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How Successful is Homework Success for Children with ADHD?

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How Successful is Homework Success for Children with ADHD?

by

Alexis Resnick, M.S.

A Dissertation Presented to the School of Psychology
of Nova Southeastern University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

NOVA SOUTHEASTERN UNIVERSITY

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DISSERTATION APPROVAL SHEET

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TABLE OF CONTENTS

LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
ABSTRACT.....	1
CHAPTER I: STATEMENT OF THE PROBLEM.....	2
Research Questions.....	3
Primary Research Questions.....	3
Secondary Research Questions.....	4
CHAPTER II: REVIEW OF THE LITERATURE.....	5
Attention-Deficit/Hyperactivity Disorder (ADHD).....	5
Homework.....	9
Effects of Homework.....	10
Positive Effects.....	10
Negative Effects.....	10
Parental Involvement in Homework.....	11
Positive Effects of Parental Involvement in Homework.....	12
Negative Effects of Parental Involvement in Homework.....	13
Developmental Considerations in Parent Involvement in Homework...14	
Parental Involvement in Families of Children with ADHD.....	16
Parent-Child Relationship in Families of Children with ADHD.....	16
Teachers and Children with ADHD.....	18
Home-School Collaboration.....	19
Treatments for Children with ADHD and School-Based Problems.....	21
Medication.....	21
School-Based Behavioral Interventions.....	24
Peer Tutoring.....	24
Task or Instructional Modifications.....	26
Choice Making.....	28
Computer-Assisted Instruction (CAI).....	30
Token Systems.....	32
Self-Management.....	36
Using Behavioral Interventions to Target Homework Performance.....	36
Homework Interventions for Children with ADHD.....	41
Child Life and Attention Skills (CLAS) Program.....	41
The Homework Success Program (HSP) for Children with ADHD.....	42
Hypotheses.....	43
Primary Hypotheses.....	43
Secondary Hypotheses.....	43

CHAPTER III: METHOD.....	44
Participants.....	44
Experimental Design.....	46
Non-concurrent Multiple-Baseline Across Individuals.....	47
Measures.....	50
Demographic Questionnaire.....	50
Measure of Treatment Readiness and Feasibility.....	50
Attention-Deficit/Hyperactivity Disorder Knowledge and Opinion Scale – Revised (AKOS-R).....	50
Measures of Homework Productivity, Accuracy, and Efficiency.....	51
Homework Problem Checklist (HPC).....	51
Homework Performance Questionnaire (HPQ), Parent (HPQ-PS) and Teacher (HPQ-TS) Scales.....	52
Parent-Reported Daily Homework Logs.....	53
Teacher Logs of Homework Performance.....	53
Measure of Academic Functioning.....	54
Teacher Logs of Academic Performance.....	54
Measure of Family Functioning.....	54
Parenting Stress Index- Short Form (PSI-SF).....	54
Evaluating Intervention Acceptability and Consumer Satisfaction.....	55
Homework Success Evaluation Inventory (HSEI).....	55
Children’s Intervention Rating Profile (CIRP).....	56
Homework Success Program Evaluation Scale (HSPES).....	56
Intervention Rating Profile – 15 (IRP – 15).....	57
Procedure.....	57
Screening Participants.....	57
Baseline and Treatment Conditions.....	59
HSP Sessions.....	60
Treatment Integrity.....	64
Graphical/Statistical Analyses.....	65
CHAPTER IV: RESULTS.....	67
Treatment Readiness and Feasibility.....	67
Attention-Deficit/Hyperactivity Disorder Knowledge and Opinion Scale – Revised (AKOS-R).....	67
Homework Productivity, Accuracy, and Efficiency.....	68
Homework Problem Checklist (HPC).....	68
Homework Performance Questionnaire (HPQ), Parent and Teacher Scales.....	72
Parent-Reported Daily Homework Logs.....	80
Teacher Logs of Homework Performance.....	91
Measure of Academic Functioning.....	94
Teacher Logs of Academic Performance.....	94
Measure of Family Functioning.....	95
Parenting Stress Index – Short Form (PSI-SF).....	95
Intervention Acceptability and Consumer Satisfaction.....	96
Homework Success Evaluation Inventory (HSEI).....	96

Children’s Intervention Rating Profile (CIRP).....	97
Homework Success Program Evaluation Scale (HSPES).....	97
Intervention Rating Profile – 15 (IRP-15).....	99
CHAPTER V: DISCUSSION.....	100
Primary Hypotheses.....	101
Secondary Hypotheses.....	106
Limitations.....	108
Suggestions for Future Research.....	112
Conclusion.....	115
REFERENCES.....	118
APPENDICES.....	134
Appendix A: Study Measures.....	134
Appendix B: Additional Assessment Information.....	153
Appendix C: Timeline for Collecting Outcome Data.....	154
Appendix D: Treatment Integrity Checklists.....	155
Appendix E: HPC Raw Scores by Factor.....	163
Appendix F: Criteria for Concluding Systematic Change Using the CDC Method.....	165

LIST OF TABLES

Table 1: Parents’ Scores on the Counseling Acceptability and Counseling Feasibility Subscales of the Attention-Deficit/Hyperactivity Disorder Knowledge and Opinion Scale – Revised (AKOS–R).....	68
Table 2: Means and Standard Deviations for Parent Ratings on the Homework Problem Checklist.....	70
Table 3: Means and Standard Deviations for Parent Ratings on the Homework Performance Questionnaire (HPQ).....	75
Table 4: Means and Standard Deviations for Teacher Ratings on the Homework Performance Questionnaire (HPQ).....	79
Table 5: Teacher Logs of Academic Performance.....	94
Table 6: Percentiles for Parent Ratings on the Parenting Stress Index – Short Form (PSI-SF) Across Time.....	96
Table 7: Means and Standard Deviations for Parent Ratings on the Homework Success Evaluation Inventory (HSEI) Across Time.....	97
Table 8: Means and Standard Deviations for Children’s Responses on the Children’s Intervention Rating Profile (CIRP) Across Time.....	97
Table 9: Means and Standard Deviations for Parent Ratings on the Homework Success Program Evaluation Scale (HSPES) Across Time.....	98
Table 10: Teacher’s scores on the Intervention Rating Profile – 15 (IRP-15) at Post-Treatment and 1-Month Follow-Up.....	99

LIST OF FIGURES

Figure 1: Parents' Scores on the Homework Problem Checklist (HPC).....	69
Figure 2: Parents' Scores on the HPC using the Conservative Dual-Criterion Method....	71
Figure 3a: Parent-Reported Rates of Homework Completion, Accuracy, and Time on the Daily Homework Logs.....	83
Figure 3b: Parent-Reported Rates of Homework Completion and Accuracy on the Daily Homework Logs.....	84
Figure 3c: Parent-Reported Homework Completion Time on the Daily Homework Logs.....	85
Figure 4a: Wayne's Homework Completion Time on the Parent-Reported Daily Homework Log using the Conservative Dual-Criterion Method.....	87
Figure 4b: Terri's Homework Completion Time on the Parent-Reported Daily Homework Log using the Conservative Dual-Criterion Method.....	88
Figure 4c: David's Rates of Homework Completion and Accuracy on the Parent-Reported Daily Homework Log using the Conservative Dual-Criterion Method.....	89
Figure 4d: Mark's Rates of Homework Completion and Accuracy on the Parent-Reported Daily Homework Log using the Conservative Dual-Criterion Method.....	90
Figure 5: Teacher Logs of Homework Performance.....	93

ABSTRACT

How Successful is Homework Success for Children with ADHD?

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ADHD-diagnosed children generally display multiple difficulties with academic functioning (DuPaul, 2007; Loe & Feldman, 2007; Raggi & Chronis, 2006; Rogers, Wiener, Marton, & Tannock, 2009) and tend to show more frequent and intense homework problems than their peers (Power, Karustis, & Habboushe, 2001). Traditionally, treatments for ADHD have included medication and/or behavioral interventions (DuPaul & Weyandt, 2006; Loe & Feldman, 2007); however, interventions targeting the homework problems of children with ADHD have been limited. One such intervention for the treatment of children with ADHD and homework problems, the Homework Success Program (HSP), has yet to be empirically evaluated with individual families. The current study evaluated the effectiveness of the HSP, a seven-session family-school intervention that incorporates parent training and emphasizes collaborative parent-teacher consultation (Power et al., 2001). Participants included four children diagnosed with ADHD enrolled in grades 2 through 4, along with their parents and teachers. This study used a non-concurrent multiple-baseline design to assess treatment effects. Results from this study suggest that the HSP is a promising treatment for improving the homework-related problems of ADHD-diagnosed children. Participant satisfaction with and acceptability of the HSP were noted. Study limitations and suggestions for future research are discussed.

CHAPTER I

Statement of the Problem

Children with Attention-Deficit/Hyperactivity Disorder (ADHD), especially children with the inattentive subtypes (i.e., ADHD, Predominantly Inattentive Type and ADHD, Combined Type), appear to be particularly at risk for academic underachievement and homework problems (Power et al., 2001). Children with ADHD often have a difficult time remembering to write down homework assignments, bringing assignments home, organizing their work, starting their work at a set time, completing their work and doing so efficiently, independently, and carefully, and turning in homework assignments (Axelrod, Zhe, Haugen, & Klein, 2009; Power et al., 2001). These difficulties can result in frustration for the child, conflict between the child, parents, and teachers, lowered academic performance and achievement, and self-esteem issues, among other adverse outcomes.

Evidence-based treatments for ADHD typically include medication and/or behavioral interventions (DuPaul & Weyandt, 2006; Loe & Feldman, 2007). Treatments for the homework problems of children with ADHD, however, have been limited. Although researchers have developed interventions targeting homework problems in general, there have only been two homework interventions to date designed specifically for homework difficulties in children with ADHD (Raggi, Chronis-Tuscano, Fishbein, & Groomes, 2009).

The first, the Homework Success Program (HSP), a family-school intervention for families of children with ADHD in grades 1 through 6, includes parent training and emphasizes collaborative parent-teacher consultation (Power et al., 2001). The second,

the Child Life and Attention Skills (CLAS) Program, designed for children with ADHD, Predominantly Inattentive Type, involves teacher consultation, parent training, and child skills training (Pfiffner et al., 2007). In the latter, Pfiffner et al. conducted a randomized, controlled trial, whereby sixty-nine children from 7- to 11-years-old were randomized either to the CLAS Program or a no-intervention control group. Results indicated that children in the CLAS Program, in comparison to the control group, showed clinically significant reductions in attention problems and increases in organizational and social skills (Pfiffner et al., 2007). The HSP, on the other hand, has not been empirically evaluated (Raggi et al., 2009; Rogers et al., 2009). Additionally, the HSP is a group intervention and has not been evaluated with individuals. Thus, the purpose of this study is to evaluate the effectiveness of the HSP with individual families. Specifically, this research is designed to answer the following questions.

Research Questions

Primary Research Questions

- (1) Does the use of the HSP improve parental and teacher reports of homework performance?
- (2) Does the use of the HSP improve rates of homework completion?
- (3) Does the use of the HSP improve rates of homework accuracy?
- (4) Does the use of the HSP decrease the amount of time it takes to do homework each night?

Secondary Research Questions

- (5) Does the use of the HSP improve academic performance?
- (6) Does the use of the HSP decrease the amount of stress in the parent-child relationship?
- (7) Do families and teachers perceive the HSP to be an acceptable and useful intervention?

CHAPTER II

Review of the Literature

Attention-Deficit/Hyperactivity Disorder (ADHD)

ADHD, a child behavior disorder, is characterized by symptoms of inattention and/or hyperactivity-impulsivity. At least six symptoms of inattention and/or hyperactivity-impulsivity must appear before the age of 7 and persist for at least 6 months (American Psychiatric Association [*DSM-IV-TR*], 2000). According to the *DSM-IV-TR* (APA, 2000), evidence of significant impairment in functioning must be present across at least two settings. Prevalence rates for children with ADHD in the general population range from 3% to 7% (APA, 2000). Prevalence rates for the ADHD subtypes are estimated to be about 2.9% for ADHD, Combined Type, 3.2% for ADHD, Predominantly Inattentive Type, and 0.6% for ADHD, Predominantly Hyperactive-Impulsive Type (McConaughy, Ivanova, Antshel, Eiraldi, & Dumenci, 2009). Boys are at an increased risk for the disorder, as boys have an ADHD diagnosis about two to three times more than girls in the general population (Silverman, Iseman, & Jeweler, 2009) and about five to nine times more in clinic-referred samples (Barkley, 2006).

Multiple changes could be made to the diagnosis in the upcoming year. For instance, according to the American Psychiatric Association (2012), some proposed changes include: changing the age of onset of symptoms from 7-years-old to 12-years-old; changing from subtype to presentation and adding a fourth presentation for restrictive inattentive (i.e., inattention symptoms met and no more than 2 hyperactive-impulsive criteria present for the past 6 months); changing the examples in the items to reflect individuals across the lifespan; removing pervasive developmental disorder (PDD)

from the exclusion criteria; modifying diagnostic criteria to indicate that information should be obtained from multiple informants; and changing the symptom threshold required for adults. Despite these proposed changes, an important aspect of the current diagnostic criteria for ADHD involves clinically significant functional impairment.

ADHD-diagnosed children often experience multiple impairments in social and academic functioning, which frequently serve as the reasons for referral and are common targets for assessment and intervention (Pelham, Fabiano, & Massetti, 2005). Children diagnosed with ADHD tend to have high rates of peer rejection, and it can be challenging for many ADHD-diagnosed children to make and keep friendships (DuPaul & Stoner, 1994; Frankel & Feinberg, 2002). The inattentive, hyperactive, and impulsive behaviors of children with ADHD tend to interfere with their social performance. For instance, ADHD-diagnosed children have been found to inappropriately join activities with others, frequently interrupt other people, pay minimal attention to the content that others communicate, and engage in aggressive solutions to relational problems (DuPaul & Stoner, 1994). Further, there is a strong link between hyperactivity and aggression, and common ADHD-related problems related to aggression include noncompliance with adult requests, poor control over one's temper, a tendency to argue, and verbal hostility (DuPaul & Stoner, 1994). Academic failure is a frequent outcome associated with antisocial and noncompliant behavior (Patterson, Reid, & Dishion, 1992).

In addition to exhibiting problems in the social arena, children diagnosed with ADHD generally display difficulties with academic functioning (DuPaul, 2007; Loe & Feldman, 2007; Raggi & Chronis, 2006; Rogers et al., 2009). Up to 80% of those diagnosed with ADHD struggle academically (DuPaul & Eckert, 1998; Trout,

Lienemann, Reid, & Epstein, 2007; Weyandt, 2007). About 25% of children with ADHD have learning disabilities (DuPaul, 2007; Power et al., 2001), and there is a strong relationship between ADHD and academic underachievement (DuPaul & Power, 2009; DuPaul & Stoner, 1994; Power et al., 2001; Raggi & Chronis, 2006; Rogers et al., 2009; Silverman et al., 2009). Children with ADHD have a greater likelihood of repeating a grade, being in a special class, and being tutored (DuPaul, 2007; Faraone et al., 1993; Raggi & Chronis, 2006; Silverman et al., 2009). Children with ADHD followed into adolescence have been found to receive lower grades on their report cards and perform worse than controls on standardized tests of achievement (DuPaul, 2007; Loe & Feldman, 2007).

The various symptoms of ADHD are associated with many difficulties in academic functioning. For instance, inattentiveness has been linked to off-task behavior, failure to follow directions, and failure to finish and turn in assignments (Raggi & Chronis, 2006). Classroom displays of hyperactivity in children diagnosed with ADHD have been associated with teacher complaints about remaining seated, fidgetiness, and difficulty playing or engaging in a task quietly (Raggi & Chronis, 2006). The impulsivity characteristic of ADHD has been associated with academic mistakes, inadequate planning and studying, and generally low rates of completion for long-term tasks (Raggi & Chronis, 2006). Further, in academic settings, hyperactive-impulsive behaviors can be observed when ADHD-diagnosed individuals talk out of turn, elope, or are otherwise disruptive to other students and the teacher (DuPaul, 2007).

In comparison to their peers, many children with ADHD show more frequent and intense homework problems (Power et al., 2001). According to Power et al., children

with ADHD often do not write down or bring home assignments, fail to start work at the scheduled time, are easily distracted, engage in more conflict with their parents, and are careless in their work. Furthermore, children with ADHD often show lower engagement in homework, along with poor time management and organization (Rogers et al., 2009). As a result, state-of-the-art assessment and treatment planning now focuses on the impaired area(s) of functioning or target behaviors, rather than the DSM-IV symptoms, as “the symptom is not informative for treatment without knowledge of the impaired functioning that it reflects and its context” (Pelham et al., 2005, p. 468).

Power, Werba, Watkins, Angelucci, and Eiraldi (2006) identified two types of homework problems that children with ADHD experience. The first, Inattention/Avoidance of Homework, refers to difficulties paying attention and working in an efficient and independent manner during homework. The second, Poor Productivity/Non-adherence with Homework Rules, refers to problems with receiving, completing, and submitting homework. The first type of homework problem tends to arise with parents during homework, whereas the second type tends to occur with both parents and teachers. Both types of homework problems should be targeted with appropriate interventions.

Before further consideration of the role that homework problems play in ADHD is given, it is necessary to define homework and discuss the relation between homework and academic success in non-ADHD populations.

Homework

According to Cooper (as cited in Bembenutty, 2011), “homework can be defined as any task assigned by schoolteachers intended for students to carry out during noninstructional time” (p. 340). Homework is a core feature of most children’s daily routines (Cooper, Robinson, & Patall, 2006). In fact, the National Assessment of Educational Progress (as cited in Cooper et al., 2006) revealed that over 66% of 9-year-olds and 75% of 13- and 17-year-olds reported doing homework daily, and 16% of 9-year-olds, 37% of 13-year-olds, and 39% of 17-year-olds reported spending more than an hour on homework daily. Furthermore, the amount of time a student spends on homework is the second best predictor – following ability – of the student’s grades and achievement (Miller & Kelley, 1994; Raggi & Chronis, 2006; Raggi et al., 2009).

Public attitudes regarding homework have varied across different historical time periods (see Cooper et al., 2006). For instance, homework was seen as a way to “discipline the minds” of children before the 20th century. A backlash against homework was evident by the 1940’s, as creativity and learning how to “problem-solve,” instead of learning through drill and practice, became viewed as essential. Also, engaging in work at home came to be viewed as interfering with other activities. By the late 1950’s, attitudes toward homework began to shift again, and homework was seen as a way of advancing the rate of knowledge acquisition and facilitating competition against “ideological adversaries,” such as the Soviet Union. By the mid-1960’s, homework was viewed as potentially stressful, which resulted in questions being raised about the possible harmful mental health effects of homework. More positive views about homework returned by the mid-1980’s, as people became more concerned about decreasing achievement test scores

and the ability of American youth to compete globally. At the turn of the century, attitudes toward homework shifted once again, with parents expressing concern over the stresses placed on their children.

Effects of Homework

Positive effects. Although there has been great debate over the advantages of homework, research has generally shown that homework has positive effects on learning and academic achievement (Miller & Kelley, 1994; Olympia, Sheridan, Jenson, & Andrews, 1994; Power et al., 2006). For example, homework allows students to practice and consolidate lessons taught at school (Cooper et al., 2006; Power, Dombrowski, Watkins, Mautone, & Eagle, 2007). Additionally, homework may play a role in attracting students to projects that allow them to apply classroom-based concepts (Power et al., 2007). Homework also provides students the opportunity to establish study skills, a work routine, and time management skills, and it promotes learning how to work independently (Lynch, Theodore, Bray, & Kehle, 2009; Power et al., 2007). Furthermore, homework allows teachers and parents to communicate on a consistent basis about the child's academic performance (Power et al., 2007). Homework can also facilitate communication between parents and children (Cooper et al., 2006; Hoover-Dempsey et al., 2001). For instance, homework may provide opportunities for parents to discuss expectations regarding school and to give feedback and reinforcement for appropriate homework-related behavior (Hoover-Dempsey et al., 2001).

Negative effects. In Cooper et al.'s (2006) synthesis, the authors found 32 documents with 69 correlations reported between homework and achievement. Of the 69 correlations, 50 were positive and 19 were negative. Thus, although more studies have

reported a positive relationship between homework and achievement, the evidence is still mixed. According to Cooper et al. (2006) and Patall, Cooper, and Robinson (2008), some potentially negative consequences of homework are: increased fatigue, frustration, and disappointment; greater pressure on the student to complete homework and perform well; less time for leisure and involvement in community activities; interference with learning (i.e., the child can become confused with parents' and teachers' teaching methods; the help the child receives may go beyond tutoring and may either promote cheating or dependence on others); increased differences between high and low achievers (i.e., high achievers from a higher socioeconomic status may have greater parental assistance with homework and better resources to assist them in effectively completing assignments); and greater tension between parent and child. In a survey by Public Agenda, Farkas, Johnson, Duffett, Aulicino, and McHugh (1999) revealed that half of the parents reported having at least one serious argument with their child over homework, and around one-third of the parents reported homework as being a source of "stress and conflict." Kralovec and Buell (2001) assert that educators should focus on developing challenging academic work, building further knowledge, and teaching new study habits in the school instead of impeding on family life for the uncertain advantages of homework.

Parental Involvement in Homework

Parents become involved in their child's education for various reasons. For instance, some parents become involved because of the belief that they should play an active part in their child's academic life (Hoover-Dempsey et al., 2001; Rogers et al., 2009). Other parents become involved when they feel secure in their ability to be of assistance (Hoover-Dempsey et al., 2001; Rogers et al., 2009). Moreover, the way that

teachers interact with parents has also been shown to affect parental involvement (Hoover-Dempsey et al., 2001; Rogers et al., 2009). Teacher invitations have been positively linked to parents' decisions to become involved and have been found to have more influence than socioeconomic status in encouraging involvement (Hoover-Dempsey et al., 2001). Other variables that have affected parental involvement are aspects of the school climate (i.e., its structure, practices, the principal, etc.) (Rogers et al., 2009). Additionally, the child is also a factor in parental involvement, as children may either ask their parents for help or may receive assistance when their parents discover that they are struggling in school (Rogers et al., 2009). Further, the family environment may affect whether or not parents are involved in their child's schooling (i.e., socioeconomic status, culture, parental level of education, time, energy, and so forth) (Rogers et al., 2009).

There have been mixed findings regarding the effects of parental involvement in homework. Also, the research has produced varied findings regarding the relationship between parental involvement in homework and achievement (i.e., some studies showed a positive relationship, while others showed a negligible or negative relationship). Furthermore, other studies indicate that it is the type of parental involvement that is essential. These findings are discussed below.

Positive effects of parental involvement in homework. Parents who help their children with their homework may positively influence their child's educational achievement. For instance, parental involvement in homework has been linked to better homework performance, persistence, understanding, and completion (Patall et al., 2008). Parental involvement may lead to greater achievement by encouraging parental communication of expectations to children and offering opportunities for parents to

reward appropriate homework behaviors. Additionally, parents' positive attitudes about homework are associated with the child developing positive attitudes about homework and classwork (Hoover-Dempsey et al., 2001; Patall et al., 2008). Researchers have found that students generally report that they are more focused, in a better mood, enjoy homework more, and see their homework tasks as more manageable when their parents are involved (Patall et al., 2008). Patall et al. indicate that the most effective forms of parental involvement encourage the child's independence and offer structure in the form of clear and consistent instructions regarding homework.

Although most of the research has examined mothers' involvement, fathers have also been shown to influence child academic outcomes. For instance, paternal involvement in a child's education has been associated with greater child success, positive attitudes about school, advancement in literacy, and improved teacher-child interactions in children who are aggressive (Rogers et al., 2009). According to Grossman et al. (2002), as fathers guide and motivate their children to explore new experiences and face challenges, they can play an important role in facilitating their children's growth and development outside the home.

Negative effects of parental involvement in homework. Despite the positive influence of parental involvement on homework and achievement, some researchers have reported negative effects. For instance, Levin et al. (1997) found an association between greater maternal assistance with homework and higher maternal fatigue and frustration, along with mother-child tension, specifically for low-achieving children. Furthermore, Patall et al. (2008) report that parents may experience stress associated with perceived inability to assist their children with homework, especially with older children, as the

material becomes more difficult. Also, the authors state that some parents engage in inappropriate forms of homework involvement (i.e., giving correct answers), which may interfere with learning during homework time. Additionally, the authors indicate that parental involvement in homework may have negative effects if parents self-initiate assistance without a child's request or if it is seen as invasive or controlling. Forms of parental involvement in homework that the student experiences as controlling will have minimal or a negative influence on motivation and achievement (Patall et al., 2008). The positive and negative effects of homework may co-occur as well (i.e., improvement in homework completion and increased parent-child tension).

Developmental Considerations in Parent Involvement in Homework. Parental involvement in their child's education in the household, particularly during elementary school, is associated with better child outcomes (i.e., greater academic achievement and motivation) (Patall et al., 2008; Rogers et al., 2009). Patall et al. conducted a meta-analysis of 14 studies that manipulated parent homework involvement by providing training. The authors concluded that training parents to be involved in homework results in greater homework completion, fewer homework problems, and perhaps, better academic performance for children in elementary school.

Patall et al. also conducted a meta-analysis of 20 studies that compared parental involvement in homework and achievement-related outcomes. The authors found a significant positive relationship between parental involvement in homework and achievement for students in both elementary and high school. Parental involvement in homework may facilitate higher achievement in the earlier years, as parents have a greater understanding of the material taught in the initial grades (Pattal et al., 2008).

Additionally, as younger students seem to have less developed skills, parental involvement in younger students' homework allows parents to model self-management and study skills (Patall et al., 2008). According to Barnard (2004), the advantages of parental involvement in the early elementary school years predict educational outcomes in the later high school years as well.

Patall et al. (2008) explained the positive relationship between involvement and achievement for high school students by stating that during high school, parents' help becomes extremely specialized. Parents may become involved in homework if they have specific expertise. So, despite the fact that the frequency of homework involvement declines as students become older, the involvement is likely to have more of an effect when it does take place.

Furthermore, Patall et al. (2008) found a negative relationship between parental involvement in homework and achievement for students in middle school and concluded that parental involvement in homework may not be helpful for middle school students. The authors cautioned parents to be aware of the stage that middle school students are in (i.e., as young adolescents, they may wish to have more independence and autonomy) and to change their form of involvement as appropriate. The authors also explained that during the transition to middle school, many students' school performance drops. As a result, the negative relationship may be explained by the notion that the decline in achievement for some students may lead to an increase in parental involvement (Patall et al., 2008). Patall et al. suggested that while providing rules for homework behavior and help with homework may be useful for students in elementary school, parents of students

in middle school may wish to focus their efforts on encouraging their child's autonomous efforts.

Parental involvement in families of children with ADHD. In a study by Rogers et al. (2009), parents of children with ADHD, in comparison to parents of children without ADHD, reported feeling less confident about their ability to help their children in the academic arena. A possible explanation is that parents of children with ADHD may view their child's inattentive and hyperactive behaviors as stemming from internal factors, and thus may view their child's behaviors as less controllable (Rogers et al., 2009). Also, the authors found that parents of children with ADHD, as compared to parents of children without ADHD, were more likely to report feeling that they had "less time and energy" to devote to their child's academics.

Rogers et al. (2009) examined both mothers' and fathers' reports of involvement in their child's schooling. The authors found that mothers of all children (with and without ADHD) reported comparable levels of involvement in their child's schooling. In contrast, fathers of children with ADHD, as compared to fathers of children without ADHD, reported being more detached from their child's education and using more coercive interactions concerning their child's achievement. To get a better picture of these feelings and interactions, it is important to examine the parent-child relationship in families of children with ADHD.

Parent-Child Relationship in Families of Children with ADHD

Families of children with ADHD, in comparison to those without ADHD, tend to experience more stress, conflict, and dysfunctional patterns of interaction (Johnston & Mash, 2001; Rogers et al., 2009). In comparison to parents of children without ADHD,

parents of children with ADHD also tend to be less receptive to their children, more likely react to them in an exaggerated manner, use harsh discipline, and show them less support (Rogers et al., 2009). Further, the parent-child relationship may be even more strained with the presence of additional problems (i.e., if the child has ADHD and oppositional or conduct problems, or if the parent and child both have ADHD symptoms) (Johnston & Mash, 2001).

During observations of parent-child interactions, in comparison to controls, mothers of children with ADHD are more negative and not as socially interactive, and children with ADHD are more noncompliant and negative as well (Johnston & Mash, 2001). In one observational study, Winsler (1998) videotaped boys diagnosed with ADHD and control boys as they worked together with their parent on a problem-solving task (either a Lego-Construction task or a Selective Attention task) and then completed the task independently. Blind research assistants rated mothers of boys with ADHD, in comparison to mothers of controls, as having inferior quality of “scaffolding” during a task that involved teaching. Scaffolding refers to the adult “controlling those elements of the task that are initially beyond the learner’s capability, thus permitting him to concentrate upon and complete only those elements that are within his range of competence” (Wood, Bruner, & Ross, 1976, p. 90). The research assistants in Winsler’s study rated scaffolding on a Likert-type scale ranging from 1 (Poor Scaffolding) to 6 (Excellent Scaffolding) according to the following criteria: the degree to which parents controlled task demands and adjusted their assistance so that the child struggled alone with tasks that were appropriately challenging; the extent that parents promoted verbal problem-solving approaches; the amount and proper usage of praise and motivational

statements; the extent that mutual collaboration occurred; and the extent that parents properly adjusted their aid during the session. In this study, poor scaffolding was linked to child performance, even after child ability was controlled for. Furthermore, Buhrmester, Camparo, Christensen, Gonzalez, and Hinshaw (1992) observed families of sons with and without ADHD discuss common child-rearing problems. Ratings revealed that families of sons with ADHD had more aversive and taxing interactions than families of sons without the disorder. According to Johnston and Mash, observational studies regularly reveal high amounts of negative, controlling behaviors in parents and their children with ADHD. Moreover, such effects are likely reciprocal.

In families of children without ADHD, homework can lead to increased tension and conflict between parent and child (Cooper et al., 2006; Patall et al., 2008); thus, in families of children diagnosed with ADHD and exhibiting homework problems, relationships can become quite strained. A great deal of research has illustrated the influence that parents can exert over their child's attention and behavior, and parent training has been an effective method for assisting parents in modifying both their child's and their own behavior in order to achieve desired child outcomes (Power et al., 2001). Another important relationship that can have an impact on an ADHD-diagnosed child's behavior and performance is the teacher-child relationship.

Teachers and Children with ADHD

Teachers play a key role in the homework process, as they determine what kind of homework students complete, how much homework to assign, the level of complexity of the homework, and the way homework is evaluated (Power et al., 2001). Teachers frequently find it stressful to teach children with ADHD and find it difficult to meet their

needs (Greene, Beszterczey, Katzenstein, Park, & Goring, 2002). In a study that Children and Adults with Attention Deficit Disorders (C.H.A.A.D.) conducted (as cited in Weyandt, 2007), almost 90% of the teachers surveyed received no training in ADHD, although 98% reported that they wanted this training. In another study by Yasutake, Lerner, and Ward (as cited in Weyandt, 2007), 46% of the teachers surveyed had prior training with ADHD, however, 95% believed they would benefit from further training. Moreover, Sciutto, Terjesen, and Bender Frank (2000) surveyed United States teachers and found that although they were most knowledgeable about items pertaining to symptoms of ADHD, they had a poorer grasp about the nature, course, and treatment of the disorder (i.e., 75.8% responded “Don’t Know” to the question, “Is Electroconvulsive Therapy an effective alternative treatment for severe cases of ADHD?”; 68.5% did not know the answer to the question, “Is there a family history of ADHD [i.e., first-degree relatives]?”; and 63.1% reportedly did not know how to respond to the question, “What are the long-term outcomes of ADHD following treatment?”). Educating teachers about ADHD and educational practices and interventions that can help students with ADHD is vital, as teachers may be better able to meet the needs of students with ADHD, and students with ADHD may have a better chance of doing well behaviorally, academically, and socially.

