior. Michael's classwork and accuracy increased with HSM; however he failed to show improved on task behavior. In contrast, Ruth's on task behavior, classwork completion, and classwork accuracy all improved during HSM. However, her classwork accuracy remained somewhat variable prior to the introduction of the DRC. Taken together, these results indicate that HSM exerted partial control over positive classroom behavior.

A finding of collateral effects suggests that factors such as parental involvement common to both types of interventions may be responsible for effectiveness of both HSM and DRC on student academic outcomes. Both HSM and DRC emphasized positive reinforcement provided by parents in the home on a daily basis. It is quite possible that providing positive daily rewards, unlikely to have been used prior the study, were key to the success of both interventions. (Fishel & Ramirez, 2005; Kahle & Kelley, 1994; Jurbergs, et al., 2007).

The combined interventions appeared to have the greatest level of positive effect across all participants. The only exception to this was the failure of the addition of HSM to a DRC to improve homework completion or accuracy for Esther. However, it is important to note the low treatment integrity of the homework intervention for participant Esther. Following the first day of the combined intervention, the parent refused to complete the homework intervention, despite this intervention being attached to the DRC. The DRC was completed appropriately each day. No explanation was ever offered as to the reason for the lack of completion of the homework intervention however, the failure to appropriately implement HSM most likely was the reason for the intervention failed to improve the homework behavior. It also is interesting to note that Esther's homework completion and accuracy as well as her classwork accuracy actually reduced to levels lower than during the DRC alone. It is possible that this student was aware of the inconsistency of her parent to follow through and she learned that compliance for homework would not be required. This underscores the extensive body of research documenting the importance of consistency when intervening with children.

The preliminary results of this study suggest that despite the presence of some collateral effects for some students, the collateral effects present were insufficient to improve collateral behavior to levels seen when the intervention targeted the behavior. The inconsistent collateral effects required the layering of interventions for each participant to adequately improve all areas of problematic academic behavior. Despite the preference for using the most time efficient interventions due to concerns about the allocation of resources, it may be important to consider offering these services as a package to families. One of the major challenges of this study was the getting parents to attend two separate

sessions. Half of parents who attended one session, then failed to follow through and complete the second. This brings into question the feasibility of requiring parents to attend multiple sessions. Although we want to keep intervention practices as simple as possible, perhaps providing parents with all the tools at once may be more beneficial than implementing interventions one at a time and hoping for collateral effects.

Limitations

Single subject data is inherently limited in the types of general conclusions, which may be drawn particularly with respect to generalizability. Though generalizability conclusions cannot be drawn from single subject research, the inclusion of children from 3 different ethnic groups contributes to the external validity of the findings of the current study. Despite their ethnic diversity, this study included only students currently living in southeast Louisiana and as such may or may not generalize to students in other parts of the country.

In addition, the high initial homework completion rates for participants Michael and Ruth as well as the high classwork completion rate for Michael made conclusions about the effects of the interventions on these outcomes difficult to draw. Future research should try to find students with low stable baselines across all measures. In addition, the low treatment integrity on the part of Esther's parent during the second intervention phase likewise, removed the ability to assess the current research questions related to improvements from combined effects.

Selection bias was a major challenge in the current study, with 60% students who met criteria failing to complete the study, 40% of whom withdrew after completing one intervention. Concerns that this level of attrition could bias the study results are substantial.

The current interventions could not be implemented without parental involvement, and as such any parent unwilling to attend intervention meetings or complete interventions appropriately were withdrawn from the study. All cases of attrition from the study following intervention were passively self-selected, with parents failing to attend subsequently scheduled meetings or failing to return follow-up phone calls. The participants who failed to complete the study were similar to those completed the study in age, economic status, and diagnosis. The high rate of attrition in this study could be due to a number of factors including economic challenges due to low income status, frustration with the research process, or in one case such high levels of collateral effects that the student failed to have additional problems and the mother withdrew from the study.

Future Directions

The current study explored the positive collateral effects of interventions used to promote the academic success of students with ADHD. Though some collateral effects were found, the greatest effects were seen when the two interventions were combined. Future research should explore the possible collateral effects of other common interventions and evaluate whether some interventions may be superior to others in their ability to improve collateral aspects of academic behavior. Although this study focused on two commonly used interventions, it is possible that other interventions used to improve academic functioning in students with ADHD may have more or less collateral effects. It is important to continue to study this phenomenon in order to most effectively use our time as school and clinical psychologists and best serve the students.

In addition, while there is a great deal of research to suggest that parental involvement in children's academic life is critical to student success and that increased

parent participation is related to improved outcomes for students (Abdul-Adil & Farmer, 2006; Fantuzzo, Davis & Ginsburg, 1995; Henderson & Berla, 1994), promoting that engagement often proves to be a challenge. Improving school-home communication and parental involvement in student learning has been made a priority in recent years, particularly for at-risk youth (IDEIA 2004; Fishel & Ramirez, 2005). The question, which must be addressed in future research, is how to increase parent engagement and strengthen the school home connection. The greatest weakness of this study was the high attrition and lack of participation by parents of qualified students in need of services. Research focused on improving and facilitating parental investment is therefore critical to improving outcomes for students.