Home-School Collaboration

Teacher, student, and parent education about ADHD is an important aspect of helping student’s with ADHD succeed (Weyandt, 2007). To foster a successful academic environment, home-school collaboration is recommended. One model of home-school collaboration, conjoint behavioral consultation (CBC), has been used at the core of

interventions that improve children's homework performance (Power et al., 2001). According to Sheridan and Kratochwill (2007), CBC is "a strength-based, cross-system, problem-solving and decision-making model wherein parents, teachers, and other caregivers or service providers work as partners and share responsibility for promoting positive and consistent outcomes related to a child's academic, behavioral, and social-emotional development" (p. 25). The goals of CBC are to "promote academic, socioemotional, and behavioral *outcomes for children* through joint, mutual, cross-system planning;" "promote *parent engagement* within a developmental, culturally sensitive context;" and "*strengthen relationships* between systems on behalf of children's learning and development" (Sheridan & Kratochwill, 2007, p. 26). So, by working collaboratively, parents, teachers, and other personnel can share their distinct views about the child's academic difficulties and devise a plan together to help the child.

Parents of children with ADHD, in comparison to parents of those without ADHD, appear to view their child's school as less welcoming (Rogers et al., 2009). In CBC, parents and school personnel work together to identify problems, perform a functional analysis on each problem, plan interventions, implement them, and evaluate the effectiveness of the interventions (Power et al., 2001; Sheridan & Kratochwill, 2007). This collaborative approach of CBC, which is designed to promote positive connections between families and school personnel, can help parents view their child's school as more inviting and, importantly, can be a useful aspect of interventions created for children with ADHD and school-related problems.

Treatments for Children with ADHD and School-Based Problems

Medication

About 1.5 million children in the United States receive treatment with psychostimulant medications for behavior management (Connor, 2006; Trout et al., 2007). Typically, about $\frac{3}{4}$ of children with ADHD demonstrate symptom gains when initially treated with a stimulant (Connor, 2006). In addition to stimulant medication, nonstimulant medication (i.e., Strattera) and antidepressants (i.e., bupropion) may also be used for ADHD; however, this section will focus on stimulants, as they have been a well-documented, effective, first-line treatment for ADHD (Connor, 2006; Trout et al., 2007).

In the literature, stimulants have been shown to reduce symptoms of ADHD, and those reductions have been linked to improvements in academic performance (Abikoff et al., 2009). According to Swanson, McBurnett, Christian, and Wigal (1995), the use of stimulants was associated with large effects on measures of ADHD symptomatology, on-task performance, disruptive behavior, and compliance. Stimulants have also been shown to improve memory for information and working memory for rules of tasks and spatial information (Abikoff et al., 2009; Mehta, Goodyer, & Sahakian, 2004). Additionally, stimulants have been found to enhance task completion, along with academic accuracy, in a short-term setting (Raggi & Chronis, 2006). In a study by Gulley and Northup (1997), the authors found that ADHD-diagnosed children treated with stimulant medication showed greater improvements on measures of academic accuracy (particularly accuracy of reading and math tasks), behavior, and social interaction, as compared to placebo.

Abikoff et al. (2009) used a double-blind, placebo-controlled, crossover design to evaluate the effects of a stimulant medication (methylphenidate-osmotic-release oral

system [MPH-OROS]) on organizational, time management, and planning (OTMP) behaviors in 19 children with ADHD. The children ranged in age from 8 to 13 and had impaired functioning in OTMP behaviors. Outcome measures included parent and teacher versions of the Children's Organizational Skills Scale (COSS) and the Swanson, Nolan, and Pelham, Version IV (SNAP-IV) rating scale. The authors found that MPH-OROS improved the OTMP behaviors of children with ADHD at home and at school (parent report $d=.68$, $p=.015$; teacher report $d=.86$, $p=.006$). One limitation of the study involved the small sample size. For instance, the small sample precludes investigation of differences between children who normalize only in their scores of ADHD symptomatology, those who normalize in their ADHD symptomatology and OTMP behaviors on medication, and those who fail to normalize and continue to be impaired in both areas. Other limitations involved the short duration of the MPH-OROS treatment, and the fact that post-treatment measures were acquired after children had been receiving their optimal dose for just 2 weeks.

Although stimulant medication is generally a very effective intervention for children with ADHD, there are limitations, which include the following: about 20% to 30% react unfavorably to stimulants; in those who do react favorably, the response to solely the medication is frequently not enough to raise their academic performance into the normal range; and although there has been evidence for academic gains in the short-term, it is unclear if favorable treatment effects are lasting when stimulants are used in the long-term for improving functioning in the academic arena (Pelham, Wheeler, & Chronis, 1998; Trout et al., 2007). Taking these limitations into account, recognizing the

importance of non-medical interventions is essential, especially when working with students with ADHD and school-based problems.

As both medical and behavioral interventions have been well documented as effective treatments for ADHD, there was a growing need to compare these types of treatments. In the largest investigation of these two treatments, the Multimodal Treatment Study of Children with ADHD (MTA), 579 children with ADHD were randomly assigned to one of four conditions for 14 months (i.e., medication management, behavioral treatment, a combination, or a community comparison) (MTA Cooperative Group, 1999). Participants in all conditions showed considerable symptom reductions both during and after treatment (MTA Cooperative Group, 1999). However, participants in the medication management and combined conditions showed significantly greater improvement than participants in the other two conditions (MTA Cooperative Group, 1999). At that time, contributors to the 1999 manuscript concluded that combined treatment did not produce significantly greater gains than medication for core symptoms of ADHD.

Pelham et al. (2005) mentioned that while there was a large effect of stimulant medication on parent and teacher ratings, there was no effect on academic achievement. Further, the authors indicated that while the medication and behavioral treatments resulted in differences on adult-rated diagnostic symptoms at follow-up, there was no difference in any major functional area (i.e., achievement, peer relationships, parenting). Moreover, in a post-hoc analysis of the MTA study, Conners et al. (2001) examined a composite variable consisting of both parent and teacher report. They found that the combined group was significantly superior to all of the other groups (effect sizes ranged

from a low of .28 relative to the medication group to a high of .70 versus the community comparison group). The authors stated that part of the reason that the MTA study found no significant differences between the combined and medication group was in their decision to use multiple outcome measures and the resulting reduction of statistical power linked to Bonferroni corrections. Overall, “the most effective treatment for ADHD is an individually tailored, multimethod approach that often involves the use of medication in combination with behavioral interventions” (Weyandt, 2007, p. 105).

School-Based Behavioral Interventions

Some empirically-supported, behavioral school-based interventions that have worked with children with ADHD are: peer tutoring, task and instructional modifications, choice making, computer-assisted instruction, token systems, and self-management practices (DuPaul & Eckert, 1998; DuPaul & Weyandt, 2006; Raggi & Chronis, 2006). A brief review of each approach appears below.

Peer tutoring. Peer tutoring involves two students working with each other on an academic task with one student giving another student help, direction, and/or feedback (DuPaul & Power, 2009; DuPaul & Weyandt, 2006; DuPaul, Ervin, Hook, & McGoey, 1998; Weyandt, 2007). This type of one-on-one interaction provides individualized instruction based on the child’s ability. One of the most widely used peer tutoring models is ClassWide Peer Tutoring (CWPT; DuPaul & Power, 2009; DuPaul & Weyandt, 2006). In CWPT, the class is separated into teams. The classmates within each team form into pairs, and they tutor one another. Peers are presented with educational scripts, and the correct answers are rewarded with praise and points. Students who have incorrect answers have the opportunity to correct those answers instantaneously. The teacher

monitors this whole process and provides students with bonus points if they have been following the protocol (DuPaul & Power, 2009; DuPaul & Weyandt, 2006).

DuPaul and Henningson (1993) used an ABAB reversal design to explore the influence of CWPT on the classroom behavior and performance of a 7-year-old male diagnosed with ADHD. During baseline conditions, the entire class received mathematics instruction consistent with their usual classroom routine. The teacher provided 10 to 20 minutes of didactic skill instruction, along with periodically requesting that certain students complete problems at the board or at their desk. During the intervention conditions, the CWPT approach was used. The authors demonstrated how the CWPT approach resulted in considerable improvements in on-task behavior and math problem accuracy, along with reductions in fidgeting behavior. This study was limited to a single case, so caution should be taken when generalizing the findings.

DuPaul et al. (1998) used an ABAB reversal design to examine the effects of CWPT on the classroom behavior and performance of a group of children with ADHD and a peer comparison group. During baseline conditions, the students engaged in usual classroom activities, and during intervention conditions, the CWPT approach was implemented in math or spelling. DuPaul et al. found that CWPT resulted in improvements in the time that students with ADHD were actively engaged (from 29% at baseline to 80% during intervention) and reductions in their off-task behavior (from 24-27% at baseline to 6-8% during intervention). In addition, DuPaul et al. found that about half of the sample of children with ADHD showed greater academic success with CWPT in comparison to baseline conditions (i.e., they showed at least a 10% improvement on post-test scores during intervention as compared to baseline). Overall, CWPT has been

shown to enhance both behavior and performance in the classroom for children with ADHD.

Task or instructional modifications. Task modifications involve changing the curriculum or aspects of it, and instructional modifications involve changing the content or delivery of instructions (DuPaul & Eckert, 1998). In the applied behavior analysis (ABA) literature, these are identified as antecedent interventions (see Alberto & Troutman, 2009). Some examples of task or instructional modifications include the following: decreasing the length of tasks; separating tasks into smaller units and setting goals for tasks to be completed in shorter periods of time; making the task more stimulating; providing specific instructions; allowing the child to make choices; and changing the delivery of instruction to fit with the child's way of learning (Raggi & Chronis, 2006). Task or instructional modifications may be used to enhance the academic environments of students with ADHD (DuPaul & Eckert, 1998).

Zentall and Leib (1985) used a repeated measures crossover design to investigate the effects of added structure on the activity levels of 15 hyperactive and 16 comparison children. Children were either instructed to reproduce two designs that the experimenter created (high structure) or to make their own art designs (low structure). The authors found significant reductions in the activity levels of both hyperactive and control children in the high structure condition. Although this study showed that adding structure to a task may foster sustained attention and reduced levels of activity, there are several limitations: the authors did not control for participants' level of ability; the authors did not investigate interobserver agreement, measures of treatment integrity, and levels of consumer

satisfaction; and it is unclear whether adding structure to a task would improve academic performance.

Zentall (1986) examined the effects of color stimulation added early or late on a continuous performance task and a difficult learning task. The author found that in the continuous performance task, stimulation placed early or late decreased the activity and normalized the performance of hyperactive children in comparison to controls. In the difficult learning task, adding color stimulation late resulted in decreased activity for hyperactive children to a greater extent than when it was added early. The author did not find treatment effects of performance for this task. Also, in another study that Zentall (1989) conducted, hyperactive children had slower responses on tasks when color was added to relevant cues at the beginning of the task. In contrast, hyperactive children performed better than controls when color was added later to relevant cues. Similarly, Belfiore et al. (1996) found that adding color later may help students with ADHD read more carefully and sustain attention when performing lengthier tasks. Thus, color stimulation may be an effective tool for helping students with ADHD improve their performance and behavior.

Dubey and O'Leary (1975) investigated the effects of reading material orally or silently on the comprehension of two hyperactive children. In each session, each child read two stories silently and two stories out loud. After reading each story, the children responded out loud to five questions that assessed their comprehension of the stories. Results indicated that reading the material orally produced less comprehension errors than reading the material silently. These results are preliminary, as only two students

participated in the study, carryover effects across condition were possible, and measures of interobserver agreement, treatment integrity, and social validity were not discussed.

Skinner, Johnson, Larkin, Lessley, and Glowacki (1995) used an alternating treatment design to examine the effects of two taped-words interventions (fast-taped words and slow-taped words) on the reading performance of three participants with behavior and learning problems (two with ADHD and developmental delays and one with solely ADHD). In the fast-taped words condition, students were informed that they should read out loud with an audiotape that delivered 15 words at the speed of a word per second. In the slow-taped words condition, students were informed that they should read out loud with an audiotape that delivered 15 words at the speed of a word every 5 seconds. In the assessment-only conditions, students read words out loud from worksheets. Results indicated that accuracy and rates of accurate reading improved for participants in the taped conditions relative to baseline conditions. Thus, modeling accurate responding may lead to improvements in reading performance. Limitations included: the use of a laboratory setting; a small sample size; and a lack of intervention acceptability data. Overall, changing the curriculum or instructions of a task may lead to a better educational environment for children with ADHD.

Choice making. In choice making, a type of task modification, students can choose from at least two activities presented at the same time (DuPaul & Weyandt, 2006; Raggi & Chronis, 2006). Specifically, students are presented with a menu of possible activities to choose from in a specific academic area (DuPaul & Weyandt, 2006; Raggi & Chronis, 2006). Students then choose and complete a task from the menu (DuPaul & Weyandt, 2006; Raggi & Chronis, 2006). So, while the teacher controls the type of work

assigned, the student controls the specific assignment completed (DuPaul & Weyandt, 2006; Raggi & Chronis, 2006).

Dunlap et al. (1994) conducted two studies to evaluate the effects of choice making on students with emotional and behavioral challenges. In the first study, two 5th grade boys in a classroom with emotionally handicapped students were provided with choices from menus of academic tasks in the choice conditions. In the no-choice conditions, the teacher, who chose the assignments, wrote classroom assignments on the board. Reversal designs indicated that the choice making conditions decreased disruptive behavior and improved engagement in the task for the two participants. In the second study, either a 5-year-old boy in a classroom for students with severe emotional disturbance or his teacher would choose a book to read. As the researchers wanted to determine whether the effects of choice making were a result of preference or choice, in the second no-choice condition, the 5-year-old student was provided with a book that he preferred based on the sequence of books he had selected. The results of this study were consistent with the results of the first study. Choice making was linked to improved behavior, while being provided with preferred material was not. Although results of the two studies are favorable, there are some limitations. For instance, the small number of participants and sessions limits generalizability. Additionally, the studies evaluated behavioral outcomes, and thus, it is uncertain how increases in on-task behavior might translate into changes in academic performance.

Powell and Nelson (1997) conducted a study to evaluate the effects of choice making on a 7-year-old male student with ADHD. Consistent with Dunlap et al.'s results, the 7-year-old's undesirable behaviors declined when he was allowed to choose his own

academic assignments. Bennett, Zentall, French, and Giorgetti-Borucki (2006) conducted a study on students with and without symptoms of ADHD to measure the effects of choice making (i.e., choice of feedback type) on computer-presented math tasks. The results demonstrated that students with ADHD symptoms experienced differential behavioral gains from choice (Bennett et al., 2006). Overall, although more research is needed, choice making appears to be a promising intervention for children with ADHD.

Computer-assisted instruction (CAI). CAI presents particular instructional aims, emphasizes important material, utilizes multiple sensory modalities, separates material into smaller pieces of information, uses recurring trials, and offers instant feedback about the accuracy of responses (DuPaul & Eckert, 1998; DuPaul & Power, 2009; DuPaul & Weyandt, 2006; Ota & DuPaul, 2002; Raggi & Chronis, 2006). CAI has been recommended as a means to enhance attention and work performance in students with ADHD (DuPaul & Eckert, 1998; DuPaul & Power, 2009; Ota & DuPaul, 2002; Raggi & Chronis, 2006); however, as there have been few studies examining the effects of CAI on children with ADHD, more research is needed.

Kleiman, Humphrey, and Lindsay (1981) used a within-subjects group design to explore the influence of a CAI mathematics program on the attention of students with attention-deficit disorder (ADD). The findings revealed that students completed about twice the amount of problems in the CAI condition as compared to a written seatwork condition. Further, the students in the CAI condition spent considerably more time working than those in the written condition. Limitations of the study included: incomplete information regarding participants and procedure and absence of information concerning interobserver agreement, treatment integrity, and follow-up data.

Ford, Poe, and Cox (1993) used a within-participants design to explore features of CAI on the attention of 3rd and 4th graders with ADHD. They compared different reading and math computer packages, and each package compared the following: game versus non-game arrangement; playing against the computer or a partner; graphics that are animated or non-animated; and unlimited versus limited time to respond. The findings illustrated that attention improved when students used software with a game arrangement, with no animation, and without a time limit to respond. Additionally, students experienced more inattentiveness on the reading packages as compared to the math packages. Limitations of the study included: a lack of control for carryover effects; a lack of assessment for interobserver agreement; and the use of a laboratory setting.

Ota and DuPaul (2002) wanted to extend Ford et al.'s results by studying the influence of software with a game format on the mathematics performance of students with ADHD. Using a multiple baseline design, Ota and DuPaul found modest improvements in mathematics performance and significant improvements in active engagement time and on-task behavior as compared to baseline. Limitations included: short duration of intervention implementation; lack of data about instructional strategies participants used in the seatwork condition; and issues of generalizability (i.e., all students were receiving medication, and the intervention took place in a private school setting).

Mautone, DuPaul, and Jitendra (2005) used a controlled case study to examine the influence of CAI on the mathematics performance and on-task behavior of three students with ADHD. All participants showed increases in on-task behavior and math digits correct per minute. Behavior changes occurred immediately upon implementation of

intervention, while academic skills changed more gradually. In this study, effect sizes for math fluency and behavior change were larger than 1.0, which is considerably greater than those found in Kulik, Kulik, and Bangert-Drowns' (as cited in Mautone et al., 2005) meta-analysis examining the effects of CAI on academic achievement (i.e., the average effect size was .47). Overall, CAI may be useful for enhancing the attention, learning, and academic performance of students with ADHD.

Token systems. In a token system, students earn reinforcers (i.e., points, stickers, tokens, etc.) immediately for engaging in targeted, specified behaviors, and the reinforcers can be exchanged for preferred objects, activities, or privileges (DuPaul & Weyandt, 2006). This type of powerful reinforcement has been successful in modifying behavior (Pfiffner, Barkley, & DuPaul, 2006). Luman, Oosterlaan, and Sergeant (2004) conducted a review of 22 studies that used reinforcement contingencies with children with ADHD. Results revealed that reinforcement contingencies had a favorable effect on task performance and motivation for children with ADHD and control children. An improvement in performance was noted more frequently for the ADHD group as opposed to the control group. Further, children with ADHD, as compared to controls, tended to select an immediate reward more often, regardless of whether the delayed reward was sizeable (Luman et al., 2004).

Contingency management procedures comprised solely of positive reinforcement are seldom effective in sustaining proper levels of academic and social behavior of students with ADHD (DuPaul & Stoner, 1994). Research shows that contingent reinforcement in combination with mild penalties (i.e., reprimands, verbal redirection), and especially response cost, fosters consistent behavioral change (DuPaul & Stoner,

1994). Regarding response cost, individuals lose reinforcers for inappropriate behavior in the same way that they gain reinforcers for appropriate behavior (Pfiffner et al., 2006).

The simultaneous use of token reinforcement and response cost has been shown to improve on-task behavior, productivity in seatwork, and educational accuracy in children with ADHD (DuPaul & Stoner, 1994; DuPaul & Weyandt, 2006).

Home-based reinforcement for school behavior, such as a daily behavior report card (DBRC), offers a way to manage the contingencies associated with a student's performance at school, promotes home-school collaboration, and allows for students, parents, and teachers to record changes in behavior (Power, Soffer, Clarke, & Mautone, 2006). Characteristics of DBRC's include the following: specifying a behavior or multiple behaviors, rating the behavior(s) at least daily, sharing the gathered information across individuals (i.e., parents, students, and teachers), and using the DBRC as a part of an intervention or to monitor intervention effects (Chafouleas, Riley-Tillman, McDougal, 2002; Chafouleas, Riley-Tillman, & Sassu, 2006). The use of DBRC's require parents to deliver consequences to their children based on the teacher's evaluation of their child's daily behavior in the classroom (Kelley, 1990).

Some advantages of DBRC's are as follows: they provide more frequent feedback than usual to children and parents about the child's behavior; DBRC's can help remind parents when to reinforce their child's behavior; the reinforcers available at home are usually more extensive than the reinforcers available at school; they can target almost any child behavior; and DBRC's, as compared to a classroom-based intervention, can demand less of the teacher's time and energy (Pfiffner et al., 2006). The effectiveness of DBRC's can be limited if parents or teachers do not consistently implement the procedures and

remain in regular communication with one another (Evans, Schultz, & Sadler, 2008). Also, it may be unrealistic to ask a child who is easily forgetful to remember to bring home a DBRC daily; instead, a different method of delivery may be more effective (i.e., email communication, parents arranging to meet the teacher when picking up their children, or teachers placing the completed DBRC in the child's backpack) (Evans et al., 2008). Overall, DBRC's have been used to improve a broad range of classroom behaviors such as turning in homework, attendance, attention, and completion of classwork (Jurbergs, Palcic, & Kelley, 2007; Kelley, 1990).

DBRC's are not only effective, but also highly acceptable (DuPaul & Power, 2009). Chafouleas et al. (2006) conducted a study on the reported use and acceptability of DBRC's among teachers. Around two-thirds of teachers reported that they have used some form of DBRC in their work with children. Also, the teachers found the DBRC to be highly adaptive, as opposed to having one, structured function. For instance, surveyed teachers reported variability regarding the type of behavior used, the frequency that DBRC's are used and behaviors are recorded, the form of communication used to express results, the person(s) rating the behavior and being rated, and the consequences resulting from the information obtained. Furthermore, the teachers reported general acceptance of DBRC's as tools to monitor behavior and as elements in interventions. Limitations of the study included: a low response rate, the potential of a nonrepresentative sample, and the use of self-report measures without comparing results to measures of actual behaviors.

Power, Hess, and Bennett (1995) and Girio and Owens (2009) also found the DBRC to be highly accepted by teachers. For instance, Power et al. examined elementary and middle school teacher's reported acceptability of behavioral (i.e., response cost and

DBRC) and pharmacological (i.e., stimulant medication) interventions for children with ADHD. One hundred forty-seven teachers read vignettes about the use of response cost, DBRC, and stimulant medication in treating ADHD. After reading each vignette, the teachers rated the acceptability of the interventions. Results indicated that teachers rated DBRC as significantly more acceptable than response cost and stimulant medication. Also, medication was rated as more acceptable when used in combination with behavioral interventions as opposed to when used in isolation.

Girio and Owens (2009) investigated teachers' acceptability of evidence-based (i.e., daily report card, time-out, and medication) and promising treatments (i.e., peer tutoring, self-reinforcement, and social skills) for children with ADHD. One hundred fifty-six teachers from 11 elementary schools read a vignette that discussed the behaviors of a child with ADHD. Teachers were instructed to read about various treatments (i.e., daily report card, time-out, self-reinforcement, peer tutoring, social skills, and medication) that could be used to change the behavior of a child similar to the one read in the vignette. After reading about the different treatments, the teachers rated each treatment's acceptability through the completion of the Intervention Rating Profile-10 (IRP-10). Teachers also completed a self-efficacy measure. Results revealed that the DBRC had the highest acceptability ratings and was rated significantly higher than time-out, peer tutoring, social skills, and medication. Additionally, the self-reinforcement strategy was not rated significantly below the DBRC. Teachers with more experience rated the time-out technique as more acceptable than peer tutoring. Girio and Owens concluded that promising treatments are believed to be at least as acceptable as evidence-based treatments for children with ADHD.

Self-management. Self-management interventions include a range of approaches such as self-monitoring, self-evaluation, and self-reinforcement (DuPaul & Weyandt, 2006). These procedures may include children setting goals for their on-task behavior or classwork/homework completion and accuracy, monitoring their goals, and giving themselves rewards if they complete their goals (Raggi & Chronis 2006). Self-monitoring has been found to increase on-task behavior, improve disruptive behavior in the classroom, and enhance the academic accuracy and productivity of children with ADHD (Axelrod et al., 2009). Some advantages of self-management procedures include: greater maintenance of changes in behavior when integrated with other behavioral management approaches; enhanced generalization in comparison to interventions that are implemented by parents or teachers; a decrease in time spent by parents and teachers; and a chance for students to learn responsibility and autonomy (Raggi & Chronis, 2006).

Using Behavioral Interventions to Target Homework Performance

There have been numerous interventions targeting homework performance, and in particular, homework completion, accuracy, and efficiency. Modifying the antecedents and consequences of homework is considered an essential component to improve homework performance (DuPaul & Power, 2009; Power et al., 2001). Some examples of modifying the antecedents of homework include: using a planner and requesting teachers to monitor its use, establishing a regular time and place for doing homework, setting time limits for homework, and providing clear instructions. Some examples of modifying the consequences of homework include: providing home-school notes about homework performance, establishing reinforcement programs, and using goal setting with contingency contracting (Power et al., 2001; Power & Mautone, 2008). According to

Lynch et al. (2009), successful treatments that have increased homework completion and accuracy include the following: group contingencies; mystery motivators; parent training; participation of parents and the family; and conjoint behavioral consultation with a structured homework program. Several interventions used to target homework performance are discussed below.

Miller and Kelley (1994) used multiple baseline and reversal designs to evaluate the effects that goal setting and contingency contracting have on children's homework performance. Participants included four parent-child dyads with the children experiencing significant homework problems. During baseline conditions, parents and children completed homework as they usually would, except they sat in a quiet, isolated location with relevant materials for homework available. Parents were instructed to record the amount of time spent on homework, the type and number of homework problems completed, and the accuracy of completed homework problems. During treatment conditions, children received rewards contingent on achieving their homework goals and bringing home necessary materials for homework. Miller and Kelley found that the use of goal setting and contingency contracting increased homework accuracy for all four participants and increased on-task behavior for half of the participants. The study had the following limitations: brief final treatment phases; a lack of teacher ratings of homework performance; and the combined design used prevents one from knowing the effects of the individual treatment components.

Olympia et al. (1994) used a single-subject reversal design to explore the successfulness of self-managed individual and group contingencies in increasing the rates of completion and accuracy of 6th grader's math homework. During treatment conditions,

self-management procedures (i.e., self-monitoring, self-instruction, self-evaluation, and self-reinforcement) were integrated into team roles (i.e., coach, scorekeeper, manager, and pinch hitter). Each participant was randomly assigned a role to perform for 3 days, and then roles were reassigned to allow participants to perform other positions. During the first treatment condition, students selected homework performance goals, and during the second treatment condition, the teacher selected homework performance goals. During baseline conditions, math instruction was provided, homework assignments were distributed, and there were no behavioral contingencies applied to improve homework performance.

Olympia et al. (1994) found that homework completion rates improved considerably over baseline for most students, while there were mixed results for rates of homework accuracy. Additionally, students in the self-management training exhibited substantial improvements on standardized academic achievement measures and curriculum-based classroom performance measures. Furthermore, students who chose their own performance targets provided the teacher with more of their homework assignments than students whose teacher chose performance targets. At the end of the intervention, parents reported having considerably fewer problems with homework completion. Some limitations of the study included: subject selection (i.e., it was assumed that participants had deficits in academic performance instead of skills deficits based on teacher report and the way participants were grouped in class; however, this was not directly assessed); inability to collect follow-up data due to the end of the school year; and the design used did not control for order effects.

Moore, Waguespack, Wickstrom, Witt, and Gaydos (1994) used an AB design to evaluate the effects of the Mystery Motivator intervention on rates of homework completion and accuracy. Participants included five 3rd grade boys, four 5th grade boys, and their teachers. In the intervention phase, if students completed 100% of their assigned homework, they were allowed to play Mystery Motivator (i.e., Mystery Motivator symbols were placed in a random order in four out of the five spaces on the Mystery Motivator Weekly Chart, and if the symbol appeared, the student would be allowed to choose a reward from a menu). Results revealed that the five 3rd grade boys showed increases in rates of homework completion (averaging from 64.9% during baseline to 89.4% during intervention) and accuracy (averaging from 56.6% during baseline to 81.2% during intervention). Results also indicated that three out of the four 5th grade boys showed increases in rates of homework completion (averaging from 70.1% during baseline to 80.8% during intervention) and accuracy (averaging from 52.1% during baseline to 65.1% during intervention). Some limitations included: small sample size, lack of monitoring the level of task difficulty, and lack of evidence that the reinforcement schedule can be successfully faded over time.

In another study, Madaus, Kehle, Madaus, and Bray (2003) used an ABAB reversal design with multiple baselines to evaluate the effects of the Mystery Motivator intervention on rates of homework completion and accuracy for five 5th graders. Results revealed that four out of five students showed improvements in rates of homework completion. The authors stated that due to a ceiling effect, it was difficult for one student's data to show additional progress, as his primary concern was not with

completion of homework. Results also revealed that three out of five students showed improvements in rates of homework accuracy.

Weiner, Sheridan, and Jenson (1998) used a multiple baseline design to examine the effects of conjoint behavioral consultation (CBC) and a structured homework program on homework completion and accuracy for five junior high math students. Students participated in the Conjoint Problem Analysis Interview (CPAI) and the Conjoint Treatment Evaluation Interview (CTEI) where they verified information that parents and teachers provided and discussed treatment aims and reinforcers. The structured homework program used included self-recording of assignments in a planner, home-based structure and supervision (i.e., establishing a consistent time and location for homework; having homework materials readily available; and using a Homework Tracking Sheet for parents to monitor homework), and positive reinforcement. Results indicated that four out of five participants showed an improvement between baseline and treatment in completion and accuracy means. At one-month follow-up, four out of five participants maintained or improved their homework completion means, and two out of five participants maintained their improved accuracy means. Limitations included: instability in baseline data; a lag across Participants 1 and 2 and Participants 3 and 4; a lack of treatment integrity data for three participants; the potential for socially desirable responding on measures of satisfaction; unstandardized homework assignments; and the inability to determine the effects of individual components of the intervention.

Overall, researchers have found many interventions designed to target homework problems in general; however, there are few interventions designed to target homework problems among children with ADHD. Two homework interventions, the CLAS Program

and the HSP, are described below. The Homework Intervention Program (HIP) is a behaviorally based, family-school homework intervention for middle school students with ADHD. Since the HIP targets young adolescents, it is not described below; however, for an overview of the HIP, see Raggi et al. (2009).

Homework Interventions for Children with ADHD

Child Life and Attention Skills (CLAS) Program

The CLAS Program, designed for children with ADHD, Predominantly Inattentive Type (ADHD-I), involves teacher consultation, parent training, and child skills training over the course of 12 weeks (Pfiffner et al., 2007). The teacher consultation component includes an explanation of behavioral interventions and school-based accommodations for ADHD-I, along with 4-5 meetings with the teacher, parent, child, and therapist. The parent training component includes an explanation of ADHD-I, the use of attending and rewards, the development of effective routines, how to give commands, the use of negative consequences, and ways of changing environmental antecedents. The child skills training component includes teaching skills for independence and for social competence.

Pfiffner et al. (2007) performed a randomized, controlled trial, whereby 69 children from 7- to 11-years-old were randomized either to the CLAS Program or a no-intervention control group. Results indicated that children in the CLAS Program had clinically significant decreases in attention problems and increases in organizational and social skills (Pfiffner et al., 2007). Treatment gains were maintained at follow-up. Although their study yielded positive results, several issues should be taken into consideration. First, school-recruited and clinic-referred ADHD-I may differ in regards to

impairment and treatment needs. Piffner et al. described how clinic-referred ADHD-I might encompass many individuals having symptoms characteristic of subthreshold combined type rather than ADHD-I. The authors cautioned that individuals with high amounts of hyperactive or disruptive symptoms might not benefit from the CLAS Program alone. Additionally, as clinicians, teachers, and families were paid for their time, they may have been more motivated to participate than individuals who have to pay to receive these services. Also, as the CLAS Program was evaluated as a package, it is difficult to know the effects of the individual components for treating ADHD-I. Further, the authors did not appear to measure changes on important homework outcomes (i.e., homework completion, accuracy, and time).

The Homework Success Program (HSP) for Children with ADHD

The HSP, a family-school intervention for families of children with ADHD in grades 1 through 6, includes parent training and emphasizes collaborative parent-teacher consultation (Power et al., 2001). The HSP consists of 7 sessions in a group format over a 10-week span. Session content includes the following: introducing the program; establishing a homework ritual and giving instructions; providing positive reinforcement; managing time and setting goals; using punishment successfully; integrating skills and anticipating future problems; and providing follow-up support (Power et al., 2001). Preliminary case studies of children with ADHD and homework problems resulted in positive outcomes in terms of parental and teacher reports of homework problems, along with rates of homework completion and accuracy (Power et al., 2001; Raggi & Chronis, 2006; Raggi et al., 2009). The procedures that make up the program are derived from empirically supported interventions and have been shown to be effective with children

with ADHD (Power et al., 2001); however, there have been no treatment outcome studies of the HSP reported in the literature. Further, the HSP, a group intervention, has yet to be evaluated in an individualized manner. Thus, the present study examined the effectiveness of the HSP with individual families.

Hypotheses

Based upon the foregoing review of the literature, the following hypotheses had been delineated:

Primary Hypotheses

1. It was hypothesized that parental and teacher reports of homework performance would improve.
2. It was hypothesized that the participants would improve rates of homework completion.
3. It was hypothesized that the participants' rates of homework accuracy would either improve or remain constant.
4. It was hypothesized that the participants would decrease the amount of time it takes to do homework each night.

Secondary Hypotheses

5. It was hypothesized that academic performance would either improve or remain constant.
6. It was hypothesized that the amount of stress in the parent-child relationship would decrease.
7. It was hypothesized that families and teachers would perceive the HSP to be an acceptable and useful intervention.

CHAPTER III

Method

Participants

Participants were recruited through the ADHD Assessment, Consultation, and Treatment (AACT) Program at Nova Southeastern University in South Florida and local elementary schools. Participants included four children diagnosed with ADHD enrolled in grades 2 through 4, along with their parents and teachers. The diagnosis of ADHD was established prior to participants presenting for the study. The parent who was present and most involved during homework time was responsible for completing all of the parent-report measures in the study.

Criteria for inclusion in this study were: 1) a DSM-IV diagnosis of ADHD; 2) scores on the Homework Problem Checklist (HPC) that were at least one standard deviation above the mean; 3) the child attended school on a full-time basis; and 4) the school was willing to consent to involvement in the treatment process. Participants were excluded if they had visual or hearing impairment, cognitive impairment, severe language delay, major neurological illness, psychosis, pervasive developmental disorder, scored lower than one standard deviation below the mean on the Counseling Acceptability or Counseling Feasibility subscales of the Attention-Deficit/Hyperactivity Disorder Knowledge and Opinion Scale – Revised (AKOS-R), or were expecting to change their medication status during the study. Participants taking medication were asked to consult with their physician and make any necessary dosage changes before treatment, as they were asked to remain on a consistent dosage during the study.

Nine families were screened in total. Following the telephone screening, six families were eligible and willing to establish initial appointments. Following the initial appointments, five participants were eligible to enter the baseline phase. One out of the five participants was not eligible to enter the treatment phase, as his medication dosage was increased around 2 weeks prior to entering the study, and his mother's scores on the HPC improved each week to the extent that his scores were no longer deviant from the mean. In total, four families and teachers entered treatment and completed the study.

In the current study, child participants ranged in age from 7 to 10 and were enrolled in grades 2 through 4. Out of the four participating children, three attended public school and one attended a private school in Broward County, Florida. Participants were predominantly male (three out of four), and all participants identified as Caucasian. Three participants were diagnosed with ADHD, Combined Type, and one participant was diagnosed with ADHD, Predominantly Inattentive Type. Two participants were also diagnosed with Oppositional Defiant Disorder. None of the participants received special school placement or repeated a grade or class. One participant (David) received tutoring services. Two participants were taking medication at the beginning of and throughout the study. Two participants had no other siblings living inside the home, and the other two participants had two other siblings living inside the home. Mothers and fathers denied histories of psychiatric problems. All of the parents in the study were married, and annual household income ranged from \$25,000 to over \$60,000. Maternal age ranged from 35 to 45, and paternal age ranged from 39 to 55. Mothers' and fathers' education attainment ranged from "high school graduate" to "post-graduate or above." The majority of mothers

and fathers reported being employed. Although fathers were encouraged to participate in the study and attend sessions, only mothers participated and completed measures.

Experimental Design

Many of the design requirements of between-group designs are not practical in applied settings where children and their families are being referred to treatment at different times. In such cases, the use of single-case research designs can be appropriate, feasible, and powerful (Sidman, 1960). Single-case research designs provide an approach where investigators can study individuals, single groups, or multiple groups of subjects (Kazdin, 1982). In single-case research, researchers usually compare different conditions presented to the same individuals across time to draw conclusions about intervention effects (Kazdin, 2003). Some features of single-case research designs are as follows: repeated measures, baseline assessment, stability of performance (i.e., relatively limited variability in performance and the absence of a trend in the data), use of different treatment phases, participants serving as their own controls, emphasis on experimental replication, and graphic presentation and visual analysis of data (Kazdin, 2003; Morgan & Morgan, 2001). An important element of single-case designs involves the manner in which the intervention is presented and assessed over time, and the various ways reflect different experimental designs (Kazdin, 2003).

Some major single-case research designs are AB designs, ABAB (reversal) designs, alternating-treatment designs, changing-criterion designs, and multiple-baseline designs (Kazdin, 1982, 2003). An AB design consists of a baseline phase (A) followed by the implementation of an intervention (B). A main limitation of this design is that it is difficult to decide whether treatment effects are due to the treatment or extraneous

variables. In an ABAB (reversal) design, two phases (A [baseline] and B [treatment]) are alternated over time. Intervention effects are evident if performance improves during the first phase of intervention, returns to baseline levels when treatment is withdrawn, and improves again when treatment is reinstated. An important limitation of this design is that the reversal back to baseline may not be feasible or desirable. In an alternating-treatment design, two different treatments or conditions are quickly alternated during the same time span in the same individual (Barlow & Hayes, 1979). Major limitations for this design include its failure to control irreversible effects, its possible generalization across conditions, and problems with interpretation due to carryover, order, and interaction effects. In a changing-criterion design, intervention effects are evident if the behavior matches a continuously changing performance criterion throughout treatment (Kazdin, 1982, 2003). A main limitation of this design is deciding when the criterion and behavior match sufficiently to demonstrate treatment effects. Other challenges of this design include dealing with rapid performance changes (when the design depends on gradual changes), and identifying an appropriate length for each phase and magnitude for each criterion shift. The multiple-baseline design is described below.

Non-concurrent Multiple-Baseline Across Individuals

One type of single-subject design, the multiple baseline design, has been widely used in clinical research and provides a feasible alternative to the ABAB design, as the withdrawal of treatment in applied settings can create practical, clinical, or ethical concerns (Baer, Wolf, & Risley, 1968; Kazdin, 1982, 2003; Watson & Workman, 1981). In this design, multiple baselines can be implemented across individuals, behaviors, and situations. In the multiple-baseline across individuals design, observations of each

person's baseline performance are conducted until each person's behavior has stabilized. The intervention is then applied to one person, while the other individuals continue in baseline conditions (Kazdin, 1982, 2003). It is hypothesized that the behavior of the person receiving the intervention will change, while the behavior of the individuals in the baseline conditions will remain the same. This process is repeated until all individuals with baseline data receive the intervention. If there is a change in each person's behavior at the introduction of the intervention, then it is likely that the intervention, and not extraneous factors, resulted in the change (Kazdin, 1982, 2003; Watson & Workman, 1981).

In non-concurrent multiple-baseline designs, baseline data is collected at different points in time, whereas in concurrent multiple-baseline designs, baseline data is collected simultaneously (Harvey, May, & Kennedy, 2004; Watson & Workman, 1981). Watson and Workman suggested that in the non-concurrent multiple-baseline design, the researcher should determine the duration of each of several baseline phases a priori (i.e., 5, 10, 15 days). After the specification of all baseline durations, each participant is randomly assigned to one of the baseline phases. Next, the researcher begins baseline observations, and after each participant's behavior stabilizes, the intervention is implemented. Watson and Workman suggested that participants lacking stable baselines should be removed from the study, a notion that could be tough to justify and may compromise the study's internal validity (Christ, 2007).

In non-concurrent multiple-baseline designs, maturation, test-retest sensitivity, and instrument changes can be controlled for due to the staggering of the various baselines (Harvey et al., 2004). For instance, any changes that arise in the longer baseline

phases would indicate that extraneous variables resulted in the behavior change.

Additionally, the lack of an effect after the implementation of the intervention would imply that the intervention did not affect the outcome variables.

There are certain limitations of the non-concurrent multiple-baseline designs. A main limitation of the design is its inability to rule out history effects (Harvey et al., 2004; Winn, Skinner, Allin, & Hawkins, 2004). For instance, data are not collected at the same time across individuals. Thus, individuals may be exposed to different events occurring inside or outside of the experiment. Although the design does not test for history effects, it is also less susceptible to them (Winn et al., 2004). Another limitation centers on the issue of mortality. It is possible that only successful cases may be selected for the study (Christ, 2007; Winn et al., 2004). For instance, it is possible that cases that lack stable baseline data, or cases that do not show a change in behavior, may be excluded from the study. Additionally, it is possible that participants may move, become ill, or not wish to participate in the study. Researchers should specifically describe how all exclusions might affect the internal validity of the study. Another shortcoming is that in single-case research designs, there may be limited external validity. For instance, the small sample size may make it difficult for results to generalize. However, as a key feature of single-case research involves replication, a thorough evaluation of generality can be made through replication across independent variable parameters, stimulus conditions, and participant variables (Morgan & Morgan, 2001; Sidman, 1960).

Despite some of the design limitations, the non-concurrent multiple-baseline design is a robust design that contributes meaningfully to the scientific literature (Christ, 2007). Some characteristics of the design that promote both internal validity and

experimental control include the following: experimental manipulations (i.e., treatment conditions); a priori hypotheses; the use of repeated and ongoing measurements; significant changes in the dependent variable that co-occur with experimental manipulations; and replication across data series (Christ, 2007). Overall, the non-concurrent multiple-baseline design is practical for use in applied settings where people present to treatment at different points in time.

Measures

Refer to Appendix A for measures used in the study¹.

Demographic Questionnaire

Demographic information was collected on age, grade, race/ethnicity, gender, ADHD subtype, comorbidity (child), school placement, school type, medication use and dosage, number of siblings in the home, annual family income, and parental age, marital status, educational attainment, occupation, and history of psychiatric problems.

Measure of Treatment Readiness and Feasibility

Attention-Deficit/Hyperactivity Disorder Knowledge and Opinion Scale – Revised (AKOS-R). The AKOS-R (Bennett, Power, Rostain, & Carr, 1996) is a 43-item parent-report assessing parents' knowledge of ADHD (i.e., 17-items answered as True or False), along with their attitudes about medication, psychosocial treatments, and the feasibility of participating in treatment (i.e., 26-items answered from 1 [Strongly Disagree] to 6 [Strongly Agree]). Factor analytic studies have shown that the measure assesses four distinct factors: ADHD Knowledge, Counseling Acceptability, Medication

¹ The Parenting Stress Index – Short Form could not be included due to copyright laws, but is available for purchase through Psychological Assessment Resources, Inc. (PAR; www.parinc.com).

Acceptability, and Counseling Feasibility. Normative data is provided on the four factors. To assess treatment readiness and feasibility, participants only completed items on the Counseling Acceptability and Counseling Feasibility subscales. Low scores (i.e., a standard deviation below the mean) either indicate that a parent is not ready to commit to the program (i.e., Counseling Acceptability), or it is not a feasible option at this time (i.e., Counseling Feasibility) (Power et al., 2001). Sample items include “*This is not a good time for our family to begin counseling*” and “*I think that scheduling problems would make it difficult for us to arrange counseling appointments.*”

Measures of Homework Productivity, Accuracy, and Efficiency

The primary goal of the HSP is to improve the child’s homework performance. In particular, the program was hypothesized to improve homework-related behaviors, homework completion rates, and homework efficiency. It was also hypothesized that homework accuracy rates would improve or remain constant. The following measures were used to assess homework productivity, accuracy, and efficiency.

Homework Problem Checklist (HPC). The HPC (Anesko et al., 1987) is a 20-item parent-report measure of problems with homework performance scored from 0 (Never) to 3 (Very Often). Scores are derived by summing the four-point items for a total score ranging from 0 to 60. Higher scores indicate greater homework problems. The overall mean of the HPC for nonreferred children is 10.50 (SD=8.03), and norms have been established for boys and girls in grades 2 through 4. Factor analytic studies have shown that the measure assesses two distinct factors: Inattention/Work Avoidance and Poor Productivity/Non-adherence with Homework Rules (Power et al., 2006). Sample items include “*Doesn’t know exactly what homework has been assigned*” and “*Fails to*

complete homework.” The measure is internally consistent ($\alpha=.91$), sensitive to treatment effects, and can be used for screening and treatment evaluation.

Homework Performance Questionnaire (HPQ), Parent (HPQ-PS) and Teacher (HPQ-TS) Scales. The HPQ-PS (Power et al., 2007) is a 31-item measure asking parents to report on their child’s homework behavior during the past month. Items are rated on a four-point Likert-type scale from 0 (Rarely/Never) to 3 (Always/Almost Always). Sample items include, “*My child writes down the homework assignments given by the teachers*” and “*My child needs close supervision to get homework done.*” The HPQ-PS also consists of four additional items used to gather background information about a child’s homework behavior (i.e., the amount of time the child spends on homework daily; whether the child has difficulty completing homework in any subjects; whether the child is expected to write down assignments in a notebook; and how the parent responds if the child does not remember what to do for homework). Factor analytic research on the HPQ-PS yielded three factors: student task engagement/efficiency, student competence, and teacher support.

The HPQ-TS (Power et al., 2007) includes 14 items asking teachers to report on observable student homework behavior. For instance, 10 items ask teachers to report the percentage of time that certain homework-related behaviors occurred during the past month, and four items ask the teacher to report the percentage corresponding with the student’s homework performance during the past month. These items are rated on a five-point Likert-type scale from 0 (0% to 39% of the time) to 4 (90% to 100% of the time). Sample items include “*The student turns in homework on time*” and “*Estimate the percentage of homework completed (regardless of accuracy).*” The HPQ-TS also consists

of eight additional items used to gather background information about a child's homework behavior and performance (i.e., "*What percentage of the child's grade is affected by the amount or quality of homework completed?*"). Factor analytic research on the HPQ-TS yielded two salient factors: student responsibility and student competence.

Additional research is necessary to establish the psychometric properties of the HPQ-PS and HPQ-TS; however, the measures were here utilized to gather additional information regarding a child's homework performance. Additionally, as the HPC does not include a teacher version, the HPQ-TS provided supplemental information about homework from a teacher's perspective.

Parent-Reported Daily Homework Logs. Parents were asked to complete daily homework logs detailing homework accuracy, completion, and duration. On the Daily Homework Log, parents were asked to record the subject, the number of problems assigned, the number of problems completed, the number of items correct, and the amount of time spent during each day of the week. Completion rates were computed by dividing the number of problems completed by the number of problems assigned and then multiplying by 100. Accuracy rates were computed by dividing the number of problems correct by the number of problems completed and then multiplying by 100. Daily time spent on homework was added up across subjects. From the daily data, weekly rates of homework completion, accuracy, and time were calculated.

Teacher logs of homework performance. Teachers were asked for grade book data concerning homework completion and accuracy. Data was collected in person, via email, or from parents who received this information from the teacher in an envelope.

Measure of Academic Functioning

Although the HSP does not target academic performance directly, it was hypothesized that academic performance would either improve or remain constant. The following was used to assess academic functioning.

Teacher logs of academic performance. Teachers were asked for records of student performance on classwork assignments, tests, and quizzes. Report cards were also requested. Data was collected in person, via email, or from parents who received this information from the teacher in an envelope.

Measure of Family Functioning

A secondary benefit associated with the HSP is possibly enhancing family relationships and lowering parent-child stress relating to homework. It was hypothesized that the amount of stress in the parent-child relationship would decrease as a result of the implementation of the HSP. The following was used to assess stress in the parent-child relationship.

Parenting Stress Index– Short Form (PSI-SF). The PSI-SF (Abidin, 1995) is a 36-item questionnaire that uses a five-point Likert-type scale that assesses emotional stress as it relates to the parent's perception of their child and the parent-child relationship. The PSI-SF yields Parental Distress (PD), Parent-Child Dysfunctional Interaction (P-CDI), Difficult Child (DC), and Total Stress scores. Elevations on the PSI-SF subscales at or above the 85th percentile are considered clinically significant. Additionally, Defensive Responding scores at 10 or below may indicate that the parent is attempting to convey a favorable impression or is attempting to minimize indications of stress in the parent-child relationship. The PSI-SF possesses good test-retest reliability

($r=0.84$), internal consistency (Cronbach's $\alpha=0.91$), and is strongly correlated with the original version ($r=0.94$). Reitman, Currier, and Stickle (2002) examined the PSI-SF in a Head Start population and found that the measure retained high internal consistency (Cronbach's $\alpha=.95$) and replicated the factor structure found in previous studies (i.e., PD, P-CDI, and DC). Haskett, Ahern, Ward, and Allaire (2006) examined the psychometric properties of the measure and found the measure internally consistent (Chronbach's $\alpha=.83$), but a two-, rather than three-factor model (i.e., PD and P-CDI) was supported. Scores on the PSI-SF were associated with parents' reports of their children's disruptive behaviors at home a year later. Sample items include "*My child rarely does things for me that make me feel good*" and "*My child turned out to be more of a problem than I had expected.*"

Evaluating Intervention Acceptability and Consumer Satisfaction

It is critical to regularly assess intervention acceptability, as highly acceptable interventions are more likely to be used with integrity than unacceptable interventions. Opinions of interventions can change as treatment unfolds; thus, it is important to reassess perceptions of acceptability periodically to better address the families' needs. The following measures were used to assess intervention acceptability and consumer satisfaction.

Homework Success Evaluation Inventory (HSEI). The HSEI (Power et al., 2001) is a 7-item measure of parents' views about the usefulness, fairness, and appropriateness of the HSP. The Likert-type scale ranges from 1 (Strongly Disagree) to 6 (Strongly Agree). According to Power et al., research has shown that brief measures of acceptability have strong psychometric properties and can be quite helpful in determining

social validity. Sample items on the HSEI include “*The strategies of Homework Success make sense to me*” and “*I think that most families would find the Homework Success strategies to be practical and useful.*”

Children’s Intervention Rating Profile (CIRP). The CIRP (Witt & Elliot, 1985) is a 7-item measure of children’s perceptions of treatment acceptability. Power et al. (2001) adapted the CIRP, which is widely used in research and practice, to make it appropriate for use with the HSP. As the intervention was conducted with individual families instead of groups, items were appropriately modified. The items are rated from 1 (Yes) to 3 (No), with 2 meaning “Not sure.” Sample items include “*My therapist was fair*” and “*I think that coming to this program helps me do better in school.*”

Homework Success Program Evaluation Scale (HSPES). The HSPES (Power et al., 2001) is a 17-item measure of parental satisfaction with the HSP. The Likert-type rating scale ranges from 1 (Not Helpful) to 5 (Extremely helpful), with two open-ended questions for providing unstructured feedback on the program. On the HSPES, Section A asks parents to rate the helpfulness of each topic of the program (i.e., “*Managing time and goal setting*”), Section B asks parents to rate each aspect of the program’s helpfulness (i.e., “*The parent homework assignments*”), and Section C requests user-specific feedback on the program (i.e., “*What aspects of the program have been the most helpful to you?*”). As the intervention was conducted with individual families instead of groups, items were appropriately modified. The main difference between the HSEI and the HSPES is that the HSEI focuses on satisfaction with the HSP in general, and the HSPES focuses on satisfaction with more specific aspects of the program.

Intervention Rating Profile – 15 (IRP – 15). The IRP-15 (Martens, Witt, Elliott, & Darveaux, 1985) is a 15-item measure of perceptions of treatment acceptability. The Likert-type rating scale ranges from 1 (Strongly Disagree) to 6 (Strongly Agree). Scores are summed to yield a single acceptability score, with higher scores indicating greater acceptability. A score greater than 52.5 is considered acceptable (Von Brock & Elliot, 1987). The IRP-15 has strong psychometric properties. It has been found to be reliable (Cronbach’s alpha=.98), and a factor analysis of the measure yielded one main factor with item loadings ranging from .82 to .95. Teachers completed the IRP-15. Instructions and items were modified to reflect the nature of the study and the specific intervention being used. For instance, instead of using the language “this” or “this intervention,” the item read as “the Homework Success Program.” Also, instead of using the phrase “the child’s behavior problem,” the item read as “the child’s homework-related difficulties.” Sample items included “*The Homework Success Program (HSP) would be an acceptable intervention for the child’s homework-related difficulties*” and “*The HSP was a good way to handle this child’s homework-related difficulties.*”

Procedure

Screening Participants

Institutional Review Board (IRB) approval was obtained prior to initiating this study. Families in the ADHD Assessment, Consultation, and Treatment (AACT) Program at Nova Southeastern University with a child diagnosed with ADHD and exhibiting homework difficulties were informed about the study via a flyer. Additionally, local private and public elementary schools received either an email or direct mail with an overview of the study, an approval form from the Broward County School Board (for the

public schools), and a study flyer. Prospective participants contacted the phone number on the flyer, and an initial telephone screen was used to inquire about the child's grade level, the presence of significant homework difficulties and an ADHD diagnosis, and the presence of other diagnoses (see the Participants section for exclusionary criteria).

After the telephone screen, families who were potentially appropriate for the study presented to the Clinic. Referrals were provided for families who were not found eligible for the study. During the initial 90-minute appointment, the primary investigator provided an overview of the study, received parental consent and child assent, further assessed ADHD symptomatology and homework difficulties, provided families with Daily Homework Logs, and administered the HPC, the HPQ-PS, the Counseling Acceptability and Counseling Feasibility subscales of the AKOS-R, the PSI-SF, and a demographic questionnaire. For more information on the assessment process, please refer to Appendix B. During the consent process, study participants were informed that they may or may not be eligible for the treatment program, as inclusion criteria had to be met at the end of the baseline period to enter treatment. If a family was not found eligible to enter the treatment phase, they were informed that they would still be eligible to receive services from the Clinic (i.e., Psychology trainees in the Clinic use the HSP for ADHD-diagnosed children presenting with homework problems).

Following the Clinic appointment, the primary investigator contacted the child's school to schedule a school observation. During the observation, the primary investigator provided an overview of the study and reviewed and collected the teacher's informed consent. Teachers were asked several questions about homework (i.e., how they instruct the class about an assignment, how long assignments should take, how work is evaluated,

how the child performs on homework assignments, etc.), to submit grade book data on homework and academic performance, and to complete the HPQ-TS. Teachers were informed that records of homework and academic performance would be collected on a weekly basis during both the baseline and treatment phases. Teachers were also informed that their student may or may not be eligible to enter the treatment phase of the study. The primary investigator notified teachers about eligibility following the baseline period for each student. Following baseline, only one participant was found ineligible to enter the treatment phase, as his mother's scores on the HPC fell within the normative range. At the end of the baseline period, eligible participants were given the opportunity to participate in the treatment phase.

Baseline and Treatment Conditions

Participants were randomly assigned to baseline durations (i.e., 3 weeks, 4 weeks, 5 weeks, and 6 weeks). Baseline conditions consisted of parents and children maintaining their typical homework routine, with the addition of parent-completed homework measurement (i.e., the HPC and Daily Homework Logs). The HPC was administered if the child had been assigned at least 3 days of homework in a week. Thus, if a school break, holiday, or standardized testing occurred, and the child did not receive at least 3 nights of homework during the week, then the HPC was not administered to the parents. The subsequent treatment session occurred when nightly homework assignments resumed (as homework techniques could only be practiced when the child is assigned homework). Additionally, during baseline, teachers were asked for grade book data on the child's homework and academic performance on a weekly basis.

The intervention, the HSP, included seven weekly 60-minute sessions that included introducing the program; establishing a homework ritual and giving instructions; providing positive reinforcement (covered during two separate sessions); managing time and setting goals; using punishment successfully; and integrating skills and anticipating future problems. Additionally, the program included a one-month follow-up to review progress, review elements of the HSP, identify and work through problems, provide resources, and collect program evaluation data. Sessions were held individually with each family (i.e., parents and the target child), and supervision was provided weekly. Treatment was provided free of cost. To increase attendance, families received either a planner, pencil, pen, notepad, stapler, calculator, or scissors at each session. All teachers were provided with a \$25 Target gift card at the end of the study for their participation (i.e., completing questionnaires, providing comments on student progress and obstacles, submitting grade book data, etc.). Refer to Appendix C for the timeline used to collect outcome data. Details on each treatment session are presented below.

HSP Sessions

Session 1. During the initial session, families were oriented to the program goals, expectations, and strategies. They learned about the importance of developing a collaborative relationship with the teacher, evaluating and monitoring progress and outcomes, and completing family homework assignments. Families received information about the duration of the program, and the roles that parents and their children were expected to play. Families discussed homework concerns and learned about ADHD and its relation to homework problems. They also learned about the importance of limiting time spent on homework and using a homework assignment book. Additionally, they

were asked to enforce a time limit for homework and finalize a method to record homework assignments by the following session. At the end of each session, parents were provided with Daily Homework Logs, which were reviewed at the beginning of the following session. Additionally, families completed outcome measures (i.e., the HPC, HPQ-PS, PSI-SF, HSEI, and CIRP) and prepared for a parent-teacher telephone conference. It is important to note that the HPC was given at the beginning of each subsequent session. Additionally, the primary investigator completed treatment integrity checklists throughout each session.

Between the first and second sessions, the primary investigator led a parent-teacher telephone conference. During this conference, homework problems and resources were identified, the importance of home-school collaboration was emphasized, and the HSP was described. Furthermore, teachers were asked to complete the HPQ-TS and to submit records of homework and academic performance. Teachers were reminded that records of homework and academic performance would continue to be collected on a weekly basis.

Session 2. During the second session, families were assisted in analyzing the antecedents and consequences of behavior and in establishing a homework ritual, and parents were educated about giving effective instructions to their child. At the end of the session, parents were asked to identify problematic homework behaviors, along with their antecedents and consequences, establish a homework ritual, and practice giving effective instructions by the next session.

Session 3. During the third session, the primary investigator administered outcome measures (i.e., the HPC and HSEI) to parents to assess progress. Parents learned

about the principles, rationale, and types of positive reinforcement and were assisted in developing a reward system for their child. Parents also learned the importance of consistency (i.e., consistently rewarding the child for appropriate behavior), immediacy (i.e., providing rewards immediately), specificity (i.e., being specific about the behaviors that will be reinforced), saliency (i.e., using meaningful reinforcers), and optimal ratio (i.e., 4:1) of positive reinforcement to punishment (CISS-4). During the session, parents selected targets for behavior change. During the week, parents were asked to observe the targeted behaviors and record their frequency to facilitate discussion in the following session. After the session, teachers were asked to discuss the child's progress and any problems that need to be addressed.

Session 4. During the fourth session, parents were asked about the token system observations (i.e., the occurrences of the targeted behaviors). Parents and children established rewards, and point values were assigned based on the baseline data gathered from the observations. At the end of the session, families were asked to implement the token system. Implementation issues were discussed at the next session.

Session 5. The fifth session was devoted to a review of token system implementation, a discussion of time management and goal setting strategies, and the introduction of the Goal-Setting Tool (GST), which facilitates setting goals for homework completion, accuracy, and time. Specifically, children set goals for the number of items completed, the number of items correct, and the amount of time it will take to complete those items. The GST also allows the children to evaluate their accomplishments and to incorporate the results into the existing token system. Families were asked to use the GST each day for the next week. Parents also completed outcome

measures (i.e., the HPC and HSEI). At the end of the session, parents prepared to have another telephone conference with the teacher. Also, after the session, the primary investigator contacted the teacher to discuss program strategies, the child's progress, and any problems that needed to be addressed.

Session 6. During the sixth session, progress on the GST was discussed, and a summary worksheet was introduced that allowed families to record goal-setting tasks across several subjects or several assignments within the same subject. Response cost and correction (i.e., instructing the child on what to do) procedures were also taught and role-played. Finally, families were asked to use the summary worksheet of the GST and use response cost as part of the token system.

Session 7. During the seventh session, families were asked to complete outcome measures (i.e., the HPC, HPQ-PS, PSI-SF, HSEI, HSPES, and CIRP). Performance on the HPC throughout treatment was reviewed with families. The primary investigator and families then reviewed all therapeutic techniques that had been introduced, anticipated future problems, and brainstormed solutions. Parents created individualized homework plans, which consisted of useful strategies, tips, and reminders, to refer to in the future. Parents prepared for another parent-teacher conference to review progress, identify areas of improvement and weakness, modify homework interventions to address remaining problems, and to thank the teacher for her help. Parents were informed that there would be a follow-up session in one month (with the exception of Wayne's family, as summer began shortly after the seventh session of treatment ended). After the session, outcome data were also collected from teachers (i.e., the HPQ-TS, IRP-15, and records of homework and academic performance). Additionally, teachers were asked to comment on

the child's progress and identify any remaining problems.

At the one-month follow-up, progress was reviewed, along with core components of the HSP. Also, problems were identified and intervention plans were modified, if necessary. Families were provided with resources and were asked to complete outcome data (i.e., the HPC, HPQ-PS, PSI-SF, HSEI, HSPES, and CIRP). After the session, teachers were contacted about completing outcome data (i.e., the HPQ-TS, IRP-15, and records of homework and academic performance) and commenting on the child's progress and remaining problems.

Treatment Integrity

The HSP was administered by the primary investigator, a psychology trainee, under the supervision of a licensed clinical psychologist (Dr. David Reitman). The primary investigator completed treatment integrity checklists for each session (see Appendix D). The HSP integrity checklists were modified to accommodate sessions with individual families rather than groups. A research assistant reviewed a random sample of 20% of the audio-taped sessions and completed checklists to make sure that the necessary session material was covered. Sessions were rated on content (i.e., in the fourth session, *"The client and therapist discussed benefits of setting realistic goals for homework time, completion, and accuracy"*) and the therapeutic process (i.e., *"Did the parent(s) participate in the discussion?"*). Treatment integrity for each area was calculated by adding the checklist points correctly covered in treatment, dividing by the total number of checklist points, and multiplying by 100. Treatment integrity for content was 99% and for the therapeutic process was 100%. Furthermore, the effectiveness of the HSP is thought to depend on the families' and teachers' level of commitment to the intervention. For

instance, to maximize the success of the program, families should attend sessions, be active participants, complete between-session assignments, and complete outcome measures. Additionally, teachers should discuss their expectations about homework, evaluate homework in a quick manner, and complete outcome measures. All treatment sessions were delivered to all families, with the exception of the one-month follow-up session for Wayne and his family (due to the summer vacation). All parents were active participants in treatment (which was rated on the treatment integrity checklists), and all parents and teachers completed the necessary outcome measures. Further, teachers discussed their homework expectations and evaluated homework in a timely manner. Anecdotally, regarding between-session assignments, Terri and Wayne's mothers completed all tasks with no difficulty. David and Mark's mothers completed between-session tasks, but David's mother had difficulty with the implementation of the Goal-Setting Tool after it was introduced, while Mark's mother had difficulty with the implementation of the reward system. Obstacles to successful implementation were discussed and techniques were tailored to fit the needs of each individual family.

Graphical/Statistical Analyses

Visual inspection of the changes in mean, level, slope, and latency of the change were used to assess for treatment effects (Kazdin, 1982, 2003). To assess changes in means, the researcher determined if the average rate of performance showed a change across phases in the expected direction. To evaluate changes in level, the researcher analyzed whether there were any changes in performance from the last day of baseline to the first day of intervention. To assess changes in slope or trend, the researcher determined if there were any changes in the direction of the slope from baseline to

intervention. To determine changes in the latency of the change (i.e., the period between the beginning or end of a phase and changes in performance), the researcher inspected the duration of time it took before the intervention produces changes in performance. Additionally, data points were analyzed across phases to determine if there were overlapping data points. No overlap would help demonstrate a treatment effect (Kazdin, 1982; Kratochwill et al., 2010). Data points were also examined to determine if there was consistency in baseline and treatment phases across individuals, which would help suggest an intervention effect (Kratochwill et al., 2010). The data from the HPC, Daily Homework Logs, and teacher logs of homework performance were presented graphically, while the data from the demographic questionnaire, AKOS-R, HPQ-PS, HPQ-TS, teacher logs of academic performance, PSI-SF, HSEI, CIRP, HSPES, and IRP-15 were presented in a descriptive fashion.