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APPENDIX A: DAILY REPORT CARD

Adapted from the BEP (Crone, Hawken & Horner, 2010)

Daily Report Card
(Adapted from Crone, Hawken & Horner, 2010)

Name: _____

Date: _____

Teachers: Please indicate YES (2), So-So (1), or No (0) regarding the student's achievement for the following goals:

Goals	Language Arts	Math	Science/Social St	Specials
Prepared for class	2 1 0	2 1 0	2 1 0	2 1 0
Used Class Time Well	2 1 0	2 1 0	2 1 0	2 1 0
Participated in Class	2 1 0	2 1 0	2 1 0	2 1 0
Follow Directions	2 1 0	2 1 0	2 1 0	2 1 0
Completed Homework	2 1 0	2 1 0	2 1 0	2 1 0
TOTAL POINTS				

Daily Goal /50

Daily Score /50

Reinforcement Received _____

Parent signature _____

Teacher comments: Please state briefly any specific behaviors or achievements that demonstrate the student's progress. (If additional space is required, please attach a note and indicate so below)

APPENDIX B: HOMEWORK CHECKLIST

Homework Checklist Date _____

- | | | | |
|----|--|-----|----|
| 1. | Wrote down all assignments | Yes | No |
| 2. | Handed in all HW | Yes | No |
| 3. | Began HW w/I 30 minutes of arriving home | Yes | No |
| 4. | Completed HW at the kitchen table | Yes | No |
| 5. | Review notes from Class | Yes | No |
| 6. | Completed HW for next day | Yes | No |
| 7. | Allowed parents to review HW | Yes | No |
| 8. | Cleaned out Book Sack | Yes | No |
| 9. | Used Goal Setting | Yes | No |

Time Began School work: _____

Time Ended Schoolwork: _____

Work to Be Completed	Time Allowed	Goal Met?
		Yes No
		Yes No
		Yes No
		Yes No
		Yes No
		Yes No
		Yes No
		Yes No

Number of Yes's _____ Number of No's _____

APPENDIX C: IRB APPROVAL FORM

Application for Approval of Projects Which Use Human Subjects

This application is used for projects/studies that cannot be reviewed through the exemption process.



Institutional Review Board
 Dr. Robert Mathews, Chair
 131 David Boyd Hall
 Baton Rouge, LA 70803
 P: 225.578.8692
 F: 225.578.6792
 irb@lsu.edu
 lsu.edu/irb

- Applicant, Please fill out the application in its entirety and include two copies of the completed application as well as parts A-E, listed below. Once the application is completed, please submit to the IRB Office for review and please allow ample time for the application to be reviewed. Expedited reviews usually takes 2 weeks. Carefully completed applications should be submitted 3 weeks before a meeting to ensure a prompt decision.

- A Complete Application Includes All of the Following:

- (A) Two copies of this completed form and two copies of part B thru E.
- (B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1&2)
- (C) Copies of all instruments to be used.
 *If this proposal is part of a grant proposal, include a copy of the proposal and all recruitment material.
- (D) The consent form that you will use in the study (see part 3 for more information.)
- (E) Certificate of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB. Training link: (<http://php.nitaining.com/users/login.php>.)
- (F) IRB Security of Data Agreement: (<http://www.lsu.edu/irb/989%20Security%20of%20Data.pdf>)

1) Principal Investigator* Rank

*PI must be an LSU Faculty Member

Dept: Ph: E-mail:

2) Co Investigator(s) please include department, rank, phone, and e-mail for each

3) Project Title:

4) Proposal Start Date: 5) Proposed Duration Months:

6) Number of Subjects Requested: 7) LSU Proposal #:

8) Funding Sought From:

IRB 2169 LSU Proposal # _____

Full

Expedited

Human Subjects Training

Complete Application

ASSURANCE OF PRINCIPAL INVESTIGATOR named above
 I accept personal responsibility for the conduct of this study (including ensuring compliance of co-investigators/co-workers) in accordance with the documents submitted herewith and the following guidelines for human subject protection: The Belmont Report, LSU's Assurance (FWA00003892) with OHRP and 45 CFR 46 (available from <http://www.lsu.edu/irb>). I also understand that copies of all consent forms **must be maintained at LSU for three years after the completion of the project.** If I leave LSU before that time, the consent forms should be preserved in the Departmental Office.

Signature of PI *Mary Lou Kelley* Date 2-11-11

ASSURANCE OF STUDENT/PROJECT COORDINATOR named above. If multiple Co-Investigators, please create a "signature page" for all Co-Investigators to sign. Attach the "signature page" to the application.

I agree to adhere to the terms of this document and am familiar with the documents referenced above.

Signature of Co-PI (s) *Stephanie M. Grant* Date 02-11-11

Study Approved By:
 Dr. Robert C. Mathews, Chairman
 Institutional Review Board
 Louisiana State University
 203 B-1 David Boyd Hall
 225-578-8692 | www.lsu.edu/irb
 Approval Expires: 3-31-2012

VITA

Stephanie Marie Grant was born in May 1984 in New Orleans, Louisiana. She was raised in New Orleans, where she attended Loyola University New Orleans. Stephanie received her Bachelor of Arts degree in psychology from Loyola University New Orleans in 2006, before spending a year as a teacher. In 2009, Stephanie began her graduate career at Louisiana State University to pursue her doctorate in psychology. Stephanie's research interests include the application of best practices to promote school success of low income and minority populations in schools as well as the community.