CHAPTER IV

Results

Results are organized as follows: treatment readiness and feasibility, homework productivity, accuracy, and efficiency, academic functioning, family functioning, and intervention acceptability and consumer satisfaction. All four families attended all treatment sessions. Three out of the four families attended the one-month follow-up session, as the fourth family did not have a follow-up session due to the summer vacation. Cancellations were rescheduled by the following week, and there were no missed appointments that occurred without canceling in advance.

Treatment Readiness and Feasibility

Attention-Deficit/Hyperactivity Disorder Knowledge and Opinion Scale – Revised (AKOS-R)

All participating mothers completed items on the Counseling Acceptability and Counseling Feasibility subscales of the AKOS-R (see Table 1). When compared to normative scores on the Counseling Acceptability ($M=37.1$, $SD= 7.1$) and the Counseling Feasibility ($M=14.9$, $SD=4.4$) subscales (Bennett et al., 1996), participant scores indicated that parents were ready to commit to the program, and the program was a feasible option at the time.

Table 1

Parents' Scores on the Counseling Acceptability and Counseling Feasibility Subscales of the Attention-Deficit/Hyperactivity Disorder Knowledge and Opinion Scale- Revised (AKOS-R)

Rater	Counseling Acceptability	Counseling Feasibility
David	35	12
Mark	43	16
Terri	43	17
Wayne	35	20

Note. The mean score for mothers on the Counseling Acceptability subscale is 37.1 (SD=7.1). The mean score for mothers on the Counseling Feasibility subscale is 14.9 (SD=4.4). Low scores (i.e., a standard deviation below the mean) either indicate that a parent is not ready to commit to the program (i.e., Counseling Acceptability), or it is not a feasible option at this time (i.e., Counseling Feasibility).

Homework Productivity, Accuracy, and Efficiency

Homework Problem Checklist (HPC)

Visual analyses on the HPC demonstrated observable improvement (i.e., lower scores) from the baseline to treatment phase for all participants (see Figure 1; refer to Appendix E for HPC raw scores graphed by factor). Specifically, changes in means (see Table 2), slope (i.e., presence of a downward trend), and level from baseline to treatment displayed positive changes across participants. Positive changes were also observed across participants when the last baseline data point was compared to the first treatment data point. The latency of change appeared short and incremental, as scores for the most part appeared to improve over time. Furthermore, three out of the four participants (i.e., David, Terri, and Wayne) had no overlapping data points between baseline and treatment, which indicates that scores during the treatment phase never reached the severity of scores during the baseline phase. At post-treatment, the same three participants' scores fell below the mean. Although Mark's mother's last rating did not fall below the mean at post-treatment, it fell within one standard deviation of the mean. Follow-up data, which

was available for three out of the four participants, revealed maintenance of treatment gains. Follow-up data on Wayne was not available due to the summer holiday.

Figure 1. Parents' Scores on the Homework Problem Checklist (HPC).

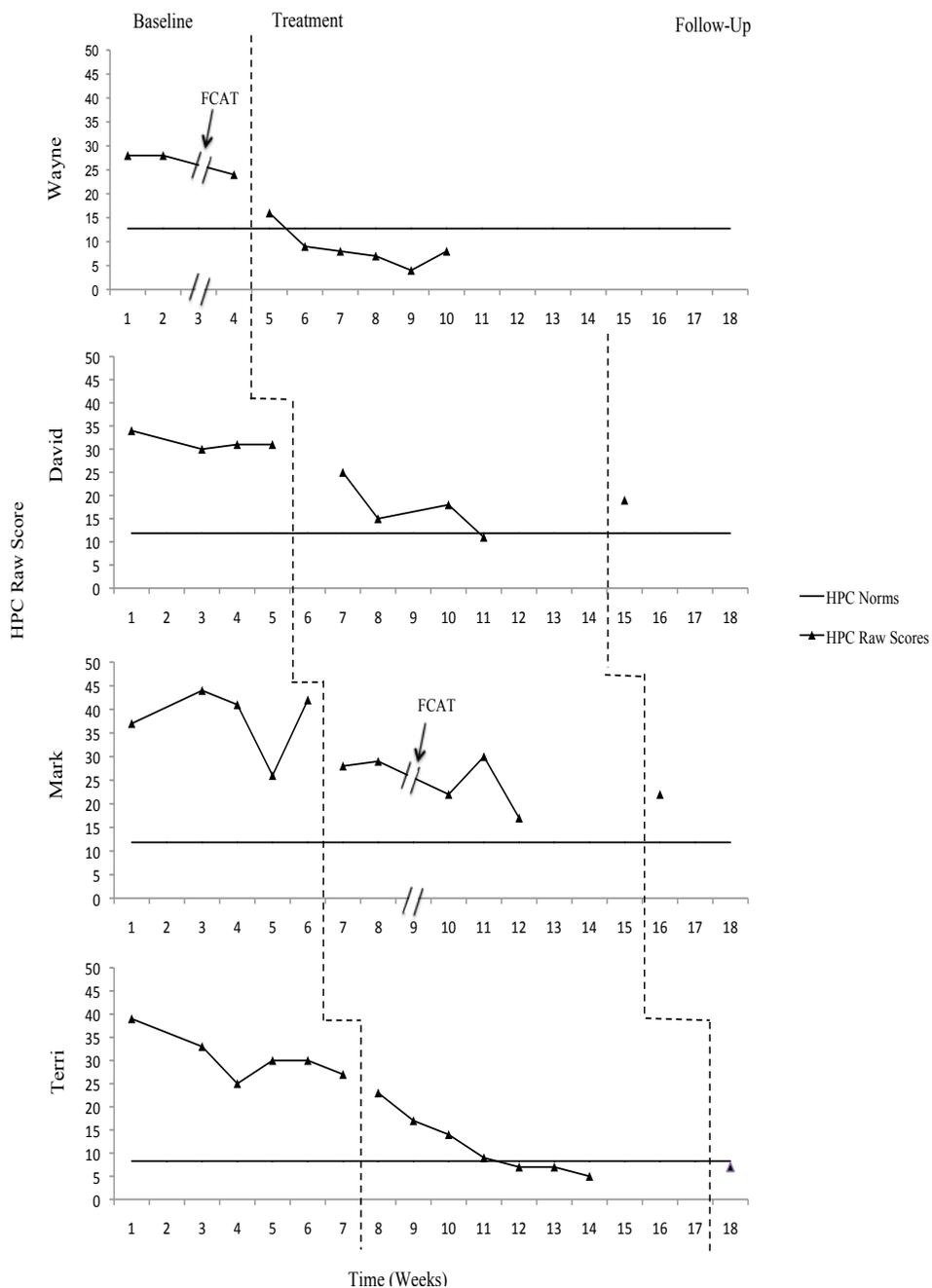


Table 2

Means and Standard Deviations for Parent Ratings on the Homework Problem Checklist

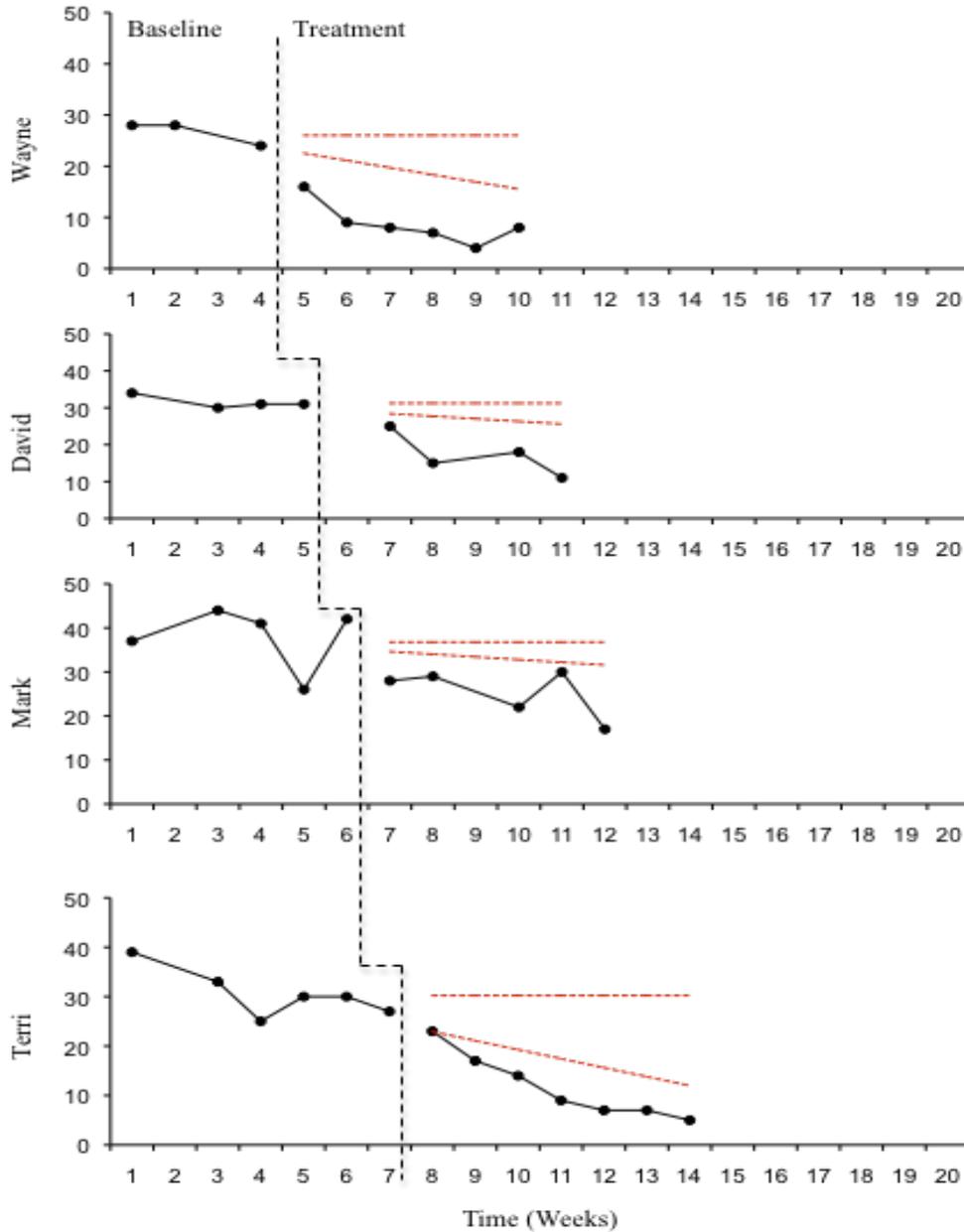
Participant	HPC Overall Score		HPC Factor I Score		HPC Factor II Score	
	BL	Tx	BL	Tx	BL	Tx
Wayne	27(2.3)	9(4.0)	25(1.5)	7.3(4.6)	2(1.0)	1(1.0)
David	32(1.7)	17(5.9)	23(2.2)	13(3.8)	7(1.4)	4(2.4)
Mark	38(7.2)	25(5.5)	30(6.2)	22(4.7)	7(1.1)	3(1.3)
Terri	31(4.9)	12(6.6)	28(2.9)	11(6.2)	2(2.0)	0(0.0)

Note. BL= Baseline; Tx=Treatment. The table is comprised of the means and standard deviations of the total and factor scores on the HPC across time. The score for Factor I (Inattention/Avoidance of Homework) was derived by adding the responses for items 5-12 and 14-17, while the score for factor II (Poor Productivity/Nonadherence with Homework Rules) was derived by adding the responses for items 1-4, 13, and 19-20 (Power et al., 2006).

As a supplement to the visual analyses results above, the conservative dual-criterion (CDC) method (Fisher, Kelley, & Lomas, 2003), a refinement of the split-middle (SM) method (Kazdin, 1982), was used. In this method, the researcher calculates the mean line based on baseline data and superimposes it over the subsequent data path. Then, the researcher calculates the trend line based on baseline data using the SM method, which also becomes superimposed on the treatment data. The height of these two lines is raised by 0.25 standard deviations to help control the Type I error rate and provide a more conservative method to analyze the data. A “prespecified” number of treatment data points (based on the binomial test, as with the SM method) should fall above (or below) both the mean and trend lines to assert a positive treatment effect (i.e., 8 out of 10; refer to Appendix F for critical values). Participant data were entered into the Excel spreadsheet created by Fisher et al. This spreadsheet generates the graph with the criterion lines and calculates the number of treatment points, the number that fall above (or below) both lines, and the number needed to be above (or below) both lines to conclude an effect (see Figure 2). Results indicated that systematic changes occurred

from baseline to treatment for all participants. It is important to note that the number of treatment points and number needed to be above (or below) both lines to conclude an effect begin at 5 points; thus, although all four data points for David during treatment fell below both lines, results for David should be interpreted with caution.

Figure 2. Parents' Scores on the HPC using the Conservative Dual-Criterion Method.



Homework Performance Questionnaire (HPQ), Parent and Teacher Scales

HPQ, Parent Scales. Parents completed the HPQ upon intake to the Clinic, at the first treatment session, at the final treatment session, and at the one-month follow-up. Regarding the additional items used to gather background information about a child's homework behavior (Part A), David's mother indicated that at pre-treatment, David spent an average of 1 to 1 ½ hours doing homework each day, had difficulty completing math homework, and was expected to write homework assignments in a notebook. If he could not remember what to do for homework, then his mother checked his planner and the school or teacher website that posts homework assignments. David spent an average of 45 minutes doing homework each day at post-treatment, while he spent an average of an hour doing homework each day at follow-up. Regarding David's homework behavior (Part B), David's mother's mean score improved from baseline to post-treatment (see Table 3). Her mean score showed continued improvement at follow-up as compared with her scores at baseline and pre-treatment. No additional comments about the David's homework performance were noted (Part C).

At pre-treatment, Mark's mother reported that Mark spent an average of 1 hour doing homework each day ("does not include 20 minutes of reading, which he usually does not do"), had difficulty completing math homework, and was not expected to write homework assignments in a notebook. If he could not remember what to do for homework, then his mother either did nothing or emailed the teacher. At post-treatment, Mark spent an average of 45 minutes doing homework each day, was expected to write homework assignments in a notebook, and always remembered what to do for homework (i.e., no need to email the teacher). At follow-up, Mark's mother indicated that she

emailed the teacher if Mark could not remember what to do for homework. Regarding Mark's homework behavior (Part B), Mark's mother's mean score improved from baseline to post-treatment (see Table 3). Her mean score showed continued improvement at follow-up. Mark's mother provided feedback about Mark's homework performance (Part C) upon intake to the Clinic and at the end of treatment. When she first arrived, she reported that Mark did not have a quiet place to do homework, and there were usually numerous distractions when she helped him with homework (on the HSPES at the one-month follow-up, she indicated that establishing the homework routine was helpful). At the end of treatment, Mark's mother reported that math was the subject where she noticed most of his homework difficulties.

At pre-treatment, Terri's mother indicated that Terri spent an average of 2 to 2 ½ hours doing homework each day, had difficulty completing math homework (but completed it), and was expected to write homework assignments in a notebook. If she could not remember what to do for homework, then she called a classmate, checked the school or teacher website that posted homework assignments, and printed pages from online. At post-treatment and the one-month follow-up, Terri spent an average of 1 hour doing homework each day. Regarding Terri's homework behavior (Part B), Terri's mother's mean score improved from baseline to post-treatment (see Table 3). Her mean score showed continued improvement at follow-up.

Terri's mother provided feedback about Terri's homework performance (Part C) at pre-treatment, post-treatment, and the one-month follow-up. At pre-treatment, she reported that Terri fidgeted, got up from her seat often, daydreamed, and had a need to erase and re-write legible homework, which caused much delay. Also, the math she was

learning got more difficult leading to longer sitting periods during math homework. At post-treatment, her mother indicated that Terri had become “100% more efficient with her time.” The reward system and the fact that her mother was not available to help with her homework after the 1-hour time limit motivated her to finish her work. Terri’s mother further reported, “She is a different kid at homework time now.” At the one-month follow-up, Terri’s mother stated, “We have a real routine now. It is effective and efficient. And, most notably, its duration is about half that of our homework sessions when we first began the program.”

At pre-treatment, Wayne’s mother reported that Wayne spent an average of 2 to 2 ½ hours doing homework each day, had difficulty completing homework in reading, and was expected to write homework assignments in a notebook. If he could not remember what to do for homework, then he called a classmate. At post-treatment, Wayne spent an average of 1 hour doing homework each day, did not have difficulty completing homework in any subjects, and always remembered what to do for homework. Regarding Wayne’s homework behavior (Part B), Wayne’s mother’s mean score was stable throughout treatment (see Table 3).

Wayne’s mother provided feedback about Wayne’s homework performance (Part C) at pre- and post-treatment. Upon enrollment, she indicated that if extra homework was assigned (i.e., incomplete classwork), Wayne became “more frustrated and tired as homework time increased beyond 2 hours.” Further, she reported that when unable to answer a question, Wayne would “wait a long time or daydream until either finally answering or myself noticing.” At post-treatment, Wayne’s mother reported that Wayne worked more independently, and he only asked for help if he was “confused or

unconfident.” She further mentioned that he could “still daydream, but much less than before.”

Table 3

Means and Standard Deviations for Parent Ratings on the Homework Performance Questionnaire (HPQ)

Rater	Baseline M(SD)	Pre-Treatment M(SD)	Post-Treatment M(SD)	1-Mo. M(SD)
Wayne	1.97(1.05)	2.13(1.06)	2.13(1.06)	
David	1.61(0.80)	1.68(0.91)	1.90(0.87)	1.77(0.72)
Mark	1.68(1.05)	1.71(1.07)	1.90(1.14)	2.03(1.14)
Terri	1.90(1.12)	2.10(1.01)	2.13(1.02)	2.19(0.91)

Note. Mother’s scores reflect their average item ratings on Part B of the measure (i.e., homework-related behavior). Ratings ranged from 0 (Rarely/Never) to 3 (Always/Almost Always).

HPQ, Teacher Scales. All teachers completed the HPQ at baseline, at the initial parent-teacher conference in between sessions 1 and 2, at the end of treatment, and at the one-month follow-up. Regarding the additional items used to gather background information about a child’s homework behavior and performance (Part A), David’s teacher indicated the following at baseline and at the initial parent-teacher conference: children in his grade should spend a maximum of 45 minutes completing homework each day; she checked everyday to make sure he wrote down homework assignments accurately; she checked once or twice per week to see that he took home the books and materials needed for homework; she checked 3 to 4 times per week to see that homework had been completed accurately; and 21-30% of his grade was affected by the amount or quality of homework completed. At post-treatment and follow-up, the above information that changed is as follows: the teacher checked once or twice per week to see that homework had been completed accurately, and 41-50% of his grade was affected by the amount or quality of homework completed.

Regarding David's homework-related behavior and homework performance (Parts B and C), David's teacher's mean score improved from baseline to post-treatment (see Table 4). Her mean score was maintained at follow-up. Further, David's teacher wrote additional comments about his homework performance (Part D) at the initial parent-teacher conference. She mentioned that David had particular difficulty with math. She indicated that he could verbally go through the steps of a problem, but struggled to complete a similar problem independently. Anecdotally, throughout the parent-teacher conferences that occurred as treatment progressed, David's teacher stated that David seemed to be better with turning in the homework and being more aware of it, although it was still a concern.

At baseline, Mark's teacher indicated the following: children in his grade should spend a maximum of 1 hour completing homework each day; she never or rarely checked to make sure he wrote down homework assignments accurately or took home the books and materials needed for homework; she checked 3 to 4 times per week to see that homework had been completed accurately; and 11-20% of his grade was affected by the amount or quality of homework completed. By the initial parent-teacher conference (by the second session), Mark's teacher checked everyday to make sure he wrote down homework assignments accurately and to see that homework has been completed accurately. Additionally, 21-30% of his grade was affected by the amount or quality of homework completed. At post-treatment, his teacher checked 3 to 4 times per week to see that homework had been completed accurately, and 11-20% of his grade was affected by the amount or quality of homework completed. At follow-up, she checked 3 to 4 times

per week to make sure he wrote down homework assignments accurately, and 21-30% of his grade was affected by the amount or quality of homework completed.

Regarding Mark's homework-related behavior and homework performance (Parts B and C), Mark's teacher's mean score improved from baseline to post-treatment (see Table 4), but decreased at follow-up. Further, Mark's teacher wrote additional comments about his homework performance (Part D) at baseline, at the initial parent-teacher conference, and at the end of treatment. At baseline, she reported that Mark was able to complete his daily reading and spelling homework independently. She mentioned that his spelling often appeared "sloppy and rushed," and math homework was most likely a greater challenge for him, as he often struggles with organizing his thoughts and using strategies to compute math problems. At the initial parent-teacher conference, she reported that Mark often struggled to remain focused and on-task, and math homework appeared to be a great struggle for him because of this. At post-treatment, she expressed that Mark had difficulty completing tasks independently in the classroom, especially in math. Anecdotally, throughout the parent-teacher conferences that occurred as treatment progressed, Mark's teacher noticed that he had been getting more homework completed on time, which she attributed to Mark consistently completing his planner and having her sign it. She also mentioned that Mark needed regular reminders to help him stay on-task and write in his planner, and expressed concern that his teachers next year may not provide this additional level of support.

At baseline, Terri's teacher indicated the following: children in her grade should spend a maximum of 30 minutes completing homework each day; she checked once per week to make sure she wrote down homework assignments accurately (the whole week's

work assignments were written down and checked on Mondays); she checked everyday to determine if homework had been completed accurately and to ensure that she had the necessary books and materials for homework; and 1-5% of her grade was affected by the amount or quality of homework completed. By the initial parent-teacher conference, she reported that children in her grade should spend a maximum of 45 minutes completing homework each day. At post-treatment, 6-10% of Terri's grade was affected by the amount or quality of homework completed, while 1-5% of her grade was affected at the one-month follow-up.

Regarding Terri's homework-related behavior and homework performance (Parts B and C), Terri's teacher's mean score improved from baseline to post-treatment (see Table 4). Her mean score decreased slightly at follow-up. Terri's teacher did not provide additional comments about her homework performance (Part D). Anecdotally, throughout the parent-teacher conferences that occurred as treatment progressed, Terri's teacher stated that she noticed less incomplete classwork. She indicated that Terri may struggle to finish her work, but gets it done "when it is crunch time." Terri's teacher indicated that Terri was more on-task, although "staying focused" was still a problem.

At baseline, Wayne's teacher indicated the following: spelling and math homework should take 30 minutes, reading passages should take an additional 20 minutes, and a current event should take an extra 20 minutes; she checked once or twice per week to make sure he wrote down homework assignments accurately; she never or rarely checked to see that he took home the books and materials needed for homework, as she gave a verbal reminder; she checked 3 to 4 times per week to everyday (depending on the week) to see that homework had been completed accurately; and 6 to 10% of his

grade was affected by the amount or quality of homework completed (this depended on the subject and time of year). By the initial parent-teacher conference, she reported that children in his grade should spend a maximum of 45 minutes completing homework each day; she checked less than once per week to make sure he wrote down homework assignments accurately; and 11 to 20% of his grade was affected by the amount or quality of homework completed. At post-treatment, 21 to 30% of his grade was affected by the amount or quality of homework completed.

Further, regarding Wayne's homework-related behavior and homework performance (Parts B and C), his teacher's mean score decreased slightly from baseline to post-treatment (see Table 4). Wayne's teacher did not provide additional comments about his homework performance (Part D). Anecdotally, throughout the parent-teacher conferences that occurred as treatment progressed, Wayne's teacher stated that Wayne completed his work faster and was not as distracted as he used to be.

In sum, teachers' perceptions of their student's homework-related behavior and homework performance (i.e., Part B and C of the HPQ-TS) revealed no significant changes across time.

Table 4

Means and Standard Deviations for Teacher Ratings on the Homework Performance Questionnaire (HPQ)

Rater	Baseline M(SD)	Between Sessions 1&2 M(SD)	Post-Treatment M(SD)	1-Mo. M(SD)
Wayne	3.45(1.01)	3.27(1.28)	3.25(0.89)	
David	2.21 (0.97)	2.43(0.94)	2.64(1.15)	2.64(1.01)
Mark	2.21(1.37)	2.00(0.78)	2.79(0.97)	1.93(0.83)
Terri	3.71(0.47)	3.79(0.80)	3.79(0.43)	3.64(0.63)

Note. Teacher's scores reflect their average item ratings on Part B and C of the measure (i.e., homework-related behavior and homework performance). Ratings ranged from 0 (0% to 39% of the time) to 4 (90% to 100% of the time).

Parent-Reported Daily Homework Logs

All parent participants completed daily homework logs each week during baseline and treatment (see Figures 3a, 3b, and 3c). Regarding rates of homework completion, accuracy, and time, families presented with different homework-related concerns. For two families (i.e., Wayne and Terri), the amount of time it took to do homework each night was a primary concern. For the other two families (i.e., David and Mark), rates of completion and accuracy were primary concerns.

For Wayne, changes in mean from baseline to treatment displayed positive changes (i.e., baseline mean= 146 minutes; treatment mean= 90 minutes). Wayne's baseline scores displayed a downward trend. It is important to note that during week 2, Wayne took the Florida Comprehensive Assessment Test (FCAT) and did not have homework. Thus, baseline data were not collected for that week. Further, during week 3, Wayne had three days of homework, as he had no homework on Thursday and no school on Friday. As he had three days of homework, baseline data were collected. It is a possibility that the downward data point could be a function of not only a shortened week, but also a lessened homework load, as it took place the week after testing. Regarding changes in level, there is not a positive change from the last day of baseline to the first day of intervention. As a possible explanation, during the first session, there was a discussion about limiting time spent on homework. In this discussion, Wayne's mother was asked to only provide assistance during the allotted time; however, Wayne was informed that he could continue working after this limit without assistance. After reviewing the data on the amount of time Wayne was spending on homework per night that week, Wayne's mother decided it was best to allow Wayne to complete his

homework within the time limit only. Thus, by the next session and throughout treatment, one can see that time spent on homework each night decreased. Also, his homework efficiency improved, as he still completed all of his homework within the time limit and did so with accuracy. Regarding the latency of change, the intervention produced changes in performance after the second session, where the discussion of only completing homework during the time limit occurred.

For Terri, changes in mean (i.e., baseline mean including week of school play= 97 minutes; baseline mean excluding week of school play= 109 minutes; treatment mean taking into account Terri's fever and made up classwork that became homework= 69 minutes; treatment mean involving solely homework without made up classwork= 61 minutes), slope, and level from baseline to treatment reflected positive changes. There was one downward spike in the baseline phase during week 3 in time spent on homework per night; however, this was due to a decrease in assigned homework due to the play at the end of the week. For instance, only minimal math homework was assigned. Additionally, there is an upward spike during treatment (i.e., week 11), as she had a fever at the beginning of the week and had to make up homework and classwork assignments. On the daily homework log, Terri's mother separated Terri's homework assignments from her homework assignments with made up classwork assignments. It took Terri an average of 89 minutes per night to complete the homework and classwork assignments for the week; however, if one considers only how long it took her to complete homework assignments, it would have taken her 36 minutes per night. Latency of change appeared incremental, with the exception of when Terri had a fever. Terri's mother wrote notes on the daily homework logs, and her notes indicated that during baseline, homework was

generally “long and stressful.” After the initial session, where placing time limits on homework was discussed, Terri’s mother noticed “a big difference” after she limited her involvement during homework to an hour. She also observed that Terri began prioritizing her work by starting with the more difficult homework first, as she could only be able to access her mother’s help during this hour.

On average, visual analyses on the parent-reported daily homework log for Mark demonstrated observable changes in mean and slope from the baseline to treatment phase for homework completion rates, with the exception of week 11 when there were holidays at the beginning and end of the week (baseline mean= 58% completion; treatment mean including week 11= 74% completion; treatment mean excluding week 11=80% completion). Regarding changes in level, the data were fairly stable from the last day of baseline to the first day of treatment. Regarding the latency of change, increases in completion rates were noticeable after the second session (i.e., week 8), with the exception of week 11. Rates of accuracy appeared stable throughout baseline and treatment (baseline mean=86% accuracy; treatment mean including week 11=80% accuracy; treatment mean excluding week 11=88% accuracy).

For David, changes in mean from baseline to treatment in regards to homework completion rates reflected positive changes (i.e., baseline mean for completion= 93%; treatment mean for completion=100%). However, there were no positive changes in slope, level, or latency of change for homework completion rates from baseline to treatment. Further, visual analyses revealed changes in level for parent-reported accuracy rates; however, no apparent changes in mean (baseline mean for accuracy=81%; treatment mean for accuracy=82%), slope, and latency of the change were observed. It is

important to note that there is no accuracy data point for the last week of treatment, as graded homework was completed at school, and the work that he did at home included reviewing work, studying, and working on a book report.

Figure 3a. Parent-Reported Rates of Homework Completion, Accuracy, and Time on the Daily Homework Logs.

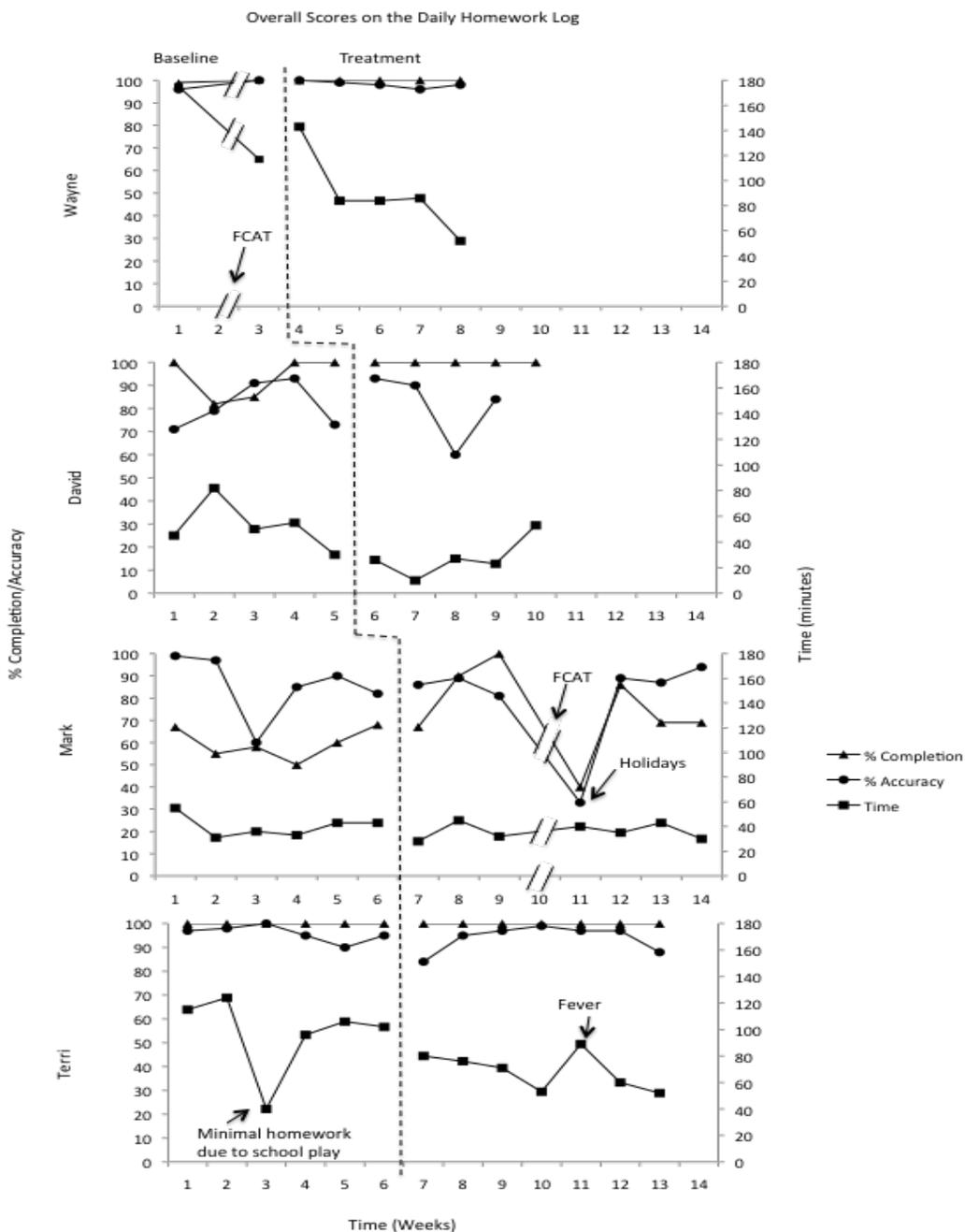


Figure 3b. Parent-Reported Rates of Homework Completion and Accuracy on the Daily Homework Logs.

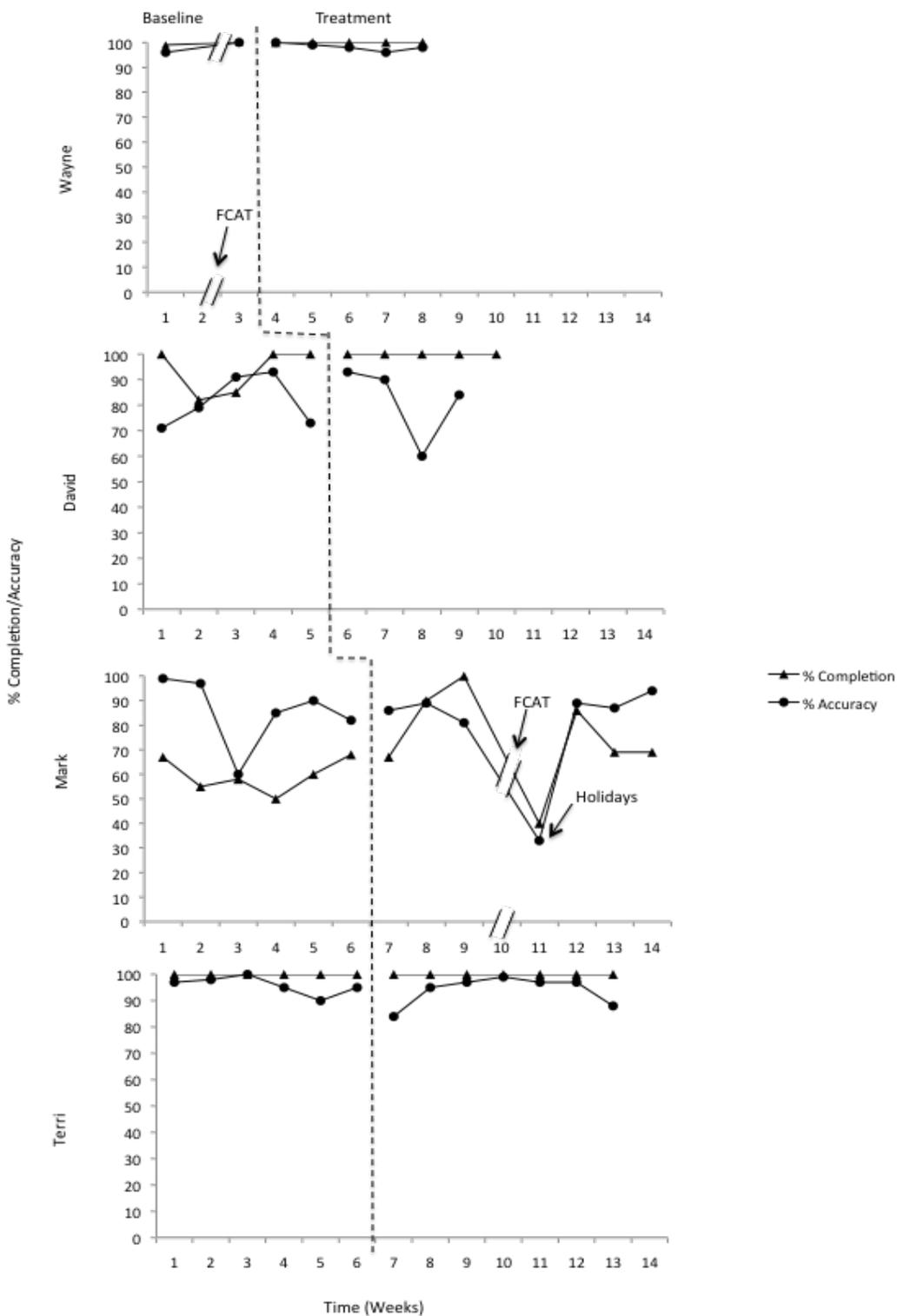
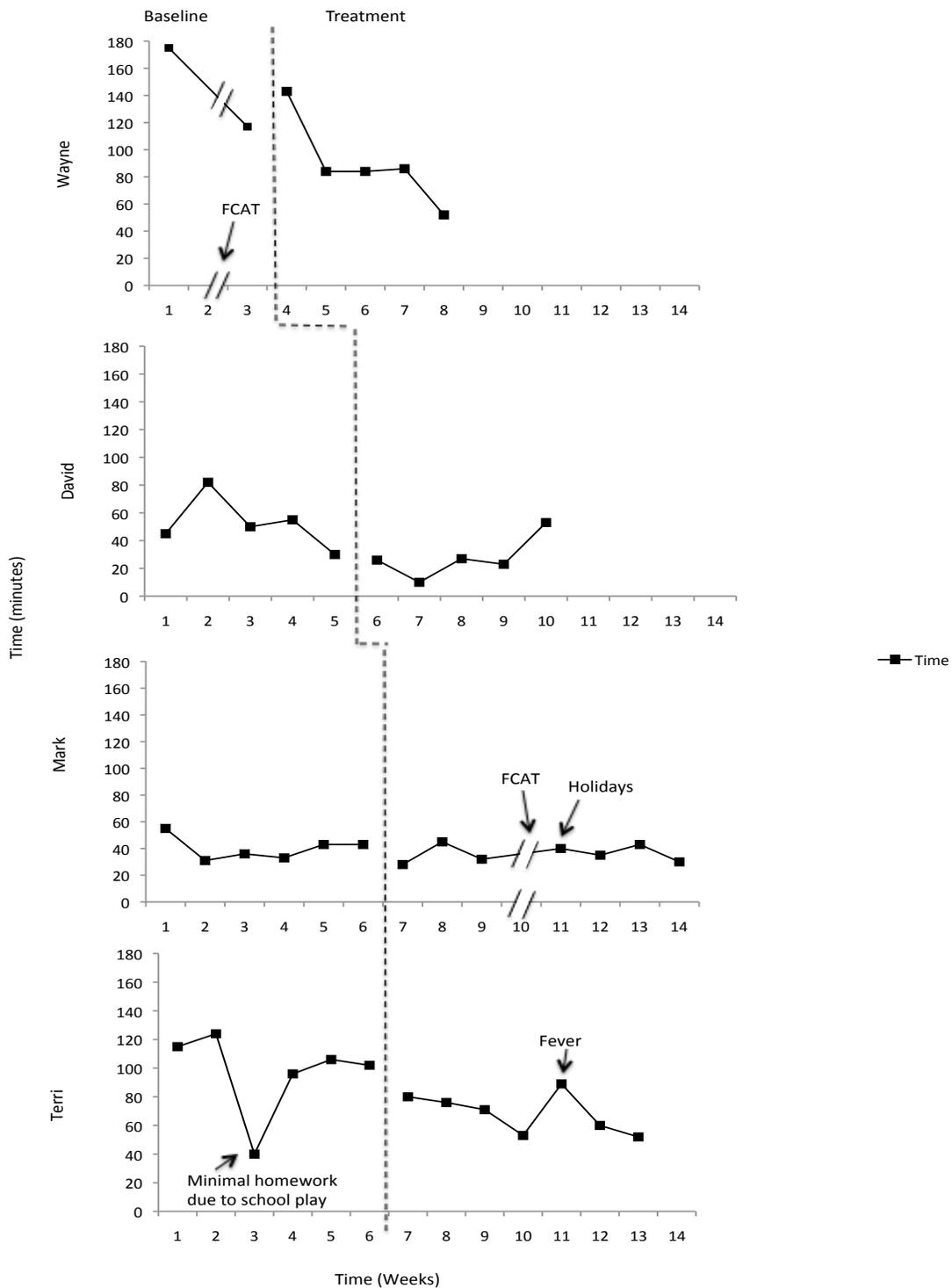


Figure 3c. Parent-Reported Homework Completion Time on the Daily Homework Logs.



The conservative dual-criterion (CDC) method (Fisher et al., 2003) was used to supplement to the visual analyses results above (see Figures 4a, 4b, 4c, and 4d). Please note that these graphs represent each participant's presenting concerns (i.e., time spent on homework for Wayne and Terri and completion and accuracy rates for Mark and David). Results for Wayne indicated changes in mean, but not trend, for time spent on homework each night from baseline to treatment (refer to Figure 4a). Results for Terri indicated that systematic changes in mean and trend occurred for time spent on homework each night from baseline to treatment (refer to Figure 4b). Results for David indicated changes in mean, but not trend, for homework completion rates from baseline to treatment, and insufficient evidence of systematic changes in homework accuracy rates from baseline to treatment (refer to Figure 4c). Again, it is important to note that as David has less than five data points during treatment for homework accuracy, results should be interpreted with caution. Results for Mark indicated that systematic changes in mean and trend occurred for homework completion rates, but not for accuracy from baseline to treatment (refer to Figure 4d).

Figure 4a. Wayne's Homework Completion Time on the Parent-Reported Daily Homework Log using the Conservative Dual-Criterion Method.

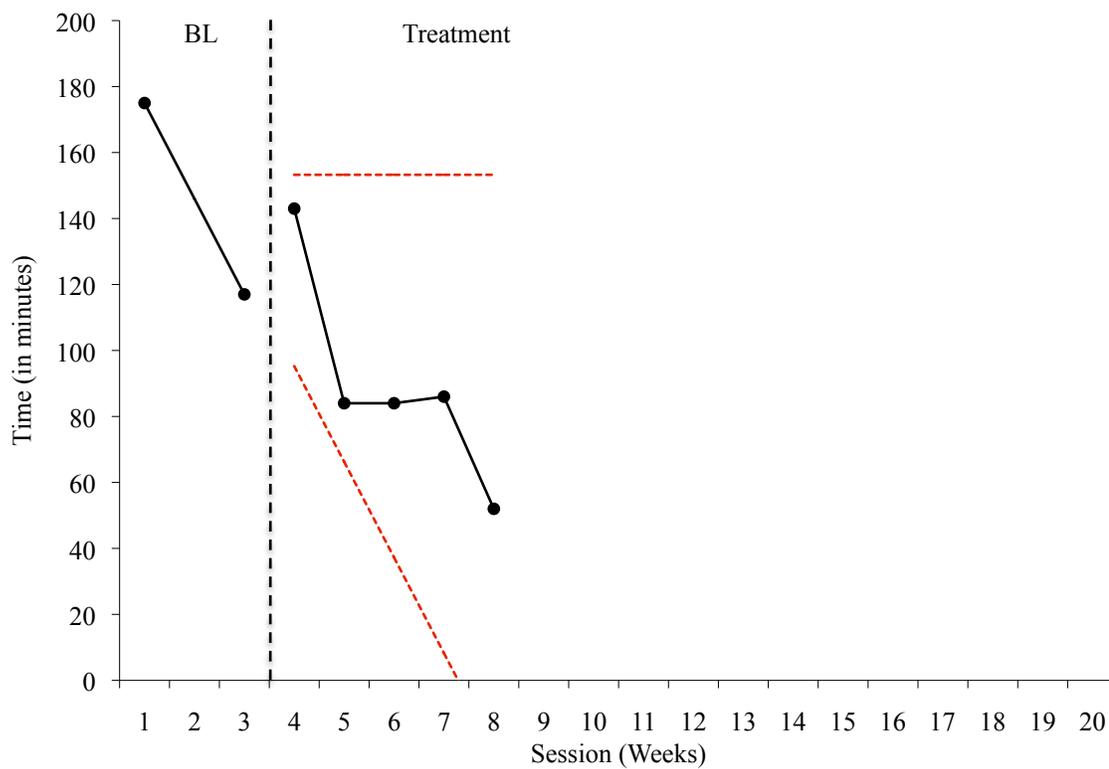


Figure 4b. Terri's Homework Completion Time on the Parent-Reported Daily Homework Log using the Conservative Dual-Criterion Method.

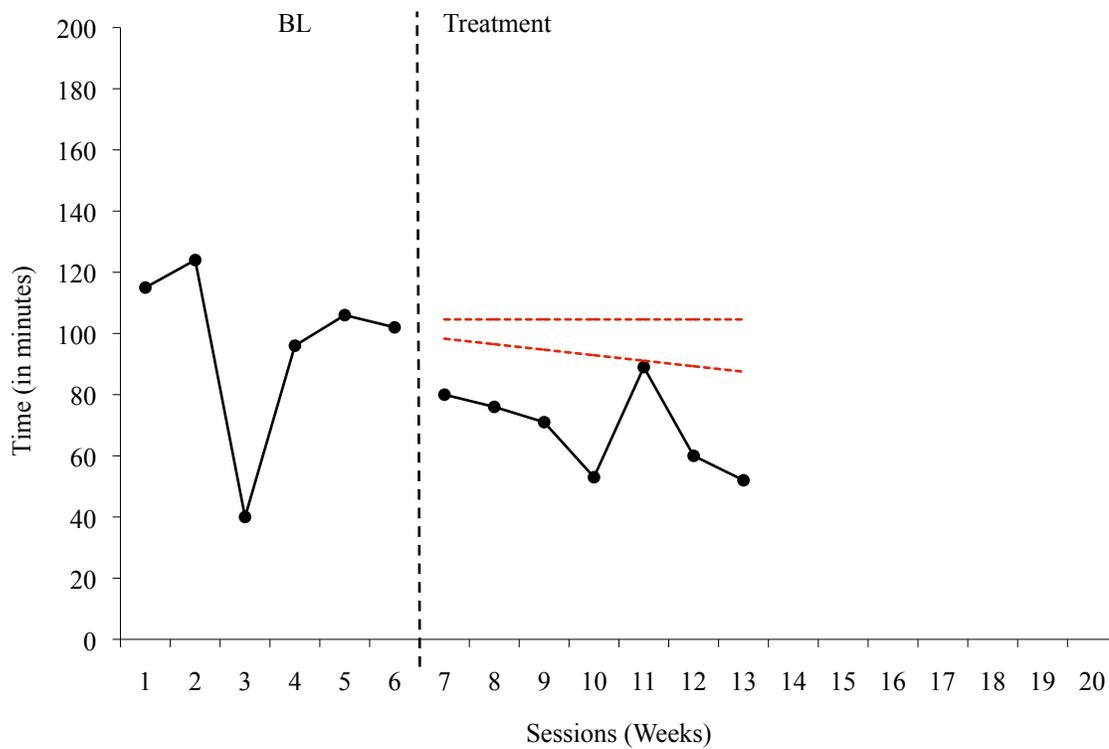


Figure 4c. David's Rates of Homework Completion and Accuracy on the Parent-Reported Daily Homework Logs using the Conservative Dual-Criterion Method.

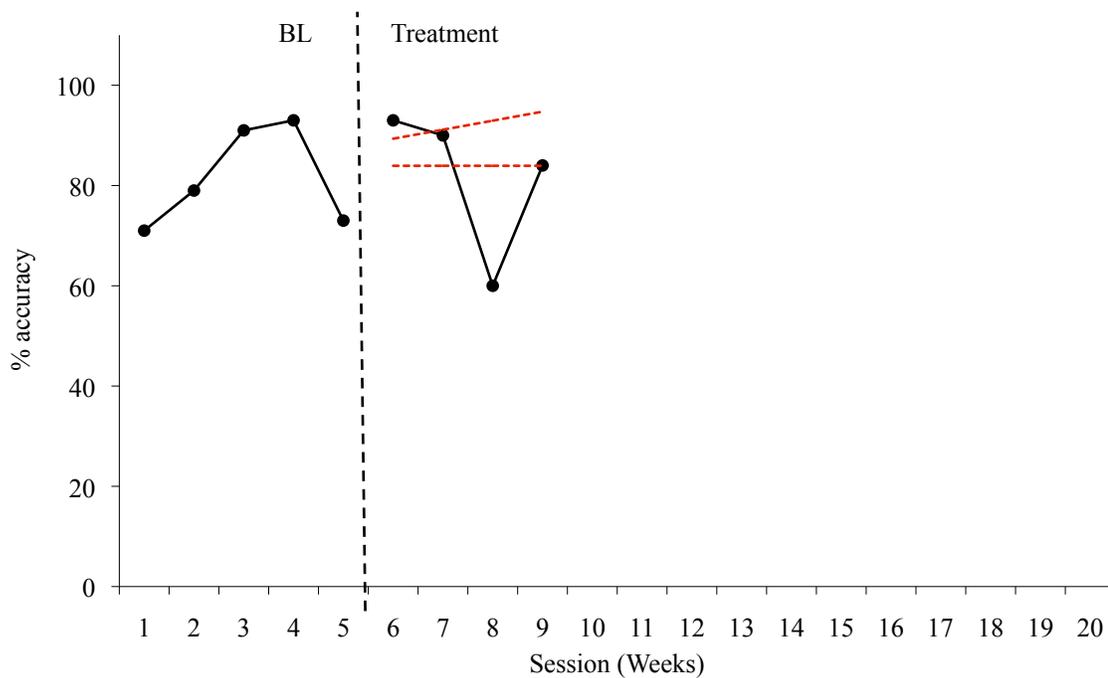
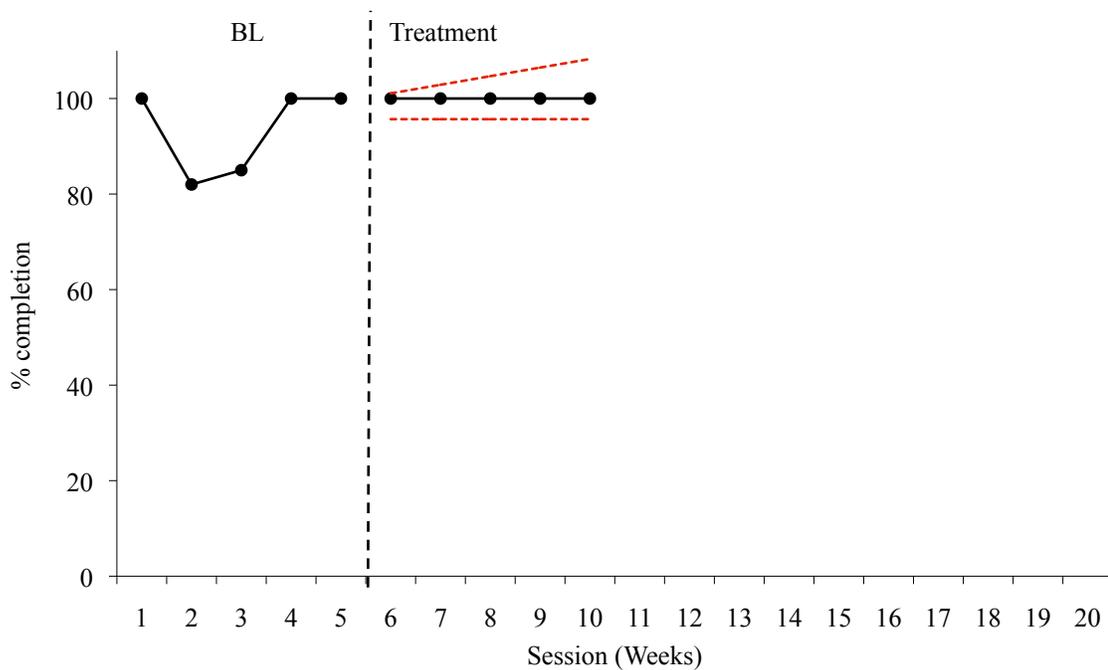
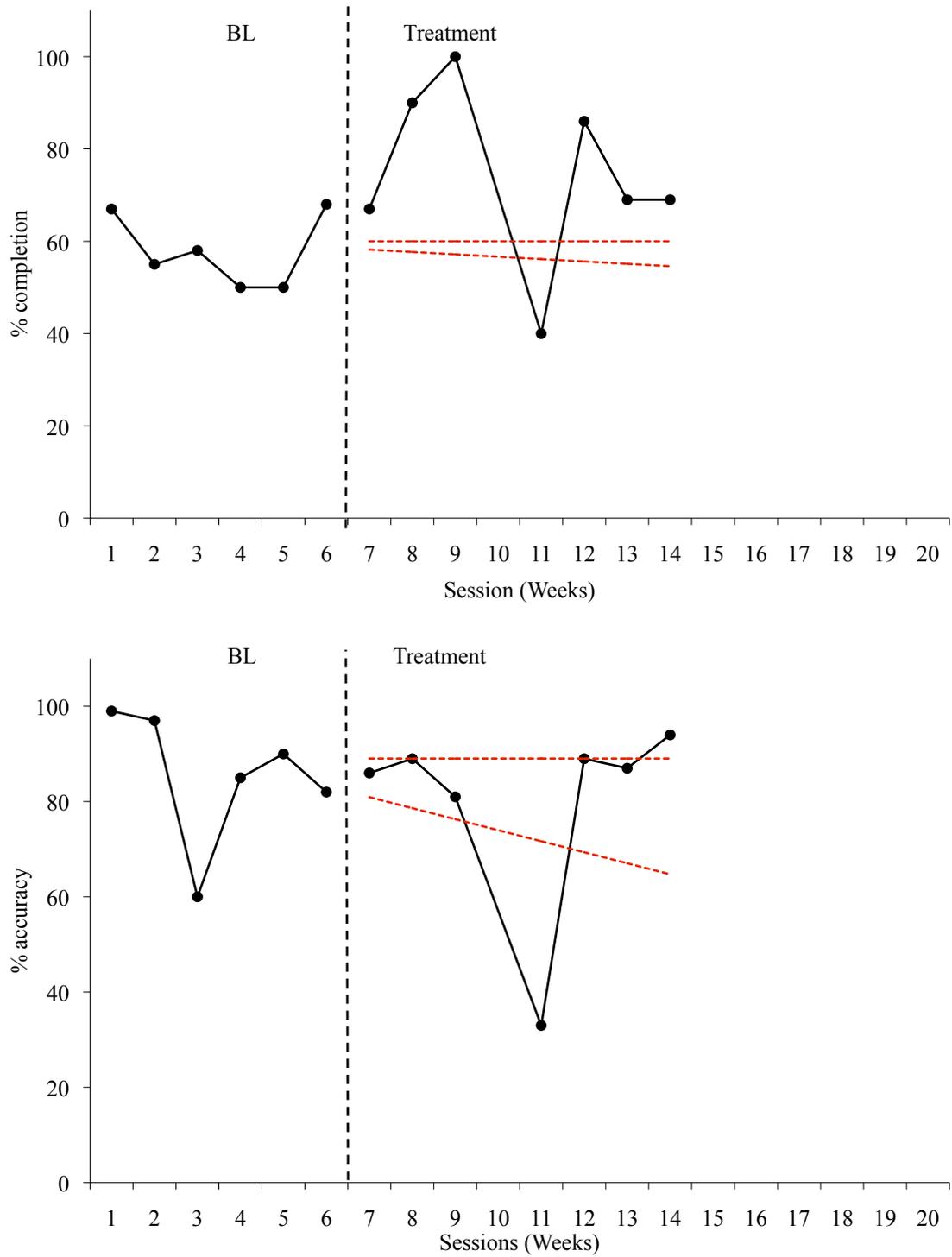


Figure 4d. Mark's Rates of Homework Completion and Accuracy on the Parent-Reported Daily Homework Logs using the Conservative Dual-Criterion Method.



Teacher Logs of Homework Performance

Teacher grade book data was collected on a weekly basis in person, via email, or from parents who received this information from the teacher in an envelope. Teacher logs of homework performance included rates of homework completion and accuracy. Again, for Wayne and Terri, the amount of time it took to do homework each night was a primary concern. Thus, for these families, it is important to note whether or not homework completion and accuracy rates remained high as homework time decreased (timing information can be found on the parent daily homework logs), which would be suggestive of improved efficiency. For one participant (i.e., Terri), numbers that represented narrative descriptions were employed instead of grades; thus, comparable quantitative data could not be obtained for this participant. Regardless, Terri's teachers' records indicated that she consistently completed her homework (which her mother made sure she did) and generally received "mastery" grades each week (i.e., the highest grade is a "1," which refers to "mastering skills independently").

Refer to Figure 5 for teacher logs of homework performance for Wayne, Mark, and David. These logs were graphed by week so that they may be compared to parent-reported daily homework logs. On average, teacher logs of homework completion and accuracy rates for Wayne appear fairly high and stable from baseline to treatment (baseline mean for homework completion=100%; treatment mean for homework completion=97%; baseline mean for homework accuracy=94%; treatment mean for homework accuracy=90%). The slight drop in the homework completion rate for Week 6 reflects one missed math assignment due at the end of the week on a day that Wayne missed school, as he was sick. The same drop is not observed on his mother's daily

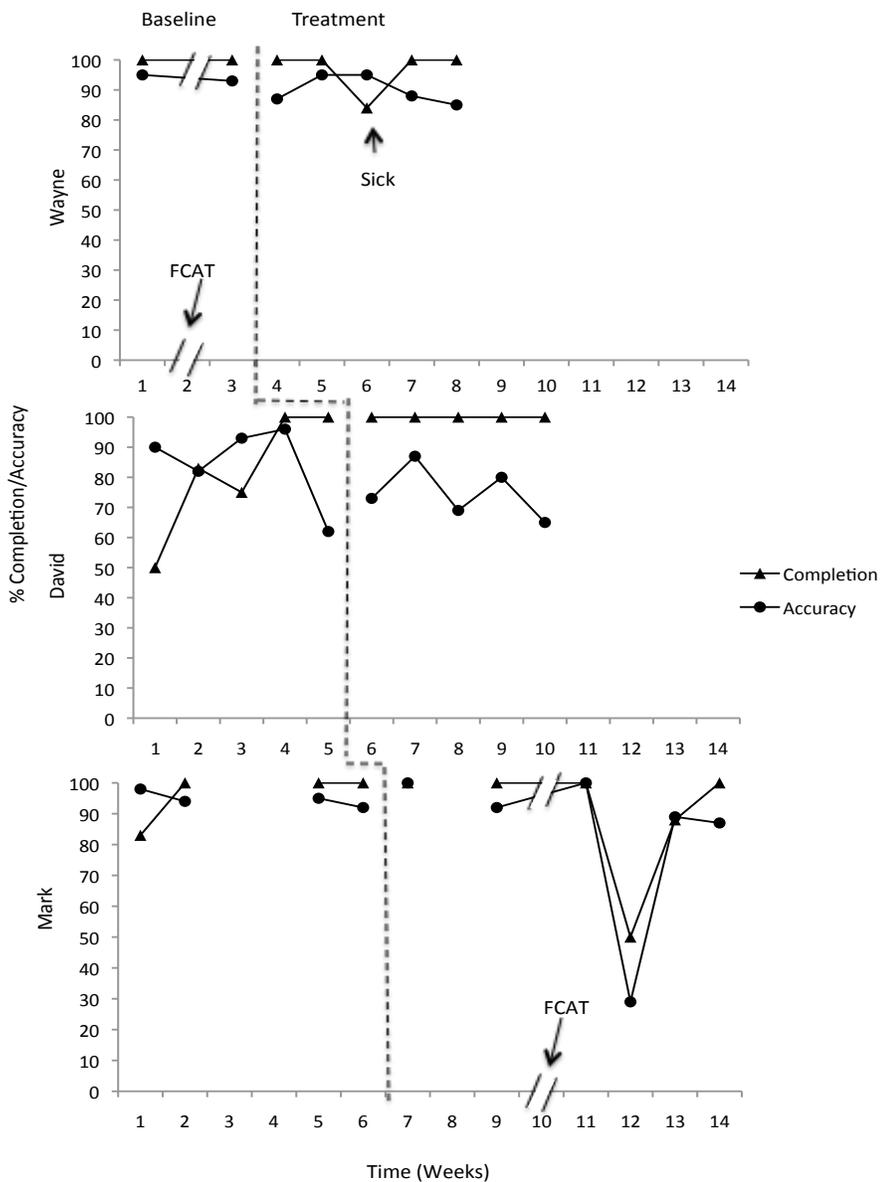
homework log, as she logged assigned homework due throughout the week, with the exception of when he fell ill.

Teacher logs of homework performance for Mark reveal high levels of completion, with the exception of Week 12 (this was the week after the holidays, but some assignments from the previous week were graded during this week). Regarding homework completion, Mark had a baseline mean of 96% and a treatment mean of 90% (the treatment mean excluding week 12 would have been 98%). Regarding homework accuracy, Mark had a baseline mean of 95% and a treatment mean of 83% (the treatment mean excluding week 12 would have been 94%). It is important to note that Mark's teacher did not grade each homework assignment. Some homework assignments were assigned to reinforce skills throughout the day, and did not factor into his overall grade. Therefore, when comparing parent-reported daily homework logs to teacher-reported logs of homework performance, differences are noted. In particular, homework completion and accuracy rates are higher for teacher-reported data. It is also important to note that the gaps in the data are not due to missing grade book data; instead, they reflect the amount of homework (or lack thereof) that was recorded in the grade book.

On average, teacher-reported homework completion rates for David at baseline (mean=82%) appear more variable and lower than parent-reported daily homework logs. During treatment, completion rates on both parent-reported and teacher-reported homework logs remain consistently at 100%. Regarding homework accuracy, David had a baseline mean of 85% and a treatment mean of 75%. Teacher-reported homework accuracy rates for David indicate that accuracy rates began to trend downward toward the end of baseline. Teacher-reported accuracy rates were variable throughout treatment, but

remained higher than the last baseline point. It is important to note that as completion rates remained at 100% during the treatment phase (and more material was being turned in), there was more material to be graded and more opportunity for graded assignments to range in difficulty level.

Figure 5. Teacher Logs of Homework Performance.



Measure of Academic Functioning

Teacher Logs of Academic Performance

Teacher grade book data consisted of records of student performance on classwork assignments, tests, and quizzes (see Table 5). Wayne's classwork and test/quiz scores appeared quite stable across baseline and treatment. Mark's classwork and test/quiz scores generally appeared to deteriorate from baseline to treatment. During post-treatment, his classwork scores remained stable, but his test/quiz scores returned back to baseline levels. David's classwork scores remained fairly stable across baseline and treatment. His test/quiz scores increased from baseline to treatment, but then returned back to baseline levels at post-treatment. Regarding Terri, she was rated from 1 "has mastered the skill(s) independently" to 3 "area of concern". She generally received mastery grades each week. For instance, average classwork scores were 1.1 during baseline and 1.0 during treatment and post-treatment. Average test/quiz scores were 1.1 during baseline and treatment and 1.0 at post-treatment. Her average report card GPA was 1.1 at baseline and across treatment. Grade point averages (GPAs) across participants appeared quite stable from baseline to treatment.

Table 5

Teacher Logs of Academic Performance

Participant	Classwork Scores			Test/Quiz Scores			GPA	
	Baseline	Tx	Post-Tx	Baseline	Tx	Post-Tx	Pre-Tx	Tx
Wayne	81	83		87	85		2.8	3.0
David	84	82	85	81	92	80	2.9	3.0
Mark	72	68	68	89	76	86	2.3	2.1

Note. Tx=Treatment.

Measure of Family Functioning

Parenting Stress Index– Short Form (PSI-SF)

All participating parents completed the PSI-SF, a 36-item instrument designed to measure emotional stress as it relates to the parent's perception of their child and the parent-child relationship (Refer to Table 6). Results indicated clinically significant decreases in the amount of stress in the parent-child relationship from pre-treatment to post-treatment for one family (i.e., Mark). Further, there were decreases in the amount of stress in the parent-child relationship from pre-treatment to post-treatment for two families (i.e., Terri and Wayne). One of these family's scores were indicative of defensive responding at post-treatment (i.e., Terri), while the other family's scores were indicative of defensive responding from pre- to post-treatment and had never fallen in the clinically significant range (i.e., Wayne). The last family's scores remained stable and within the clinically significant range (i.e., David).

Table 6

Percentiles for Parent Ratings on the Parenting Stress Index – Short Form (PSI-SF) Across Time

Participant	Subscale	Baseline	Pre-Treatment	Post-Treatment	1-month
David	DR	80%	70%	70%	70%
	PD	60%	50%	50%	50%
	PCDI	90-95%**	85%**	90%**	90%**
	DC	85%**	80%	80-85%**	85%**
	Total	85-90%**	80%	80-85%**	80-85%**
Mark	DR	>99%	95-99%	45%	45%
	PD	95-99%**	85%**	30%	15%
	PCDI	70%	90-95%**	65%	70%
	DC	95-99%**	85-90%**	90-95%**	85-90%**
	Total	95-99%**	90-95%**	75-80	70%
Terri	DR	60%	25%	5%**	5%**
	PD	35%	20%	10%	10%
	PCDI	40%	30%	5%	20%
	DC	>99%**	95-99%**	95-99%**	90%**
	Total	85-90%**	70%	55%	45%
Wayne	DR	10%**	1-5%**	1-5%**	
	PD	10-15%	5%	1-5%	
	PCDI	10%	30%	20%	
	DC	65%	40%	35%	
	Total	30%	10-15%	5-10%	

Note. DR= Defensive Responding; PD= Parental Distress; PCDI= Parent-Child Dysfunctional Interaction; DC= Difficult Child.

** = Clinically Significant

Intervention Acceptability and Consumer Satisfaction

Homework Success Evaluation Inventory (HSEI)

All parents completed the HSEI every other session during treatment. At the one-month follow-up, David, Mark, and Terri's mother completed the HSEI. Scores showed that parents generally found the HSP useful, fair, and appropriate throughout treatment and at post-treatment. Refer to Table 7 for parent's scores on the HSEI.

Table 7

Means and Standard Deviations for Parent Ratings on the Homework Success Evaluation Inventory (HSEI) Across Time

Rater	Session 1 M(SD)	Session 3 M(SD)	Session 5 M(SD)	Session 7 M(SD)	1-mo. M(SD)
David	5.9(0.4)	5.9(0.4)	6.0(0.0)	6.0(0.0)	5.7(0.5)
Mark	6.0(0.0)	6.0(0.0)	6.0(0.0)	6.0(0.0)	6.0(0.0)
Terri	5.7(0.5)	6.0(0.0)	6.0(0.0)	6.0(0.0)	6.0(0.0)
Wayne	6.0(0.0)	6.0(0.0)	6.0(0.0)	6.0(0.0)	

Note. Scores range from 1 (Strongly Disagree) to 6 (Strongly Agree) and reflect parents' average item ratings on the measure.

Children's Intervention Rating Profile (CIRP)

All children completed the CIRP at the beginning and end of treatment. David, Mark, and Terri completed the CIRP at the 1-month follow-up. Scores indicated that children generally perceived the HSP to be an acceptable treatment. Refer to Table 8 for children's ratings on the CIRP.

Table 8

Means and Standard Deviations for Children's Responses on the Children's Intervention Rating Profile (CIRP) Across Time

Rater	Pre-Tx M(SD)	Post-Tx M(SD)	1-mo. M(SD)
David	1.00(0.00)	1.00(0.00)	1.00(0.00)
Mark	1.29(0.76)	1.29(0.76)	1.29(0.76)
Terri	1.00(0.00)	1.14(0.38)	1.14(0.38)
Wayne	1.43(0.53)	1.14(0.38)	

Note. Scores range from 1 (Yes) to 3 (No), with 2 meaning "Not sure," and reflect children's average item ratings on the measure. Items 2, 3, and 4 were reversed scored. Lower scores indicate higher treatment acceptability.

Homework Success Program Evaluation Scale (HSPES)

All parents completed the HSPES at the last session. David, Mark, and Terri's parents completed the HSPES at the 1-month follow-up. Scores revealed that parents

were highly satisfied with the HSP and found it extremely helpful. Refer to Table 9 for parental ratings on the HSPES.

Table 9

Means and Standard Deviations for Parent Ratings on the Homework Success Program Evaluation Scale (HSPES) Across Time

Rater	Session 7 M(SD)	1-mo. M(SD)
David	4.47(0.52)	4.53(0.52)
Mark	4.67(0.62)	4.13(1.06)
Terri	4.93(0.26)	4.93(0.26)
Wayne	4.80(0.41)	

Note. Scores range from 1 (Not Helpful) to 5 (Extremely Helpful) and reflect parents' average item ratings on the measure.

Part C of the measure requests feedback on the HSP. At the last session, David's mother wrote that the aspects of the program that have been the most helpful were the following: understanding ADHD and its relation to homework problems, getting the homework done without the fighting, and having David be more compliant about getting the work done. At the one-month follow-up, she added the following: finding out what strategies worked best for David to get his homework finished and turned in. At the last session, Mark's mother indicated that the aspects of the program that have been the most helpful were the following: the formula for success, the tools that were taught, and the upcoming follow-up. Mark's mother suggested that for future use of the HSP, she would have liked more time in the program. At the follow-up, she added the following: establishing the homework routine was helpful. As a suggestion for future use, she reported that it would be beneficial to start the program at the beginning of the school year.

At the last session, Terri's mother wrote that the most helpful aspects of the program included: the early implementation of limiting time on homework, the reward

system, and the handouts. As a suggestion for future use of the program, Terri's mother reported that there should be a way for parents using the program to connect (either in person or via an Internet posting system) to share how strategies have worked or how each family adapted the strategies to work for their child. At the follow-up, she added the following: the daily homework log was helpful for her to track and feel good about the progress made in reducing the length of time it takes to complete homework. At the last session, Wayne's mother reported that the most helpful aspects of the program included: the consistent homework ritual, communicating with the teacher (i.e., parent-teacher conferences), enforcing the time limit, setting goals, and the reward system.

Intervention Rating Profile – 15 (IRP – 15)

All teachers completed the IRP-15 at post-treatment. At follow-up, David, Mark, and Terri's teachers completed the IRP-15. Refer to Table 10 for teacher's scores on the IRP-15 at post-treatment and at the one-month follow-up. All teachers, except for Mark's teacher, perceived the HSP to be a highly acceptable treatment at post-treatment. Mark's teacher reported that she would have liked to see Mark become more independent during treatment. By the one-month follow-up, all scores indicated that the HSP was an acceptable treatment.

Table 10

Teacher's scores on the Intervention Rating Profile – 15 (IRP-15) at Post-Treatment and 1-Month Follow-Up.

Rater	Post-Tx	1-mo.
David's Teacher	81	80
Mark's Teacher	52	56
Terri's Teacher	90	90
Wayne's Teacher	82	

Note. A score above 52.5 is considered acceptable.

CHAPTER V

Discussion

The purpose of this study was to evaluate the effectiveness of the HSP for individual families of children with ADHD and homework-related difficulties. Participants included four ADHD-diagnosed children enrolled in grades 2 through 4, along with their parents and teachers. The HSP was expected to improve parental and teacher reports of homework performance and rates of homework completion. Maintenance of, or improvements in, homework accuracy, and reductions in homework completion time were also anticipated. Secondary hypotheses included reductions in parent stress, maintenance of, or improvements in, academic performance, and high treatment acceptability. A non-concurrent multiple-baseline design was employed to assess treatment effects.

Results indicated that the HSP is a promising treatment for improving the homework-related problems of ADHD-diagnosed children. In particular, parent report generally revealed improved homework performance. Additionally, on average, homework completion rates improved or remained high and stable despite limiting time spent on homework, while homework accuracy rates remained stable. Time spent on homework decreased and homework efficiency appeared to increase for the two participants that spent excessive time on homework. Furthermore, teacher report of homework performance and teacher logs of academic performance were relatively stable, stress in the parent-child relationship either improved or remained the same, and high levels of participant satisfaction and acceptability of the HSP were noted.

Primary Hypotheses

It was hypothesized that parent and teacher reports of homework performance would improve as a result of the HSP. Consistent with preliminary case studies (Power et al., 2001), results indicated that parent report of homework performance improved for a majority (i.e., for three participants on the HPQ-PS) to all (i.e., on the HPC) participants across active treatment conditions. Teacher report of students' homework-related behavior and homework performance (i.e., on the HPQ-TS), however, revealed no significant changes across time. It is important to note that for two participants (i.e., Wayne and Terri), their presenting concerns involved time spent on homework. As teachers would not necessarily be aware of problems with the homework completion time, it is not surprising that their reports were inconsistent with parent-reported change in homework performance.

It was also hypothesized that participant's homework completion rates would improve. Homework completion rates were initially high for two participants (i.e., Wayne and Terri), while the other two participants (i.e., David and Mark) had lower completion rates. Even after placing a limit on the amount of time spent on homework per night, Wayne and Terri's homework completion rates remained high. Homework completion rates improved for Mark, as evidenced by the parent-reported daily homework logs. Mark's teacher's data did not show the same improvements on homework completion; however, Mark had higher rates of homework completion on teacher data from the outset, as his teacher did not collect all assigned homework. Thus, the lack of improvement in teacher data may be due to a ceiling effect. Further, although David had lower overall homework completion rates during baseline as compared to

treatment, he consistently completed all of his homework during the final two weeks of baseline, as evidenced by the parent-reported daily homework logs and teacher grade book data. Thus, no improvements were possible.

It was hypothesized that the participants' rates of homework accuracy would either improve or remain constant. Studies examining changes in homework accuracy rates have yielded mixed results (Miller & Kelley, 1994; Olympia et al., 2004; Power et al., 2001; Raggi & Chronis, 2006; Raggi et al., 2009). In the current study, accuracy rates for all participants generally remained stable, as evidenced by the parent-reported daily homework logs and teacher grade book data. It is important to note that two out of the four participants (i.e., Wayne and Terri) had demonstrated high and stable homework accuracy from the onset, as their primary concerns involved homework time and efficiency. These findings, however, revealing essentially no change on rates of homework accuracy, are consistent with the results of a similar study evaluating a homework intervention with adolescents with ADHD (Raggi et al., 2009). To help improve homework accuracy rates, it may be worthwhile to add an optional component for those presenting with low homework accuracy rates. For instance, it may be beneficial to include sessions that train parents to help their children develop effective study skills (i.e., Shapiro, 2004a; 2004b). Indeed, Power et al.'s (2006) modification of the HSP (the Family School Success [FSS] program) is intended to improve both academic and family functioning. In this extension of the HSP, there is a session based on developing effective study skills. This may be an effective supplemental component; however, it is important to note that the effectiveness of the FSS program's components is currently unknown.

Moreover, it was hypothesized that the participants would spend less time on homework per night. Time spent on homework was a primary concern for Wayne and Terri. Results for these participants indicated that time spent on homework decreased throughout treatment, and homework efficiency increased. When parents complete the daily homework logs and are limiting time spent on homework, it is important to inform them to record the time spent on each subject, along with recording all of the assigned and completed homework. This information is important to obtain from parents, as logs that solely indicate the homework that was worked on during the time limit result in misleading data on homework performance (i.e., particularly, completion and efficiency).

In the HSP, parents may choose to limit their involvement during homework time with their child and allow their child to continue working, or parents may choose to stop their child from continuing to do homework after the time limit. In the current study, one parent limited her involvement after the time limit (i.e., Terri), but allowed her child to continue working independently on homework. Another parent limited her involvement after the time limit and did not allow her child to continue working after the time limit (i.e., Wayne). Both mothers recorded all of the assigned homework and indicated whether or not homework was completed due to the time limit. In both cases, participants were able to complete their assigned homework during the specified time limit. These data are promising, especially as research has shown that spending extensive amounts of time on homework tends to result in frustration, stress, and conflict in parent-child interactions (Cooper et al., 2006; Farkas et al., 1999; Patall et al., 2008; Power et al., 2001). In addition, parents of ADHD-diagnosed children, as compared to controls, tend to report having less time and energy for involvement in their child's education (Rogers et al.,

2009). Thus, finding a solution to this problem (i.e., limiting time spent on homework, while maintaining homework completion and accuracy rates) may play a crucial role in improving family functioning.

Regarding homework, parents and teachers play different roles. Parents act as supervisors and/or tutors during the homework process, monitoring homework completion and accuracy. They get a sense of the amount of time that the child spends each night on homework, along with the difficulty level and amount of effort each subject requires for the child. Teachers determine what kind of homework students complete, how much homework to assign, the level of complexity of the homework, and the way homework is evaluated (Power et al., 2001). Teachers receive the final product, and record whether or not the homework was completed and turned in, along with its accuracy.

At times, parents and teachers hold similar views about the child academically and behaviorally. At other times, parents' and teachers' views differ immensely. There are many reasons this may occur. One reason, in particular, may be due to the different roles that parents and teachers play in the child's life. For instance, a child may struggle on homework and receive a great deal of assistance from parents and/or tutors. By the time the homework is turned in, the teacher may not notice anything problematic. Research on highly involved parents, such as the ones who prevent their children from doing poorly in school (and the ones represented in the current study), is generally mixed. For instance, Pomerantz, Moorman, and Litwack (2007) found:

Parents' involvement may be particularly beneficial for children when it is autonomy supportive, process focused, characterized by positive affect, or

accompanied by positive beliefs. However, parents' involvement may have costs for children if it is controlling, person focused, characterized by negative affect, or accompanied by negative beliefs. (p. 388)

The type of involvement is essential in producing various child outcomes. In a survey study about parents' involvement in their child's homework, increased support for their child's autonomy was related to higher scores on standardized tests, higher classroom grades, and higher homework completion rates (Cooper, Lindsay, & Nye, 2000). Patall et al. (2008) and Cooper et al. (2000) also discuss how different forms of involvement produce distinct results. For instance, highly involved parents who engage in inappropriate forms of involvement (i.e., providing correct answers or completing their child's homework for them) may not only hinder learning, but may also impede the child's development of self-regulatory skills. In contrast, encouraging the child's independence, along with providing structure (i.e., clear and consistent homework guidelines), mentoring, and motivation, has yielded positive results.

Further, parents' and teachers' views may differ if teachers (i.e., Mark's) assign more homework than is collected and recorded in the grade book. Thus, some homework assignments may seem problematic to parents (i.e., incomplete or inaccurate), but not to teachers and the child's grade. Teachers also have many other students in the classroom to monitor, and changes in classroom behavior may go unnoticed (Reitman, Murphy, Hupp, & O'Callaghan, 2004). Additionally, when children are diagnosed or "labeled" with a disorder (i.e., ADHD), a teacher's awareness of the disorder could intersect with assumptions about the nature of the disorder (i.e., a biological disorder that is invariant) to mask gains being made in the classroom (Eisenberg & Schneider, 2007).

Previous research has shown that parents of children with ADHD, in comparison to controls, tend to view their child's school as less inviting and supportive (Rogers et al., 2009). As home-school collaboration has typically been viewed as central to homework improvement efforts (Power et al., 2001; Weiner et al., 1998), it becomes vital to improve the communication and overall relationship between parents and teachers in the best interest of the child. When working with parents and teachers, collaboration is essential to facilitating academic homework success.

Secondary Hypotheses

In addition to examining the effects of the HSP on student homework performance, it was expected that the HSP would affect academic performance and the amount of stress in the parent-child relationship. Further, information was gathered on participant satisfaction with and acceptability of the HSP.

It was hypothesized that academic performance would either improve or be maintained. Records of student performance on classwork assignments, tests, and quizzes, along with participant GPAs, remained stable across participants, as evidenced by teacher grade book data and report cards. This finding appears consistent with preliminary case studies of the HSP that showed essentially no change in academic performance (Power et al., 2001).

It is important to note that homework may not always be a strong determinant of student grades. For example, the HPQ-TS asks what percentage of the child's grade is affected by the amount or quality of homework completed. In fact, in the study sample, the percentage of the student's grade affected by homework was estimated to range from 1% to a maximum of 50% across participants. For David, it accounted for 21-50% of his

grade; for Mark, it ranged between 11-30% of his grade; for Terri, it was estimated at 1-10% of her grade; and for Wayne, it was estimated to account for between 6 and 30% of his grade. Nevertheless, even if homework does not always contribute substantially to grade determination, it may provide opportunities to practice academic skills introduced during the school day, and lead to improved time management skills (Cooper et al., 2006; Lynch et al., 2009; Power et al., 2007). In addition to tutoring techniques, an approach that may help improve academic performance is the school-home report card. Indeed, Power et al.'s (2006) FSS program includes a daily school-home report card module, as the daily school-home report card has been shown to improve both academic productivity and classroom behavior (Jurbergs et al., 2007; Kelley, 1990).

Research has shown that homework produces “stress and conflict” for many parents and children (Farkas et al., 1999). In the current study, it was hypothesized that the amount of stress in the parent-child relationship would decrease as a result of providing families with strategies to help improve homework time. Previous research on the effects of homework interventions with ADHD-diagnosed students on stress found essentially no change (Power et al., 2001; Raggi, 2008). In the present study, stress in the parent-child relationship either decreased (i.e., Wayne, Terri, and Mark) or remained constant (i.e., David) for all participants. In particular, Mark's mother reported clinically significant parenting stress reductions from pre- to post-treatment. Terri and Wayne's mothers reported reductions of stress in the parent-child relationship from pre- to post-treatment; however, their scores suggested defensive responding. David's mother's scores remained stable and within the clinically significant range, despite indicating on the HSPES that one of the most helpful aspects of the program included “getting the

homework done without the fighting.” There are multiple reasons why stress in the parent-child relationship may not have decreased for an individual family. One reason in particular is that the HSP may require time and effort on the parent’s part, which can initially be stressful, especially if the parent has other obligations and/or a busy schedule. Further, the PSI-SF measures stress in the parent-child relationship in a broad fashion and may not be sensitive to stress in the relationship produced by conflict during homework time. For the most part, however, parents’ assessment of stress in the parent-child relationship appeared to improve, if minimally.

Additionally, it was hypothesized that families and teachers would perceive the HSP to be an acceptable and useful intervention. Families and teachers were generally highly satisfied with the HSP and found it to be a useful, fair, appropriate, and acceptable treatment. For one teacher (i.e., Mark’s), the HSP was perceived to be an acceptable treatment at the one-month follow-up, but not earlier, at post-treatment. Immediately following treatment, Mark’s teacher reported that she would have liked to see Mark become “more independent.” This is an important and valid concern, and it is critical for clinicians to inform parents and teachers at the outset of treatment that the child may require more assistance earlier on in order to arrive at a place of independence.

Limitations

Although the results suggest that the HSP is a promising intervention for ADHD-diagnosed children with homework difficulties, it is important to recognize the study’s limitations. The current study was comprised of a small sample size consisting of Caucasian participants (predominantly male) from the South Florida area. As such, the generalizability of the results may be limited, and caution should be taken when drawing

conclusions about children with ADHD and homework problems. It is also important to note that all parent participants were mothers.

Parents, teachers, and children knew that the children were receiving a homework intervention. As participants were not blind to the intervention, improvements could be attributed to knowledge that the child was receiving an intervention designed to reduce homework problems. In addition, the primary investigator also served as the participants' therapist. Thus, study participants could have completed outcome measures in a socially desirable manner intended to "please the therapist."

Although child participants had significant homework difficulties (i.e., on the HPC, HPQ-PS, and daily homework logs), parents tended to notice more difficulties and more change in their child's homework behavior than teachers. According to teacher grade book data, participants' homework grades and completion rates generally did not appear significantly problematic from the outset. For half of the study participants (i.e., Wayne and Terri), there was a ceiling effect in regards to the parent and teacher reported data for homework completion and accuracy. For the other half of the study participants (i.e., David and Mark), although completion and accuracy rates were a presenting concern for parents, teacher grade book data at the outset (with the exception of David's homework completion rates) did not appear problematic. It is important to note that the parents in the current study tended to be proactive and highly involved in addressing their child's homework concerns. As such, their child's homework grades had yet to be significantly affected.

Another barrier to effective dissemination and implementation is the significant commitment that parents and teachers must make to the HSP program. Specifically,

parents enrolled in the HSP complete between session tasks and outcome measures on a regular basis throughout the program. This requires time and effort on the parents' part, which may be difficult for many families. Some barriers to completing tasks and measures may include single parent status, employment status (i.e., long work hours and multiple jobs), and number of children living in the home (i.e., attending to multiple children's needs), along with cultural barriers (Rogers et al., 2009). Regarding the latter point, parents may hold the belief that the teachers and/or the child may be responsible for homework concerns, rather than the parents (Suarez-Orozco & Suarez-Orozco, 2001). Parents may have had limited formal schooling and may not know how to help their child with homework (Suarez-Orozco & Suarez-Orozco, 2001). Future research should certainly explore these barriers as they relate to homework and incorporate any necessary modifications to intervention protocols.

A number of important limitations involve measurement. In the current study, homework performance was assessed in several ways (i.e., homework rating scales, parent-reported daily homework logs, and teacher grade book data). The primary homework ratings were obtained using the HPC, the HPQ-PS, and the HPQ-TS. As the HPC does not include a teacher version, the HPQ-TS was used to gather teacher report of child homework functioning. Normative data on the HPQ-PS and HPQ-TS, however, have yet to be made available. Also, the homework measures used to capture the child's homework difficulties (i.e., the HPC and HPQ-PS) reflect parents' perceptions of their child's homework performance rather than their child's actual homework performance. Data were gathered on key elements of a child's actual homework performance (i.e., homework time, completion, and accuracy); however, it would have been beneficial to

obtain direct measures of some facets of homework performance (i.e., “*Must be reminded to sit down and start homework*”). In addition, as noted previously, there is currently no measure of stress in the parent-child relationship as it relates specifically to homework. Consequently, changes in homework-related stress could have been overlooked.

As there were multiple primary outcome measures (i.e., the HPC, HPQ-PS, HPQ-TS, daily homework logs, and teacher logs of homework performance), it was not possible to achieve stability on all outcome measures prior to treatment. Previous research examining the effects of a homework intervention used with ADHD-diagnosed adolescents (refer to Raggi et al., 2009) helped guide the decision to use the HPC as the primary outcome measure. Further, the HPC was one of the few measures that appeared to afford any sort of stability during the acquisition of baseline data. Instability on some of the measures (i.e., parent-reported and teacher-reported logs of homework performance) made use of these measures in the context of a multiple baseline study problematic and ultimately unworkable.

Another study limitation involves the present experimental design. Non-concurrent multiple baseline designs allow for history effects. As data are collected at different times across participants, and as participants are from different schools and grades, they may be exposed to different events within or outside of the study that can affect treatment (i.e., tutoring, holidays and school breaks, standardized tests, and school events). David was the only participant receiving tutoring services at the outset and throughout the study. Further, when participants had standardized tests, holidays, school breaks, and school events (i.e., Terri’s school play, along with the FCAT for Mark and

Wayne), they did not receive nightly homework. If a child was not assigned homework for 3 days in a given week, then the HPC was not administered to the parents, and the following treatment session occurred when the child was receiving nightly homework.

Finally, the HSP was initiated mid-year following IRB and school board approvals, which allowed sufficient time for the ADHD-diagnosed children recruited into the study to display homework difficulties. As the intervention started mid-year, and Wayne's family was recruited later in the school year, follow-up data were unable to be collected due to the summer holiday.

Suggestions for Future Research

The HSP appears to be a promising intervention for ADHD-diagnosed children with homework difficulties. There are many avenues for future researchers to explore in regards to improving homework performance for children diagnosed with ADHD. Several suggestions are listed below.

To help improve external validity, future research could focus on employing larger, more heterogeneous samples. Group comparisons of the HSP, a control group, and/or comparison treatments (i.e., the CLAS Program) might prove especially beneficial. Additionally, as all parent participants were mothers, future studies might recruit fathers more actively and examine the use of the HSP in two- versus one-parent families. Indeed, there is limited research on fathers' participation in interventions for children with ADHD (Fabiano, 2007). To increase fathers' engagement in treatment, it may help to establish the expectation of involvement at the outset, gather information regarding treatment from both parents, and incorporate issues directly pertinent to fathers into the treatment (Fabiano, 2007).

In the current study, although parents reported significant homework concerns, teacher grade book data at the outset (with the exception of David's homework completion rates) did not appear consistent with those concerns. As participating parents appeared highly involved in their child's education, perhaps to the point that they would not allow homework noncompliance or failure, it seems that more research on highly, heavily, or over-involved parents might be warranted to better understand the impact of these parenting practices on children's academic performance and achievement. Further, in much of the literature on homework performance, the expectation is that students complete homework with at least 80% accuracy (Madaus et al., 2003; Miller & Kelley, 1994; Olympia et al., 1994; Weiner et al, 1998). Future research that examines the HSP and similar programs might focus on the selection of students with lower homework completion and accuracy rates to limit the impact of ceiling effects.

As noted previously, further refinements in the measurement of homework performance and homework-related concerns are needed. As normative data on the HPQ-PS and HPQ-TS have yet to become available, cut-scores and more broadly representative norms would help researchers and clinicians to more clearly establish the presence or absence of homework difficulties. Researchers may also wish to use the homework measures in conjunction with observation during homework (i.e., videotaping) to assess actual child behavior during homework and evaluate whether or not child behavior changes as a function of intervention. Finally, in the current study, the PSI-SF was used to measure stress in the parent-child relationship; however, measures that are more sensitive to stress during homework are needed. In addition to parent report, it

would be interesting to assess children's perceptions about changes in the parent-child relationship as function of the intervention.

The HSP, which was originally designed as a group treatment, was easily modifiable for use with individual families. The main changes involved introducing treatment as an individualized process, rather than a group process, shortening the duration of the sessions (i.e., from 90-60 min), and, in our case, including the child in the sessions for the full duration of each session, as it has been suggested that including both parents and children in treatment is more effective than working with either in isolation (Power et al., 2006). While session content remained the same across families, the individualized format allowed for a more specialized approach to family concerns. For instance, although a reward system was introduced for all families, the selection of target behaviors was unique to each child needs (i.e., Wayne's mother rewarded Wayne for completing his work within the allotted time, while David's mother rewarded David for turning in his work to the teacher [David received a "+" in his planner if he turned in his work and a "-" if he did not]). That being said, group formats also have advantages. In fact, one parent provided feedback that she would like to be able to communicate with the other parents in the program to discuss how strategies have worked or how each family adapted the strategies to work for their child. The sense of community and having other families who are going through similar concerns is an oft-cited benefit of conducting group treatments (Holmes & Kivlighan, 2000). Future studies may examine the potential benefits of hybrid, group and individualized treatment formats.

Efforts to promote greater teacher impact on academic success for ADHD-diagnosed children (i.e., teacher training) may represent another opportunity for

improvement of treatment outcomes. For example, in addition to psychoeducation about ADHD, improving teacher understanding of other strategies for improving classroom performance and productivity (i.e., organizational techniques, skill building strategies, and motivational strategies such as reward systems) might also prove beneficial. Children generally complete homework at home; however, they may also work on homework with teachers at school during a study hall period and/or with staff or volunteers during afterschool hours (Cosden, Morrison, Albanese, & Macias, 2001). In such cases, it could be beneficial to train the child's teachers and afterschool staff on strategies that can help improve student homework performance.

Clinicians should attend carefully to the child's academic calendar when implementing the HSP. For instance, one should avoid implementing the HSP during school breaks or holidays, as the intervention requires that students have homework to complete between each session. Further, one parent participant provided feedback that she would have liked the intervention to start at the beginning of the school year. If possible, it is best to address homework difficulties early on and avoid data collection problems (i.e., end of the year activities such as testing [FCAT], along with the impending summer holiday).

Conclusion

Results indicate that the HSP is a promising intervention for improving the homework-related difficulties of ADHD-diagnosed children. Parent reports in particular reveal that homework performance improved; homework completion rates generally improved or remained high and stable despite limiting time spent on homework; homework accuracy rates remained stable; time spent on homework decreased and

homework efficiency increased for those participants who spent a considerable amount of time on homework per night; teacher data on homework performance and academic performance appeared relatively stable; stress in the parent-child relationship either improved or remained constant; and high levels of participant satisfaction and acceptability of the HSP were reported.

In the current study, the intervention appeared to be particularly well suited to addressing and influencing parent perceptions of their child's homework performance. The HSP did not appear to have an impact on teacher perceptions or grade book data, although that could be a function of the study sample (i.e., "proactive" or perhaps "over-involved" parents whose behavior obscures homework problems from teachers and whose children thus do not appear to have impairing homework problems). The intervention did appear to produce changes in children's time spent on homework for the two children for whom this was a problem. However, in general, change appeared limited to parent impressions of their child's homework performance. As such, when conceptualizing the impact of the HSP, it is important to consider both the child and the child's caregivers as the "client."

Future studies might focus on using larger, more heterogeneous samples, recruiting fathers more actively and examining the use of the HSP with both parents and the target child. More stringent inclusion criteria and more robust challenges to the effectiveness of the HSP also seem warranted. Areas for additional research consideration include identification of cultural barriers that might influence intervention success, refinement of measurement difficulties, and enhancements to teacher training to improve homework success and maximize effective management of behavioral problems in school

and at home for ADHD-diagnosed children.

References

- Abidin, R. R. (1995). *Parenting Stress Index Manual*. Charlottesville, VA: Pediatric Psychology Press.
- Abikoff, H., Nissley-Tsiopinis, J., Gallagher, R., Zambenedetti, M., Seyffert, M., Boorady, R., & McCarthy, O. (2009). Effects of MPH-OROS on the organizational, time management, and planning behaviors of children with ADHD. *Journal of the American Academy of Child & Adolescent Psychiatry, 48*, 166-175. doi:10.1097/CHI.0b013e3181930626
- Alberto, P. A., & Troutman, A. C. (2009). *Applied behavior analysis for teachers* (8th ed.). Columbus, OH: Pearson.
- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders: DSM-IV-TR* (4th ed., text revision). Washington, DC: Author.
- American Psychiatric Association (2012). *DSM-5 development (ADHD)*. Retrieved May 5, 2012, from <http://www.dsm5.org/ProposedRevision/Pages/proposedrevision.aspx?rid=383>
- Anesko, K. M., Schoiock, G., Ramirez, R., & Levine, F. M. (1987). The Homework Problem Checklist: Assessing children's homework difficulties. *Behavioral Assessment, 9*, 179-185.
- Axelrod, M. I., Zhe, E. J., Haugen, K. A., & Klein, J. A. (2009). Self-management of on-task homework behavior: A promising strategy for adolescents with attention and behavior problems. *School Psychology Review, 38*, 325–333.
- Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis, 1*, 91-97.

doi:10.1901/jaba.1968.1-91

- Barkley, R. A. (2006). Primary symptoms, diagnostic criteria, prevalence, and gender differences. In R. A. Barkley (Ed.), *Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment* (3rd ed., pp. 76-121). New York: Guilford Press.
- Barlow, D. H. & Hayes, S. C. (1979). Alternating treatment designs: One strategy for comparing the effects of two treatments in a single subject. *Applied Behavior Analysis, 12*, 199-210. doi:10.1901/jaba.1979.12-199
- Barnard, W. M. (2004). Parental involvement in elementary school and educational attainment. *Child and Youth Services Review, 26*, 39–62.
doi:10.1016/j.chilyouth.2003.11.002
- Belfiore, P. J., Grskovic, J. A., Murphy, A. M., & Zentall, S. S. (1996). The effects of antecedent color on reading for students with learning disabilities and co-occurring attention-deficit/hyperactivity disorder. *Journal of Learning Disabilities, 29*, 432-438. doi:10.1177/002221949602900411
- Bembenuddy, H. (2011). The last word: An interview with Harris Cooper – Research, policies, tips, and current perspectives on homework. *Journal of Advanced Academics, 22*, 340-349. doi:10.1177/1932202X1102200207
- Bennett, D. S., Power, T. J., Rostain, A. L., & Carr, D. E. (1996). Parent acceptability and feasibility of ADHD interventions: Assessment, correlates, and predictive validity. *Journal of Pediatric Psychology, 21*, 643-657.
doi:10.1093/jpepsy/21.5.643
- Bennett, D. E., Zentall, S. S., French, B. F., & Giorgetti-Borucki, K. (2006). The effects

of computer-administered choice on students with and without characteristics of attention-deficit/hyperactivity disorder. *Behavioral Disorders, 31*, 189-203.

Buhrmester, D., Comparo, L., Christensen, A., Gonzalez, L. S., & Hinshaw, S. P. (1992).

Mothers and fathers interacting in dyads and triads with normal and hyperactive sons. *Developmental Psychology, 28*, 500–509. doi:10.1037/0012-1649.28.3.500

Cooper, H., Lindsay, J. J., & Nye, B. (2000). Homework in the home: How student,

family, and parenting-style differences relate to the homework process.

Contemporary Educational Psychology, 25, 464-487.

doi:10.1006/ceps.1999.1036

Cooper, H., Robinson, J. C., & Patall, E. A. (2006). Does homework improve academic

achievement? A synthesis of research, 1987–2003. *Review of Educational*

Research, 76, 1–62. doi: 10.3102/00346543076001001

Connor, D. F. (2006). Stimulants. In R. A. Barkley (Ed.), *attention-deficit hyperactivity*

disorder: A handbook for diagnosis and treatment (3rd ed., pp. 608-647). New

York: Guilford Press.

Conners, C. K., Epstein, J. N., March, J. S., Angold, A., Wells, K. C., Klaric, J.,

Swanson, J. M., Arnold, L. E., Abikoff, H. B., Elliott, G. R., Greenhill, L. L.,

Hechtman, L., Hinshaw, S. P., Hoza, B., Jensen, P. S., Kraemer, H. C., Newcorn,

J. H., Pelham, W. E., Severe, J. B., Vitiello, B., & Wigal, T. (2001). Multimodal

treatment of ADHD in the MTA: An alternative outcome analysis. *Journal of the American Academy of Child & Adolescent Psychiatry, 40*, 159-167.

doi:10.1097/00004583-200102000-00010

Cosden, M., Morrison, G., Albanese, A. L., & Macias, S. (2001). When homework is not

- home work: After-school programs for homework assistance. *Educational Psychologist*, 36, 211-221. doi:10.1207/S15326985EP3603_6
- Chafouleas, S. M., Riley-Tillman, T. C., & McDougal, J. L. (2002). Good, bad, or in-between: How does the daily behavior report card rate? *Psychology in the Schools*, 39, 157-169. doi:10.1002/pits.10027
- Chafouleas, S. M., Riley-Tillman, T. C., & Sassu, K. A. (2006). Acceptability and reported use of daily behavior report cards among teachers. *Journal of Positive Behavior Interventions*, 8, 174-182. doi:10.1177/10983007060080030601
- Christ, T. J. (2007). Experimental control and threats to internal validity of concurrent and nonconcurrent multiple baseline designs. *Psychology in the Schools*, 44, 451-459. doi:10.1002/pits.20237
- Dubey, D. R., & O'Leary, S. G. (1975). Increasing reading comprehension of two hyperactive children: Preliminary investigation. *Perceptual Motor Skills*, 41, 691-694.
- Dunlap, G., dePerzel, M., Clarke, S., Wilson, D., Wright, S., White, R., & Gomez, A. (1994). Choice making to promote adaptive behavior for students with emotional and behavioral challenges. *Journal of Applied Behavior Analysis*, 27, 505-518. doi:10.1901/jaba.1994.27-505
- DuPaul, G. J. (2007). School-based interventions for students with attention deficit hyperactivity disorder: Current status and future directions. *School Psychology Review*, 36, 183-194.
- DuPaul, G. J., & Eckert, T. L. (1998). Academic interventions for students with attention-deficit/hyperactivity disorder: A review of the literature. *Reading and Writing*

Quarterly, 14, 59-82. doi:10.1080/1057356980140104

- DuPaul, G. J., Ervin, R. A., Hook, C. L., & McGoey, K. E. (1998). Peer tutoring for children with attention deficit hyperactivity disorder: Effects on classroom behavior and academic performance. *Journal of Applied Behavior Analysis*, 31, 579-592. doi:10.1901/jaba.1998.31-579
- DuPaul, G. J., & Henningson, P. N. (1993). Peer tutoring effects on the classroom performance of children with attention deficit hyperactivity disorder. *School Psychology Review*, 22, 134-143.
- DuPaul, G.J., & Power, T.J. (2009). ADHD in elementary school children. In T.E. Brown (Ed.), *ADHD comorbidities: Handbook for ADHD complications in children and adults* (pp. 55-68). Washington, DC: American Psychiatric Publishing.
- DuPaul, G. J., Rapport, M. D., & Perriello, L. M. (1991). Teacher ratings of academic skills: The development of the Academic Performance Rating Scale. *School Psychology Review*, 20, 284-300.
- DuPaul, G. J., & Stoner, G. (1994). *ADHD in the schools: Assessment and intervention strategies*. New York: Guilford.
- DuPaul, G. J., & Weyandt, L. L. (2006). School-based interventions for children and adolescents with attention-deficit/hyperactivity disorder: Enhancing academic and behavioral outcomes. *Education and Treatment of Children*, 29, 341-358.
- Eisenberg, D., & Schneider, H. (2007). Perceptions of academic skills of children diagnosed with ADHD. *Journal of Attention Disorders*, 10(4), 390-397.
doi:10.1177/1087054706292105
- Evans, S. W., Schultz, B. K. & Sadler, J. M. (2008). Safety and efficacy of psychosocial

interventions used to treat children with attention-deficit/hyperactivity disorder. *Pediatric Annals*, 37, 52-58. doi:10.3928/00485713-20080101-02

Fabiano, G. A. (2007). Father participation in behavioral parent training for ADHD: Review and recommendations for increasing inclusion and engagement. *Journal of Family Psychology*, 21, 683-693. doi:10.1037/0893-3200.21.4.683

Faraone, S. V., Biederman, J., Lehman, B. K., Spencer, T., Norman, D., Seidman, L. J., Kraus, I., Perrin, J., Chen, W. J., & Tsuang, M. T. (1993). Intellectual performance and school failure in children with attention deficit hyperactivity disorder and in their siblings. *Journal of Abnormal Psychology*, 102(4), 616-623. doi:10.1037/0021-843X.102.4.616

Farkas, S., Johnson, J., Duffett, A., Aulicino, C., & McHugh, J. (1999). *Playing their parts: Parents and teachers talk about parental involvement in public schools*. New York: Public Agenda.

Fisher, W. W., Kelley, M. E., & Lomas, J. E. (2003). Visual aids and structured criteria for improving visual inspection and interpretation of single-case designs. *Journal of Applied Behavior Analysis*, 36, 387-406. doi:10.1901/jaba.2003.36-387

Ford, M. J., Poe, V., & Cox, J. (1993). Attending behaviors of ADHD children in math and reading using various types of software. *Journal of Computing in Childhood Education*, 4, 183-196.

Frankel, F. & Feinberg, D. (2002). Social problems associated with ADHD vs. ODD in children referred for friendship problems. *Child Psychiatry and Human Development*, 33, 125-146. doi:10.1023/A:1020730224907

Girio, E. L. & Owens, J. S. (2009). Teacher acceptability of evidence-based and

- promising treatments for children with attention-deficit/hyperactivity disorder. *School Mental Health, 1*, 16-25. doi:10.1007/s12310-008-9001-6
- Greene, R. W., Beszterczey, S. K., Katzenstein, T., Park, K., & Goring, J. (2002). Are students with ADHD more stressful to teach? Patterns of teacher stress in an elementary school sample. *Journal of Emotional and Behavioral Disorders, 10*, 79-89. doi:10.1177/10634266020100020201
- Grossman, K., Grossman, K. E., Fremmer-Bombik, E., Kindler, H., Scheuerer-Englisch, H., & Zimmerman, P. (2002). The uniqueness of the child–father attachment relationship: Father's sensitive and challenging play as a pivotal variable in a 16-year longitudinal study. *Social Development, 11*, 307–331. doi:10.1111/1467-9507.00202
- Gulley, V., & Northup, J. (1997). Comprehensive school-based behavioral assessment of the effects of methylphenidate. *Journal of Applied Behavior Analysis, 30*, 627-638. doi:10.1901/jaba.1997.30-627
- Harvey, M. T., May, M. E., & Kennedy, C. H. (2004). Nonconcurrent multiple baseline designs and the evaluation of educational systems. *Journal of Behavioral Education, 13*, 267-276. doi:10.1023/B:JOB.0000044735.51022.5d
- Haskett, M. E., Ahern, L. S., Ward, C. S., & Allaire, J. C. (2006). Factor structure and validity of the Parenting Stress Index – Short Form. *Journal of Clinical Child & Adolescent Psychology, 35*, 302-312. doi: 10.1207/s15374424jccp3502_14
- Holmes, S. E. & Kivlighan, D. M. (2000). Comparison of therapeutic factors in group and individual treatment processes. *Journal of Counseling Psychology, 47*, 478-484. doi:10.1037/W022-OI67.47.4.478

- Hoover-Dempsey, K. V., Battiato, A. C., Walker, J. M. T., Reed, R. P., DeJong, J. M., & Jones, K. P. (2001). Parental involvement in homework. *Educational Psychologist, 36*, 195-209. doi:10.1207/S15326985EP3603_5
- Johnston, C., & Mash, E. J. (2001). Families of children with attention-deficit/hyperactivity disorder: Review and recommendations for future research. *Clinical Child and Family Psychology Review, 4*, 183-207. doi:10.1023/A:1017592030434
- Jurbergs, N., Palcic, J., & Kelley, M. L. (2007). School-home notes with and without response cost: Increasing attention and academic performance in low-income children with attention-deficit/hyperactivity disorder. *School Psychology Quarterly, 22*, 358-379. doi:10.1037/1045-3830.22.3.358
- Kazdin, A. E. (1982). *Single-case research designs: Methods for clinical and applied settings*. New York: Oxford University Press.
- Kazdin, A.E. (2003). *Research design in clinical psychology* (4th ed.). Needham Heights, MA: Allyn & Bacon.
- Kelley, M. L. (1990). *School-home notes: Promoting children's classroom success*. New York: Guilford Press.
- Kleiman, G., Humphrey, H., & Lindsay P. H. (1981). Microcomputers and hyperactive children. *Creative Computing, 7*, 93-94.
- Kralovec, E. & Buell, J. (2001). End homework now. *Educational Leadership, 58*, 39-42.
- Kratochwill, T. R., Hitchcock, J., Horner, R. H., Levin, J. R., Odom, S. L., Rindskopf, D. M & Shadish, W. R. (2010). Single-case designs technical documentation. Retrieved from What Works Clearinghouse website: http://ies.ed.gov/ncee/wwc/pdf/wwc_scd.pdf.

- Levin, I., Levy-Shiff, R., Appelbaum-Peled, T., Katz, I., Komar, M., & Meiran, N. (1997). Antecedents and consequences of maternal involvement in children's homework: A longitudinal analysis. *Journal of Applied Developmental Psychology, 18*, 207–227. doi:10.1016/S0193-3973(97)90036-8
- Loe, I. M., & Feldman, H. M. (2007). Academic and educational outcomes of children with ADHD. *Journal of Pediatric Psychology, 32*, 643-654. doi:10.1093/jpepsy/jsl054
- Luman, M., Oosterlaan, J., & Sergeant, J. A. (2005). The impact of reinforcement contingencies on AD/HD: A review and theoretical appraisal. *Clinical Psychology Review, 25*, 183-213. doi:10.1016/j.cpr.2004.11.001
- Lynch, A., Theodore, L. A., Bray, M. A., & Kehle, T. J. (2009). A comparison of group-oriented contingencies and randomized reinforcers to improve homework completion and accuracy for students with disabilities. *School Psychology Review, 3*, 307–324.
- Madaus, M. M. R., Kehle, T. J., Madaus, J., & Bray, M. A. (2003). Mystery motivator as an intervention to promote homework completion and accuracy. *School Psychology International, 24*, 369-377. doi:10.1177/01430343030244001
- Martens, B. K., Witt, J. C., Elliott, S. N., & Darveaux, D. X. (1985). Teacher judgments concerning the acceptability of school-based interventions. *Professional Psychology: Research and Practice, 16*, 191-198. doi:10.1037/0735-7028.16.2.191
- Mautone, J. A., DuPaul, G. J., & Jitendra, A. K. (2005). The effects of computer-assisted instruction on the mathematics performance and classroom behavior of children

with ADHD. *Journal of Attention Disorders*, 9, 301-312.

doi:10.1177/1087054705278832

McConaughy, S. H., Ivanova, M., Eiraldi, R. B., & Antshel, K. (2009). Standardized observational assessment of ADHD Combined and Predominantly Inattentive Subtypes: I. Test session observations. *School Psychology Review*, 38, 45-66.

Mehta, M. A., Goodyer, I. M., & Sahakian, B. J. (2004). Methylphenidate improves working memory and set-shifting in AD/HD: Relationships to baseline memory capacity. *Journal of Child Psychology and Psychiatry*, 45, 293-305.

doi:10.1111/j.1469-7610.2004.00221.x

Miller, D. L., & Kelley, M. L. (1994). The use of goal setting and contingency contracting for improving children's homework performance. *Journal of Applied Behavior Analysis*, 27, 73-84. doi:10.1901/jaba.1994.27-73

Moore, L. A., Waguespack, A. M., Wickstrom, K. F., Witt, J. C., & Gaydos, G. R. (1994). Mystery motivator: An effective and time efficient intervention. *School Psychology Review*, 23, 106-118.

Morgan, D. L., & Morgan, R. K. (2001). Single-participant research design: Bringing science to managed care. *American Psychologist*, 56, 119-127.

MTA Cooperative Group (1999). A 14-month randomized clinical trial of treatment strategies for attention deficit hyperactivity disorder. *Archives of General Psychiatry*, 56, 1073-1086. doi:10.1001/archpsyc.56.12.1073

Olympia, D. E., Sheridan, S. M., Jenson, W. R., & Andrews, D. (1994). Using student-managed interventions to increase homework completion and accuracy. *Journal of Applied Behavior Analysis*, 27, 85-99. doi:10.1901/jaba.1994.27-85

- Ota, K. R., & DuPaul, G. J. (2002). Task engagement and mathematics performance in children with attention-deficit hyperactivity disorder: Effects of supplemental computer instruction. *School Psychology Quarterly, 17*, 242-257.
doi:10.1521/scpq.17.3.242.20881
- Patall, E. A., Cooper, H., & Robinson, J. C. (2008). Parental involvement in homework: A research synthesis. *Review of Educational Research, 78*, 1039-1101.
doi:10.3102/0034654308325185
- Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *Antisocial boys*. Eugene, OR: Castalia.
- Pelham, W. E., Fabiano, G. A., & Massetti, G. M. (2005). Evidence-based assessment of attention deficit hyperactivity disorder in children and adolescents. *Journal of Clinical Child & Adolescent Psychology, 34*, 449-476.
doi:10.1207/s15374424jccp3403_5
- Pelham, W. E., Jr., Wheeler, T., & Chronis, A. (1998). Empirically supported psychosocial treatments for attention deficit hyperactivity disorder. *Journal of Clinical Child Psychology, 27*, 190-205. doi:10.1207/s15374424jccp2702_6
- Pfiffner, L. J., Barkley, R. A., & DuPaul, G. J. (2006). Treatment of ADHD in school settings. In R. A. Barkley (Ed.), *Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment* (3rd ed., pp. 547-589). New York: Guilford Press.
- Pfiffner, L. J., Mikami, A. Y., Huang-Pollock, C., Easterlin, B., Zalecki, C., & McBurnett, K. (2007). A randomized, controlled trial of integrated home-school behavioral treatment for ADHD, predominantly inattentive type. *Journal of*

American Academy of Child and Adolescent Psychiatry, 46, 1041–1050.

doi:10.1097/chi.0b013e318064675f

Pomerantz, E. M., Moorman, E. A., & Litwach, S. D. (2007). The how, whom, and why of parents' involvement in children's academic lives: More is not always better.

Review of Educational Research, 77, 373-410. doi:10.3102/003465430305567

Powell, S., & Nelson, B. (1997). Effects of choosing academic assignments on a student with attention deficit hyperactivity disorder. *Journal of Applied Behavior*

Analysis, 30, 181–183. doi:10.1901/jaba.1997.30-181

Power, T. J., Dombrowski, S. C., Watkins, M. W., Mautone, J. A., & Eagle, J. W. (2007).

Assessing children's homework performance: Development of multi-dimensional, multi-informant rating scales. *Journal of School Psychology*, 45, 333-348.

doi:10.1016/j.jsp.2007.02.002

Power, T. J., Hess, L. E., & Bennett, D. S. (1995). The acceptability of interventions for attention-deficit hyperactivity disorder among elementary and middle school

teachers. *Journal of Developmental & Behavioral Pediatrics*, 16, 238-243.

doi:10.1097/00004703-199508000-00005

Power, T. J., Karustis, J. L., & Habboushe, D. F. (2001). *Homework success for children*

with ADHD: A family-school intervention program. New York: Guilford Press.

Power, T. J., & Mautone, J. A. (2008). Best practices in linking families and schools to

educate children with attention problems. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V*. Bethesda, MD: National Association of School

Psychologists.

Power, T. J., Soffer, S. L., Clarke, A. T., & Mautone, J. A. (2006). Multisystemic

intervention for children with ADHD. *Report on Emotional & Behavioral Disorders in Youth*, 6, 51–52, 67–69.

Power, T. J., Werba, B. E., Watkins, M. W., Angelucci, J. G., & Eiraldi, R. B. (2006).

Patterns of parent-reported homework problems among ADHD-referred and non-referred children. *School Psychology Quarterly*, 21, 13–33.

doi:10.1521/scpq.2006.21.1.13

Raggi, V. L. (2008). *Development and preliminary testing of a brief, behavioral*

intervention to address the homework-related problems of middle school students with ADHD. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (3325090).

Raggi, V. L., & Chronis, A. M. (2006). Interventions to address the academic impairment

of children and adolescents with ADHD. *Clinical Child and Family Psychology Review*, 9, 85-111. doi:10.1007/s10567-006-0006-0

Raggi, V. L., Chronis-Tuscano, A., Fishbein, H., & Groomes, A. (2009). Development of

a brief, behavioral homework intervention for middle school students with attention-deficit/hyperactivity disorder. *School Mental Health*, 1, 61-77.

doi:10.1007/s12310-009-9008-7

Reitman, D., Currier, R. O., & Stickle, T. R. (2002). A critical evaluation of the Parenting

Stress Index – Short Form (PSI – SF) in a Head Start population. *Journal of Clinical Child & Adolescent Psychology*, 31, 384-392.

doi:10.1207/153744202760082649

Reitman, D., Murphy, M. A., Hupp, S. D. A., & O’Callaghan, P. M. (2004). Behavior

change and perceptions of change: Evaluating the effectiveness of a token

economy. *Child and Family Behavior Therapy*, 26, 17-36.

doi:10.1300/J019v26n02_02

- Rogers, M. A., Wiener, J., Marton, I., & Tannock, R. (2009). Parental involvement in children's learning: Comparing parents of children with and without attention-deficit/hyperactivity disorder (ADHD). *Journal of School Psychology*, 47(3), 167-185. doi:10.1016/j.jsp.2009.02.001
- Sciutto, M. J., Terjesen, M. D., & Bender Frank, A. S. (2000). Teachers' knowledge and misperceptions of attention-deficit/hyperactivity disorder. *Psychology in the Schools*, 37, 115-122. doi:10.1002/(SICI)1520-6807(200003)37:2<115::AID-PITS3>3.0.CO;2-5
- Shapiro, E. S. (2010a). *Academic skills problems: Direct Assessment and intervention* (4th ed.). New York: Guilford Press.
- Shapiro, E. S. (2010b). *Academic skills problems: Fourth edition workbook*. New York: Guilford Press.
- Sheridan, S. M. & Kratochwill, T. R. (2007). *Conjoint behavioral consultation: Promoting family-school connections and interventions* (2nd ed.). New York: Springer.
- Sidman, M. (1960). *Tactics of scientific research: Evaluating experimental data in psychology*. New York: Basic Books.
- Silverman, S. M., Iseman, J. S., & Jeweler, S. (2009). *School success for kids with ADHD*. Waco, TX: Prufrock Press, Inc.
- Skinner, C. H., Johnson, C. W., Larkin, M. J., Lessley, D. J., & Glowacki, M. L. (1995). The influence of rate of presentation during taped-words interventions on reading

performance. *Journal of Emotional and Behavioral Disorders*, 3, 214-223.

doi:10.1177/106342669500300403

Suarez-Orozco, C., & Suarez-Orozco, M. (2001). The children of immigration in school.

In C. Suarez-Orozco & M. Suarez-Orozco (Eds.), *Children of Immigration* (pp.

124-153). Cambridge, MA: Harvard University Press.

Swanson, J. M., McBurnett, K., Christian, D. L., & Wigal, T. (1995). Stimulant

medications and the treatment of children with ADHD. *Advances in Clinical*

Child Psychology, 17, 265-322.

Trout, A. L., Lienemann, T. O., Reid, R., & Epstein, M. H. (2007). A review of non-

medication interventions to improve to academic performance of children and

youth with ADHD. *Remedial and Special Education*, 28, 207-226.

doi:10.1177/07419325070280040201

Von Brock, M. B., & Elliott, S. N. (1987). The influence of treatment effectiveness

information on the acceptability of classroom interventions. *Journal of School*

Psychology, 25, 131-144. doi:10.1016/0022-4405(87)90022-7

Watson, P. J., & Workman, E. A. (1981). The non-concurrent multiple baseline across-

individuals design: An extension of the traditional multiple baseline design.

Journal of Behavior Therapy and Experimental Psychiatry, 12, 257-259.

doi:10.1016/0005-7916(81)90055-0

Weiner, R. K., Sheridan, S. M., & Jenson, W. R. (1998). The effects of conjoint

behavioral consultation and a structured homework program on math completion

and accuracy in junior high students. *School Psychology Quarterly*, 13, 281-309.

doi:10.1037/h0088986

- Weyandt, L. L. (2007). *An ADHD primer* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.
- Winn, B. D., Skinner, C. H., Allin, J. D., & Hawkins, J. A. (2004). Practicing school consultants can empirically validate interventions: A description and demonstration of the non-concurrent multiple-baseline design. *Journal of Applied School Psychology, 20*, 109-128. doi:10.1300/J370v20n02_0
- Winsler, A. (1998). Parent-child interaction and private speech in boys with ADHD. *Applied Developmental Science, 2*, 17-39. doi:10.1207/s1532480xads0201_2
- Witt, J. C. & Elliott, S. N. (1985). Acceptability of classroom intervention strategies. In T. R. Kratochwill (Ed.), *Advances in School Psychology* (Vol. 4, pp. 251-288). Hillsdale, NJ: Erlbaum.
- Wood, D., Bruner, J., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry, 17*, 89-100. doi:10.1111/j.1469-7610.1976.tb00381.x
- Zentall, S. S. (1986). Effects of color stimulation on performance and activity of hyperactive and nonhyperactive children. *Journal of Educational Psychology, 78*, 159-165. doi:10.1037/0022-0663.78.2.159
- Zentall, S. S. (1989). Attentional cuing in spelling tasks for hyperactive and comparison regular classroom children. *Journal of Special Education, 23*, 83-93. doi:10.1177/002246698902300107
- Zentall, S. S., & Leib, S. L. (1985). Structured tasks: Effects on activity and performance of hyperactive and comparison children. *Journal of Educational Research, 79*, 91-95.

APPENDICES

Appendix A: Study Measures

DEMOGRAPHIC QUESTIONNAIRE

ID: _____

Date: _____

1) Child's birth date: _____
(dd/mm/yyyy)

2) Child's grade: _____

3) Child's race/ethnicity (please circle):

- a. Asian
- b. Black
- c. Hispanic
- d. Native American
- e. Pacific Islander
- f. White
- g. Other (please specify):

4) Child's gender (please circle): Male Female

5) Child's current and previous diagnoses (specify subtypes if necessary):

6) Type of school your child attends (i.e., public, private, charter): _____

7) Is your child receiving special school placement (please circle)? Yes No

a. If yes, please describe:

8) Has your child ever repeated a grade or class (please circle)? Yes No

a. If yes, please describe:

9) Is your child currently taking medication (please circle)? Yes
No

a. If yes, please write the name of the medication followed by the dosage

10) How many siblings live in the home?

11) Annual Household Income

- a. Under \$15,000
- b. \$15,001-\$25,000
- c. \$25,001-\$40,000
- d. \$40,001-\$60,000
- e. Over \$60,000

12) Mother's birth date: _____ (dd/mm/yyyy)

13) Mother's marital status (please circle):

- a. Divorced
- b. Married
- c. Single
- d. Unmarried Partners
- e. Widow

14) Mother's educational attainment (please circle):

- a. Grade School
- b. 7th Grade
- c. 8th Grade
- d. 9th Grade
- e. 10th Grade
- f. 11th Grade
- g. High School Graduate
- h. Some College
- i. College Graduate
- j. Post-Graduate or Above

15) Mother's occupation:

16) Maternal history of psychiatric problems (Please specify. If not applicable, write "none"):

17) Father's birth date:

_____ (dd/mm/yyyy)

18) Father's marital status:

- a. Divorced
- b. Married
- c. Single
- d. Unmarried Partners
- e. Widower

19) Father's educational attainment:

- a. Grade School
- b. 7th Grade
- c. 8th Grade
- d. 9th Grade
- e. 10th Grade
- f. 11th Grade
- g. High School Graduate
- h. Some College
- i. College Graduate
- j. Post-Graduate or Above

20) Father's occupation:

21) Paternal history of psychiatric problems (Please specify. If not applicable, write "none"):

**ATTENTION-DEFICIT/HYPERACTIVITY DISORDER KNOWLEDGE AND
OPINION SURVEY- REVISED (AKOS-R)**

For each of the following statements, please relate your own opinions by circling the number that appears most like *your* views. Assume that your child *does* have ADHD, even if this has not yet been confirmed.

1. Our family could benefit from counseling sessions to learn how to cope better with our child with ADHD.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree

2. I think that scheduling problems would make it difficult for us to arrange counseling appointments.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree

3. My child's behavior is so difficult to control that sometimes I feel like a failure as a parent.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree

4. I would be reluctant to have our family attend counseling sessions to find ways to better work with our child with ADHD.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree

5. This is not a good time for our family to begin counseling.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree

6. I could use some professional counseling to help my family and me deal with my child with ADHD in better ways.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree

7. Payment problems will make it difficult for our family to follow through with counseling, if recommended, at the present time.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree

8. I believe that our family will have trouble finding the time to get involved in counseling at this time.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree

9. Our family should have no difficulty traveling to and from counseling sessions.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree

10. Family therapy would probably be helpful to us.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree

11. Counseling would be too expensive for my family to get involved with at this time.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree

12. If a doctor recommends that we go for counseling as a family, I would go despite my (or my partner's) reluctance to do so.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Strongly Agree

Thank you very much for your time and effort in filling out this questionnaire.

HOMEWORK PROBLEM CHECKLIST

Child performs: (-1) below grade level in most subjects
 (0) on grade level in most subjects
 (+1) above grade level in most subjects

For each statement, check one:	Never (0)	At Times (1)	Often (2)	Very Often (3)
-----------------------------------	--------------	--------------------	--------------	----------------------

1. Fails to bring home assignment and necessary materials (textbook, dittos, etc.)
2. Doesn't know exactly what homework has been assigned.
3. Denies having homework assignment.
4. Refuses to do homework assignment.
5. Whines or complains about homework.
6. Must be reminded to sit down and start homework.
7. Procrastinates, puts off doing homework.
8. Doesn't do homework satisfactorily unless someone is in the room.
9. Doesn't do homework satisfactorily unless someone does it with him/her.
10. Daydreams or plays with objects during homework session.
11. Easily distracted by noises or activities of others.
12. Easily frustrated by homework assignment.
13. Fails to complete homework.
14. Takes unusually long time to do homework.

For each statement, check one:	Never (0)	At Times (1)	Often (2)	Very Often (3)
15. Responds poorly when told by parent to correct homework.				
16. Produces messy or sloppy homework.				
17. Hurries through homework and makes careless mistakes.				
18. Shows dissatisfaction with work, even when he/she does a good job.				
19. Forgets to bring assignment back to class.				
20. Deliberately fails to bring assignment back to class.				

HOMEWORK PERFORMANCE QUESTIONNAIRE (FOR PARENTS)

ID: _____ Today's Date: _____

Relationship to Child: _____

Part A. Please complete the following questions for the child indicated above.

1. What is the average amount of time your child spends doing homework each day?
 - 15 minutes or less
 - 30 minutes
 - 45 minutes
 - 1 hour
 - 1 hour and 30 minutes
 - 2 hours
 - 2 hours and 30 minutes
 - 3 hours
 - More than 3 hours

2. Is your child having trouble completing homework in any subjects? Yes No
 If yes, indicate which subjects _____

3. Is your child expected to write homework assignments in a notebook? Yes No

4. If your child can't remember what to do for homework, what do you do? Check all that apply.
 - Have my child call a friend
 - Return to the school at the end of the day to get the homework
 - Check the school or teacher website that posts homework assignments
 - Call the homework hotline
 - Nothing. We just do the best we can.
 - Other _____
 - Not appropriate – my child always remembers what to do for homework

Part B. For the following items, circle the response that indicates how often each behavior has occurred DURING THE PAST 4 WEEKS. Please complete each item.

5. My child writes down the homework assignments given by the teachers.
 rarely/never some of the time most of the time always/almost always

6. My child brings home the books and materials needed to complete homework (when the work is not completed in school).
 rarely/never some of the time most of the time always/almost always

7. My child denies having homework.
rarely/never some of the time most of the time always/almost always
8. The teachers and I have similar expectations about homework.
rarely/never some of the time most of the time always/almost always
9. I (we) find time for my child to complete homework, even when things are busy in the family.
rarely/never some of the time most of the time always/almost always
10. My child understands how to do the work assigned by the teacher.
rarely/never some of the time most of the time always/almost always
11. My child is ready to begin homework at the time that has been set.
rarely/never some of the time most of the time always/almost always
12. My child gets frustrated with me (us) during homework.
rarely/never some of the time most of the time always/almost always
13. The teachers assign too much homework.
rarely/never some of the time most of the time always/almost always
14. The teachers understand the challenges families face in getting homework done.
rarely/never some of the time most of the time always/almost always
15. I (we) have a routine that helps our child complete homework.
rarely/never some of the time most of the time always/almost always
16. My child must be reminded to begin homework.
rarely/never some of the time most of the time always/almost always
17. My child does homework in a quiet area without distractions.
rarely/never some of the time most of the time always/almost always
18. Homework assignments are easy for my child to complete.
rarely/never some of the time most of the time always/almost always
19. My child wastes time during homework.
rarely/never some of the time most of the time always/almost always
20. The teachers seem willing to help if we have homework problems.
rarely/never some of the time most of the time always/almost always
21. I am (we are) able to help my child if homework is confusing to him or her.
rarely/never some of the time most of the time always/almost always

22. My child needs close supervision to get homework done.
rarely/never some of the time most of the time always/almost always
23. My child is able to complete homework assignments.
rarely/never some of the time most of the time always/almost always
24. As far as I know, it takes my child longer than most of his or her classmates to complete homework.
rarely/never some of the time most of the time always/almost always
25. My child is cooperative when I (we) offer advice or provide direction.
rarely/never some of the time most of the time always/almost always
26. Once started, my child is able to work steadily on homework.
rarely/never some of the time most of the time always/almost always
27. I am (we are) able to provide my child with enough supervision to do homework.
rarely/never some of the time most of the time always/almost always
28. My child is able to complete math homework independently.
rarely/never some of the time most of the time always/almost always
29. The work assigned for homework is too difficult for my child.
rarely/never some of the time most of the time always/almost always
30. I am (we are) able to remain patient with my child during homework.
rarely/never some of the time most of the time always/almost always
31. The teachers communicate effectively with me (us) about homework.
rarely/never some of the time most of the time always/almost always
32. My child is able to complete reading and language arts homework independently.
rarely/never some of the time most of the time always/almost always
33. My child brings completed homework assignments back to class.
rarely/never some of the time most of the time always/almost always
34. I (we) get forms and tests signed and returned to the teacher right away.
rarely/never some of the time most of the time always/almost always
35. As far as I know, the teachers check my child's homework after it is completed.
rarely/never some of the time most of the time always/almost always

Part C. Please provide additional comments about your child's homework performance. Also, comment on any factors that influence his or her homework performance.

HOMEWORK PERFORMANCE QUESTIONNAIRE (FOR TEACHERS)

ID: _____ Date: _____

Relationship to student (e.g., general teacher, math teacher):

Part A. Please complete the following questions.

1. Please indicate which subjects you teach this child. Check all that apply.

- Reading
- Language Arts (including Spelling)
- Math
- Social Studies
- Science
- Other _____

2. What is the maximum amount of time that students in this grade should be spending each day doing homework (including all subjects)? Check only one.

- 15 minutes or less
- 30 minutes
- 45 minutes
- 1 hour
- 1 hour and 30 minutes
- 2 hours
- 2 hours and 30 minutes
- 3 hours
- More than 3 hours

3. Is this student expected to write homework assignments in a notebook? Yes No

4. How often do you check to see that this student writes down homework assignments accurately? Check only one.

- Never or rarely
- Less than once per week
- Once per week
- Once or twice per week
- 3 to 4 times per week
- Every day

5. How often do you check to see that this student takes home the books and materials needed for homework? Check only one.

- Never or rarely
- Less than once per week
- Once per week
- Once or twice per week

- 3 to 4 times per week
 Every day

6. What do you recommend to families with a child who has trouble remembering what to do for homework and writing down assignments? Circle all that apply.

- Use a homework assignment book that is checked by parents and teachers
 Contact a classmate
 Check the school web-site that posts homework assignments
 Call the homework hotline
 Parents should write a note on days there is a problem
 Nothing. Family should do the best they can.
 Other _____

7. How often do you check to see that homework has been completed accurately?
 Check only one.

- Never or rarely
 Less than once per week
 Once per week
 Once or twice per week
 3 to 4 times per week
 Every day

8. What percentage of the child's grade is affected by the amount or quality of homework completed? Circle only one.

- 0%
 1% to 5%
 6% to 10%
 11% to 20%
 21% to 30%
 31% to 40%
 41% to 50%
 More than 50%

Part B. For items 9 through 18, circle the number corresponding with the response that best indicates how often each behavior has occurred DURING THE PAST 4 WEEKS. Please complete each item.

- 0 = 0% to 39% of the time**
1 = 40% to 69% of the time
2 = 70% to 79% of the time
3 = 80% to 89% of the time
4 = 90% to 100% of the time

9. This student writes down homework assignments independently. 0 1 2 3 4

10. This student organizes materials needed to complete homework with minimal supervision. 0 1 2 3 4
11. This student has the ability to complete homework assignments independently. 0 1 2 3 4
12. This student turns in homework on time. 0 1 2 3 4
13. This student finishes homework assignments (regardless of quality). 0 1 2 3 4
14. The quality of this student's homework is acceptable. 0 1 2 3 4
15. As far as I know, this student manages time effectively during homework. 0 1 2 3 4
16. Forms and tests are signed by the parents and returned to me on time. 0 1 2 3 4
17. This student is ready for homework upon leaving my class. 0 1 2 3 4
18. Homework assignments are easy for this child to complete. 0 1 2 3 4

Part C. For items 19 through 22, circle the number corresponding with the percentage that most closely corresponds with this student's performance DURING THE PAST 4 WEEKS.

0 = 0% to 39% of the time

1 = 40% to 69% of the time

2 = 70% to 79% of the time

3 = 80% to 89% of the time

4 = 90% to 100% of the time

19. Estimate the percentage of *homework completed* (regardless of accuracy). 0 1 2 3 4
20. Estimate the *accuracy of completed homework* (i.e., percent correct for work done). 0 1 2 3 4
21. To the best of your ability, estimate the percentage of homework that the child is *able to complete correctly without parental assistance*. 0 1 2 3 4
22. Estimate the percentage of material assigned for homework that this child has *learned and understood in class*. 0 1 2 3 4

Part D. Please provide additional comments about this student's homework performance. Also, comment on any factors that influence this student's homework performance.

CHILDREN'S INTERVENTION RATING PROFILE

INSTRUCTIONS

- Think about the past couple of weeks as you choose your answer.
- If you *Agree* with the sentence, circle "1" for *Yes*. If you are *Not* sure about the sentence, circle "2" for *Not sure*. If you *Disagree* with the sentence, circle "3" for *No*.
- There are no right or wrong answers. Only you can tell us what you think about this therapy.

	Yes 1	Not sure 2	No 3
1. My therapist was fair.	1	2	3
2. My therapist was too mean.	1	2	3
3. My friends teased me because I come to this therapy each week.	1	2	3
4. Other things could help me more than this therapy.	1	2	3
5. This therapy would be good for my friends in school.	1	2	3
6. I like coming to this therapy each week.	1	2	3
7. I think that coming to this therapy helps me do better in school.	1	2	3

HOMEWORK SUCCESS PROGRAM EVALUATION SCALE

SECTION A. Please rate how helpful each topic of the program has been for you and your family.

1. Understanding ADHD and how it has an effect on homework performance

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

2. Establishing a consistent homework ritual (i.e., when, where, what)

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

3. Giving effective instructions and commands

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

4. Providing positive reinforcement

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

5. Managing time and setting goals

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

6. Using punishment successfully

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

7. Integrating skills and anticipating future problems

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

HOMEWORK SUCCESS PROGRAM EVALUATION SCALE
(p. 2 of 3)

SECTION B. Please rate each aspect of the program regarding how helpful it has been for you and your child.

8. Organization of the therapy

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

9. The parent-teacher meeting at the outset of the program

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

10. The way that the therapist managed time during the sessions

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

11. The therapist's knowledge of the program's topics

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

12. The therapist's attention to my needs

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

13. The handouts

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

14. The parent homework assignments

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

15. The therapy experience provided to my child

1	2	3	4	5
Not helpful	A little helpful	Helpful	Very helpful	Extremely helpful

HOMEWORK SUCCESS PROGRAM EVALUATION SCALE
(p. 3 of 3)

SECTION C. Other Feedback

16. What aspects of the program have been the most helpful to you?

17. What suggestions do you have for us that may be helpful for future use of the Homework Success Program?

Thank you very much for taking the time to provide us with this feedback. We wish you good luck in your future endeavors!

HOMEWORK SUCCESS EVALUATION INVENTORY

Please indicate the extent of your agreement or disagreement with each of the following statements by circling the number that best describes your opinion. Refer to the following scale when making your judgments.

1	2	3	4	5	6
Strongly Disagree	Disagree	Disagree a little	Agree a little	Agree	Strongly agree

1. The strategies of Homework Success make sense to me.

1	2	3	4	5	6
---	---	---	---	---	---

2. I believe this program can be helpful to my child and family.

1	2	3	4	5	6
---	---	---	---	---	---

3. The Homework Success strategies are reasonable and fair.

1	2	3	4	5	6
---	---	---	---	---	---

4. The approaches used in this program can have positive effects and no real negative side effects on my child and family.

1	2	3	4	5	6
---	---	---	---	---	---

5. I think that most families would find the Homework Success strategies to be practical and useful.

1	2	3	4	5	6
---	---	---	---	---	---

6. This type of program can make a positive difference for families coping with homework problems.

1	2	3	4	5	6
---	---	---	---	---	---

7. Making a commitment to this program is worth the time and effort.

1	2	3	4	5	6
---	---	---	---	---	---

Intervention Rating Profile –15 (IRP-15)

The purpose of this questionnaire is to obtain information regarding your feelings about the *Homework Success* treatment program. Please circle the number that best describes your agreement or disagreement with each statement using the scale below.

- | | 1=strongly
disagree | 2=disagree | 3=slightly
disagree | 4=slightly
agree | 5=agree | 6=strongly
agree |
|-----|--|------------|------------------------|---------------------|---------|---------------------|
| 1. | The Homework Success Program (HSP) would be an acceptable intervention for the child's homework-related difficulties. | | | | | 1 2 3 4 5 6 |
| 2. | Most teachers would find the HSP appropriate for all homework-related difficulties in addition to the one(s) that this student displays. | | | | | 1 2 3 4 5 6 |
| 3. | The HSP should prove effective in changing the child's homework-related difficulties. | | | | | 1 2 3 4 5 6 |
| 4. | I would suggest the use of the HSP to other teachers. | | | | | 1 2 3 4 5 6 |
| 5. | The child's homework-related difficulties are severe enough to warrant use of the HSP. | | | | | 1 2 3 4 5 6 |
| 6. | Most teachers would find the HSP suitable for the homework-related difficulty described. | | | | | 1 2 3 4 5 6 |
| 7. | I would be willing to use the HSP in the classroom setting. | | | | | 1 2 3 4 5 6 |
| 8. | The HSP would <i>not</i> result in negative side effects for the child. | | | | | 1 2 3 4 5 6 |
| 9. | The HSP would be appropriate for a variety of children. | | | | | 1 2 3 4 5 6 |
| 10. | The HSP is consistent with those I have used in classroom settings. | | | | | 1 2 3 4 5 6 |
| 11. | The HSP was a fair way to handle the child's homework-related difficulties. | | | | | 1 2 3 4 5 6 |
| 12. | The HSP is reasonable for the homework-related difficulty described. | | | | | 1 2 3 4 5 6 |
| 13. | I liked the procedures used in the HSP. | | | | | 1 2 3 4 5 6 |
| 14. | The HSP was a good way to handle this child's homework-related difficulties. | | | | | 1 2 3 4 5 6 |
| 15. | Overall, the HSP would be beneficial for the child. | | | | | 1 2 3 4 5 6 |

Scale referenced in "Teacher judgments concerning the acceptability of school-based interventions," by B. K. Martens, J. C. Witt, S. N. Elliott, & D. X. Darveaux, 1985, *Professional Psychology: Research and Practice*, 16, p. 193. Copyright 1985 by the American Psychological Association. Reprinted with permission of the author. Instructions and items were modified to reflect the nature of the study and the specific intervention being used.

Appendix B: Additional Assessment Information

It is important to note that three out of the four participants who completed the study had a previous assessment through the AACT Clinic. The following are standard measures that parents, children, and teachers complete in the Clinic: the Conners 3rd Edition–Parent (Conners 3–P), the Eyberg Child Behavior Inventory (ECBI), the Home Situations Questionnaire (HSQ), the Parenting Stress Index: Short Form (PSI-SF), the Beck Depression Inventory-II (BDI-II), the Children’s Depression Inventory (CDI), the Revised Children’s Manifest Anxiety Scales- Second Edition (RCMAS-2) or the Multidimensional Anxiety Scale for Children (MASC), the Reinforcer Preference Survey, the Conners’ Teacher Rating Scale-Revised (CTRS-R), and the School Situations Questionnaire (SSQ). Additionally, parents, teachers, and children are interviewed, children are observed at school, and the children complete an assessment of general intellectual functioning (the Wechsler Intelligence Scale for Children-Fourth Edition) and academic achievement (the Woodcock Johnson Tests of Achievement-Third Edition [WJ-III ACH]) at the minimum. The other remaining participant had an ADHD diagnosis from her pediatrician who used the Vanderbilt ADHD Diagnostic Parent and Teacher Rating Scales to aid in the assessment process. Additionally, the School Board of Broward County had assessed this participant using interviews, the Differential Ability Scales-Second Edition-School Age Form (DAS-II), the WJ-III ACH, the Conners 3-Parent and Teacher Rating Scales, and House-Tree-Person Drawings.

Appendix C: Timeline for Collecting Outcome Data

Timeline for Collecting Outcome Data During Treatment

Measure	Ses.1	PT Conf.	Ses.2	Ses.3	Ses.4	Ses.5	Ses.6	Ses.7	1-mo.
HPC	X		X	X	X	X	X	X	X
HPQ-PS	X							X	X
HPQ-TS		X						X	X
Daily logs	X		X	X	X	X	X	X	X
PSI-SF	X							X	X
HSEI	X			X		X		X	X
HSPES								X	X
CIRP	X							X	X
IRP-15								X	X

Note. The above timeline reflects the treatment condition. During baseline, parents completed the HPC weekly, along with Daily Homework Logs. Teacher grade book data and work samples were collected on a weekly basis across both baseline and treatment phases.

Appendix D: Treatment Integrity Checklists

SESSION 1: INTEGRITY CHECKLIST

Date: _____

Participant ID: _____

CONTENT

- Have materials ready.
 - Handouts 2-5
 - Daily Homework Logs
 - Weekly Family Assignments sheet
 - Outcome measures (HPC, HPQ-PS, PSI-SF, HSEI, CIRP)
- Therapist introduces self to participants.
- Generate discussion of homework problems parents are experiencing.
- Describe the rationale for using baseline and progress measures; have families complete HPC, HPQ-PS, PSI-SF, HSEI, and CIRP.
- Discuss goals and format of program.
- Discuss parent-teacher consultation meeting.
- Discuss Conjoint Behavioral Consultation model.
- Distribute Handout 2; highlight importance of completing between-session assignments.
- Promote hope by acknowledging frustration and by referring to program's past successes.
- Distribute Handout 3; discuss specifics of ADHD.
- Distribute Handout 4; discuss relation between ADHD and homework problems, including need to limit time spent on homework.
- Distribute Handout 5; emphasize importance of using assignment sheet.
- Distribute Daily Logs; discuss parent assignments to be completed prior to next session.

PROCESS

- Did each parent participate in the discussions?
- Was the therapist responsive to the family's needs?

BETWEEN SESSIONS 1 AND 2

- Introduce self to teacher(s).
- Ask teacher(s) to identify homework problems and resources.
- Emphasize importance of home-school collaboration.
- Describe goals and format of the program.
- Have teacher(s) complete the HPQ-TS.
- Ask teacher(s) for records of homework and academic performance and inform them that these records will be collected on a weekly basis.

SESSION 2: INTEGRITY CHECKLIST

Date: _____

Participant ID: _____

CONTENT

- Have materials ready.
 - Daily Homework Logs.
 - A-B-C Worksheets (Handout 6)
 - Handouts 7-9
 - Weekly Family Assignments sheet
 - Outcome measure (HPC)
- Administer HPC.
- Collect Daily Homework Logs.
- Review between-session assignments from previous session.
- Distribute Handout 6; generate discussion about antecedents and consequences of behavior.
- Ask a parent to volunteer to do a functional assessment of a homework problem behavior.
- Distribute Handout 7; describe the basics of homework ritual.
- Distribute Handout 8; assess participant understanding of use of this worksheet; practice.
- Distribute Handout 9; review characteristics of effective instructions.
- Invite parents to discuss specifics of delivering instructions, including potential obstacles.
- Discuss between-session assignments; emphasize importance of use of Weekly Family Assignments sheet.

PROCESS

- Did each parent participate in the discussion?
- Did each parent discuss between-session assignments from the previous week?
- Was the therapist responsive to the family's needs this week?

BETWEEN SESSIONS 2 AND 3

- Ask teacher(s) for records of homework and academic performance.

SESSION 3: INTEGRITY CHECKLIST

Date: _____

Participant ID: _____

CONTENT

- Have materials ready.
 - Daily Homework Logs
 - A-B-C Worksheets
 - Weekly Family Assignments sheet
 - Handouts 10-12
 - Outcome measures (HPC and HSEI)
- Administer HPC.
- Review between-session assignments.
- Elicit examples from participants of their use of positive reinforcement; praise such usage.
- Distribute Handout 10; discuss principles of positive reinforcement.
- Emphasize importance of using positive reinforcement relative to punishment.
- Review potential obstacles to consistently using positive reinforcement.
- Discuss types of positive reinforcers.
- Assist parents in developing individualized positive reinforcement systems.
- Distribute Handout 11; describe rationale for using Homework Rewards Worksheet.
- Distribute Handout 12; present detailed discussion of token/point system principles and techniques.
- Introduce CISS-4 acronym; underscore importance of each CISS-4 component.
- Discuss between-session assignments.
- Remind parents to continue using A-B-C Worksheets and Daily Homework Logs.
- Regarding the individualized positive reinforcement system, remind parents to observe the targeted behaviors and record the frequency of the behaviors.
- Have parents complete HSEI.
- Remind parents to call between sessions if needed.

PROCESS

- Did each parent participate in the discussion?
- Did each parent discuss between-session assignments from the previous week?
- Was the therapist responsive to the family's needs this week?

BETWEEN SESSIONS 3 AND 4

- Ask teacher(s) to discuss the child's progress and any problems that need to be addressed.
- Ask teacher(s) for records of homework and academic performance.

SESSION 4: INTEGRITY CHECKLIST

Date: _____

Participant ID: _____

CONTENT

- Have materials ready.
 - Daily Homework Logs
 - A-B-C Worksheets
 - Weekly Family Assignments sheet
 - Outcome measure (HPC)
- Administer HPC.
- Ask parents about the token system observations.
- Have parents and children establish rewards.
- Based on the baseline data gathered from the observations, establish point values.
- Ask parents to begin with the implementation of the token system.
- Remind parents to call between sessions if needed.

PROCESS

- Did each parents participate in the discussion?
- Did each parent discuss between-session assignments from the previous week?
- Was the therapist responsive to the family's needs this week?

BETWEEN SESSIONS 4 AND 5

- Ask teacher(s) for records of homework and academic performance.

SESSION 5: INTEGRITY CHECKLIST

Date: _____

Participant ID: _____

CONTENT

- Have materials ready.
 - Daily Homework Logs
 - A-B-C Worksheets
 - Weekly Family Assignments sheet
 - Handout 13
 - Outcome measures (HPC and HSEI)
- Administer HPC.
- Collect Daily Homework logs; distribute additional logs and A-B-C Worksheets.
- Review between-session assignments.
- Discuss family experiences implementing token/point systems; troubleshoot problems with each parent using an A-B-C Worksheet.
- Review importance of limiting time spent on homework; troubleshoot potential obstacles, including parental beliefs.
- Discuss benefits of setting realistic goals for homework time, completion, and accuracy.
- Distribute Handout 13; introduce and explain in detail each principle and intervention technique.
- Role play use of Goal-Setting Tool; model by working with a child.
- Have participants practice using GST, with children, if possible.
- Underscore importance of using GST and remaining persistent, emphasizing benefits of its use.
- Discuss between-session assignments.
- Have parents complete HSEI.
- Ask parents to have another meeting with the teacher(s).

PROCESS

- Did each parent participate in the discussion?
- Did each parent discuss between-session assignments from the previous week?
- Was the therapist responsive to the family's needs this week?

BETWEEN SESSIONS 5 AND 6

- Consult with teacher to discuss program strategies, the child's progress, and any problems that need to be addressed.
- Ask teacher(s) for records of homework and academic performance.

SESSION 6: INTEGRITY CHECKLIST

Date: _____

Participant ID: _____

CONTENT

- Have materials ready.
 - Daily Homework Logs
 - A-B-C Worksheets
 - Weekly Family Assignments sheet
 - Handouts 14-15
 - Outcome measure (HPC).
- Administer HPC.
- Collect Daily Homework logs; distribute additional logs and A-B-C Worksheets.
- Review between-session assignments, including discussion with teacher.
- Discuss experiences using GST; troubleshoot problems with implementation.
- Distribute Handout 14; ensure that parents understand use of these worksheets.
- Distribute Handout 15; present rationale for using punishment successfully.
- Discuss basic principles and techniques for using punishment, referring to Handout 15.
- Describe potential adverse side effects of using punishment.
- Remind parents of CISS-4 principles; generate discussion of their experiences using the principles.
- Emphasize continued use of GST, Daily Homework Logs, A-B-C Worksheets.
- Discuss between-session assignments.
- Remind parents that the next session is the last one prior to the follow-up meeting; encourage participants to work on integrating skills they have developed over the course of the program.

PROCESS

- Did each parent participate in the discussion?
- Did each parent discuss between-session assignments from the previous week?
- Was the therapist responsive to the family's needs this week?

BETWEEN SESSIONS 6 AND 7

- Ask teacher(s) for records of homework and academic performance.

SESSION 7: INTEGRITY CHECKLIST

Date: _____

Participant ID: _____

CONTENT

- Have materials ready.
 - Daily Homework Logs
 - A-B-C Worksheets
 - Weekly Family Assignments sheet
 - Handout 16
 - Outcome measures (HPC, HPQ-PS, PSI-SF, HSEI, HSPES, CIRP)
- Collect Daily Homework logs and A-B-C Worksheets; distribute additional logs and A-B-C Worksheets.
- Review between-session assignments.
- Review use of daily assignment book.
- Collect GST's that have been completed; praise adherence and troubleshoot problems.
- Generate discussion regarding progress, continuing problems, and commentary regarding the program.
- Ask parents to complete the HPC.
- Compare issues noted on this HPC with baseline HPC; discuss ways to modify procedures to address persisting problems.
- Distribute Handout 16; review each topic and request parent input pertaining to ways that they can modify strategies to suit their family's needs.
- Introduce formula for success concept; provide examples and assist parents with developing their own success formulas.
- Remind parents of importance of attending follow-up session.
- Ask families to complete outcome measures (HPQ-PS, PSI-SF, HSEI, HSPES, CIRP).
- Congratulate families; emphasize specific progress points.
- Ask parents to initiate another parent-teacher meeting to review progress, identify areas of improvement and weakness, modify homework interventions to address remaining problems, and thank the teacher(s).

PROCESS

- Did each parent participate in the discussion?
- Did each parent discuss between-session assignments from the previous week?
- Was the therapist responsive to the family's needs this week?

AFTER SESSION 7

- Make arrangements with teachers to collect outcome data (HPQ-TS, IRP-15, and records of homework and academic performance)
- Ask teachers to comment on the child's progress and identify any remaining problems.

ONE-MONTH FOLLOW-UP SESSION: INTEGRITY CHECKLIST

Date: _____

Participant ID: _____

CONTENT

- Have materials ready.
 - Daily Homework Logs
 - A-B-C Worksheets
 - Weekly Family Assignments sheet
 - Handout 17
 - Outcome measures (HPC, HPQ-PS, PSI-SF, HSEI, HSPES, CIRP)
 - Certificates
- Collect Daily Homework logs and A-B-C Worksheets; distribute additional logs and A-B-C Worksheets.
- Review between-session assignments, include discussion of formula for success.
- Review use of daily assignment book.
- Discuss GST's that have been completed; praise adherence and troubleshoot problems.
- Review core components of Homework Success Program; provide reminders of basic principles.
- Identify progress made and assist parents with troubleshooting problems.
- Ask parents to select one homework problem; assist them with conducting a functional assessment using an A-B-C Worksheet.
- Distribute Handout 17; encourage them to use this handout and to join and participate in support and educational organizations such as CHADD.
- Inform parents that they may contact the therapist with questions or issues subsequent to the conclusion of the program.
- Ask families to complete outcome measures (HPC, HPQ-PS, PSI-SF, HSEI, HSPES, CIRP).
- Ask parents to talk about one or two things in the program that they have found to be helpful.
- Issue certificates to families.

PROCESS

- Did each parent participate in the discussion?
- Did each parent discuss between-session assignments from the previous week?
- Was the therapist responsive to the family's needs this week?

AFTER FOLLOW-UP SESSION

- Make arrangements with teachers to collect outcome data (HPQ-TS, IRP-15, and records of homework and academic performance)
- Ask teachers to comment on the child's progress and identify any remaining problems.
- Thank the teacher

Appendix E: HPC Raw Scores by Factor

Figure E1. Parents' Raw Scores on Factor I (Inattention/Avoidance of Homework) of the Homework Problem Checklist (HPC).

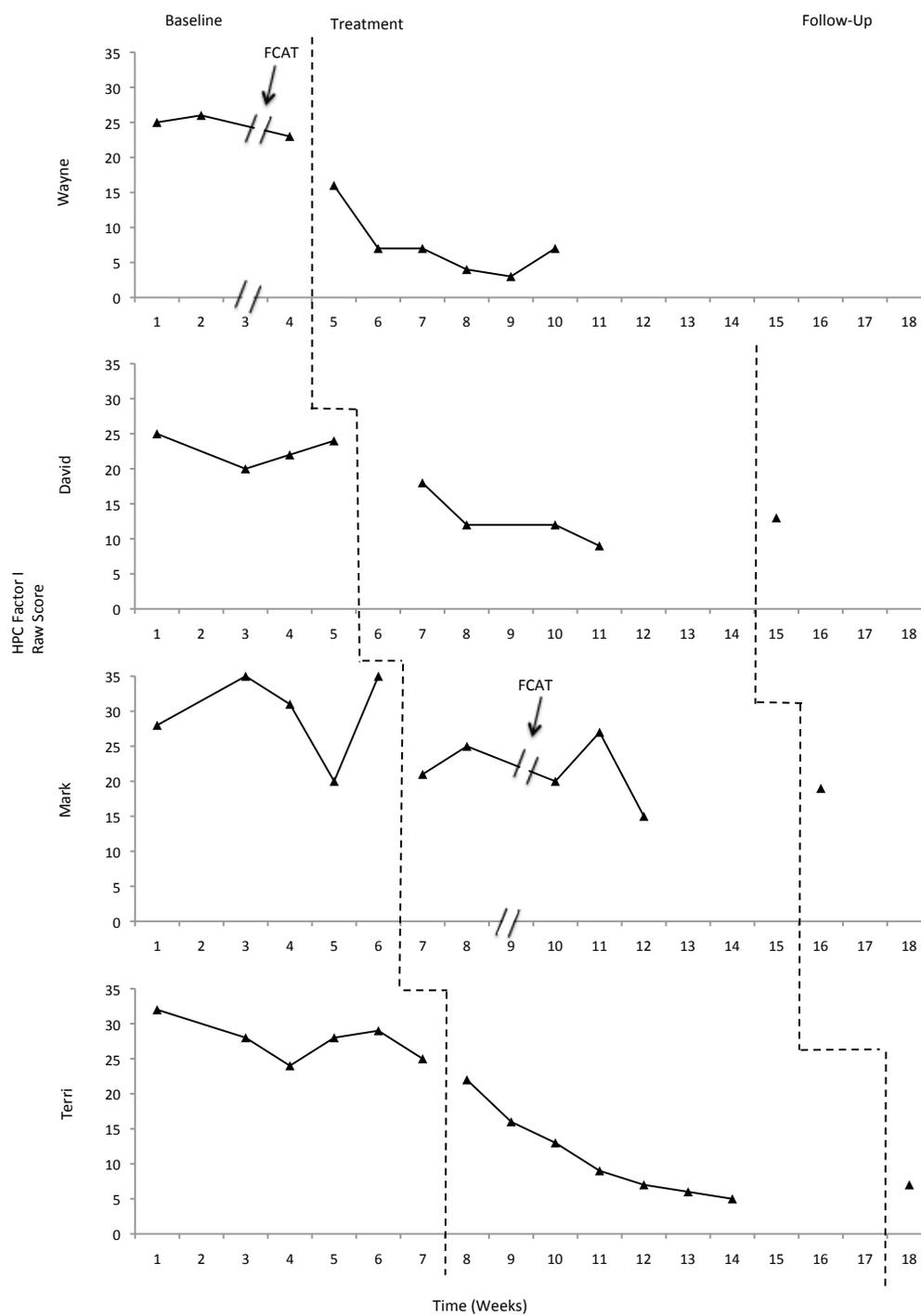
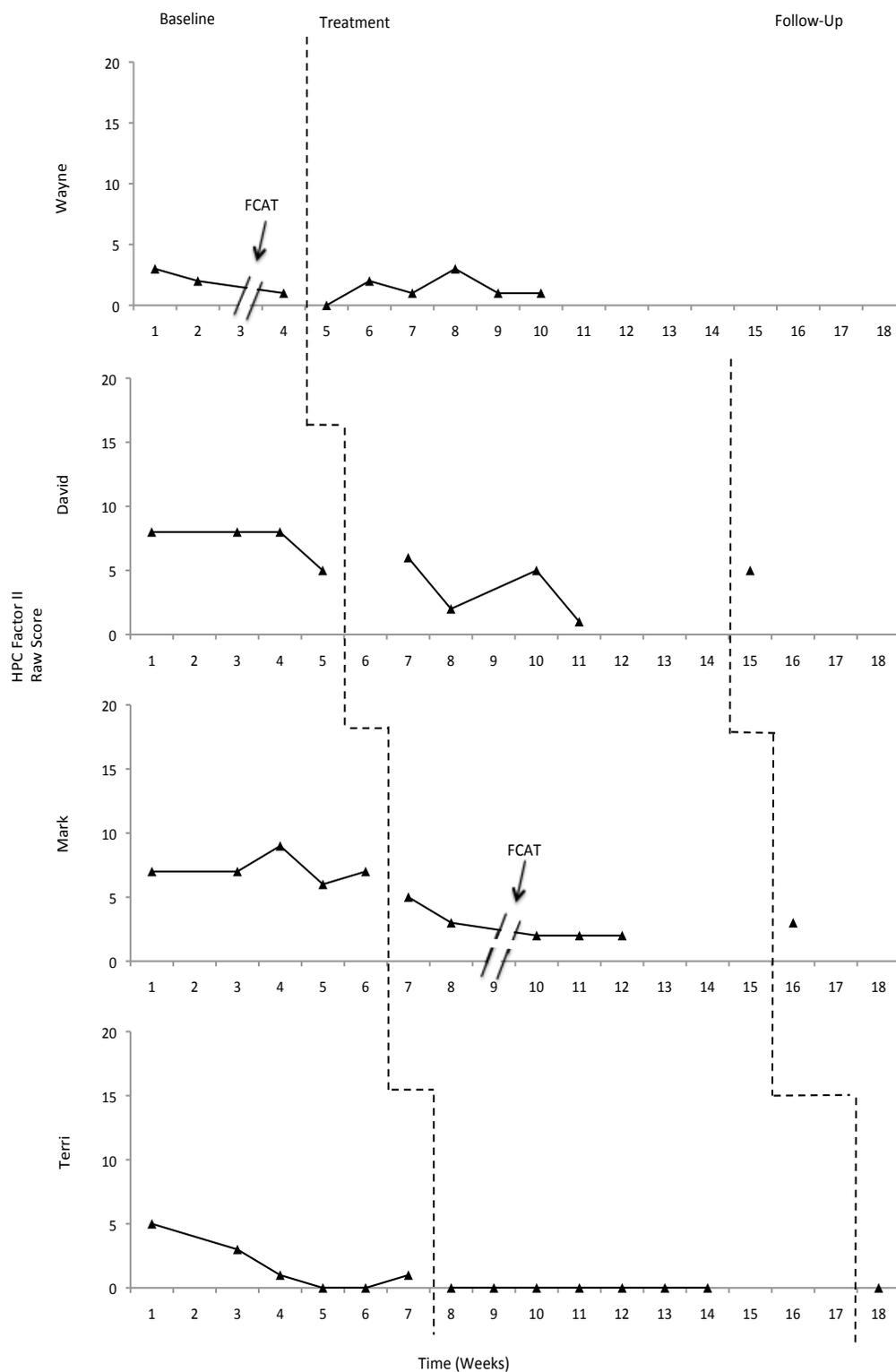


Figure E2. Parents' Raw Scores on Factor II (Poor Productivity/Nonadherence with Homework Rules) of the Homework Problem Checklist (HPC).



Appendix F: Criteria for Concluding Systematic Change Using the CDC Method

Table 1

The Number of Data Points in the Treatment Phase and the Corresponding Number of Data Points That Must Be Above Both Criterion Lines to Conclude That There is a Reliable Treatment Effect Using the DC or CDC Method

Treatment phase	Needed above both criterion lines
5	5
6	6
7	6
8	7
9	8
10	8
11	9
12	9
13	10
14	11
15	12
16	12
17	12
18	13
19	13
20	14
21	14
22	15
23	15

Note. Reprinted from “Visual Aids and Structured Criteria for Improving Visual Inspection and Interpretation of Single-Case Designs,” by W. W. Fisher, M. E. Kelley, and J. E. Lomas, 2003, *Journal of Applied Behavior Analysis*, 36, p. 399. Copyright 2003 by the Society for the Experimental Analysis of Behavior. Reprinted with permission.