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An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children

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AN ASSESSMENT OF GENERALIZATION ACROSS SETTINGS OF A PARENTING STRATEGIES PROGRAM FOR ADHD CHILDREN

by

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Barbara M. Todd-Nelson, Ph.D.

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When collapsed across gender and subject pools, Attention-Deficit/ Hyperactivity Disorder (ADHD) affects three to five percent of school-aged children (DSM-IV, 1994). Intervening upon environmental contingencies for ADHD-diagnosed children is one of the least intrusive forms of treatment and is often very effective (Atkeson & Forehand, 1978; Forehand & King, 1977; Barkley, 1986; Webster-Stratton, 1993). As noted by many researchers (Allen, Tarnowski, Simonian, Elliott & Drabman, 1991; Drabman, Hammer, & Rosenbaum,1979; Stokes & Osnes, 1989), it is necessary to assess generalization of treatment effects across the behavior therapy literature. Few have examined generalization from the home setting to the classroom. Since many referrals occur when problem behaviors are exhibited at school (Al-Issa, 1982) generalization to this setting is of particular interest. The purpose of this study was to assess improvements in classroom behavior consistent with those achieved at home, following a Parenting Strategies Training Program. Results demonstrated clinically significant improvements for the experimental subjects at post-test (Time 3) and follow-up (Time 4). As such, there is evidence to suggest that treatment gains obtained through the Parenting Strategies Program can be generalized to the classroom setting. Furthermore, results suggest that this intervention is an effective method for doing so. However, treatment gains were inconsistent for some dependent measures. Further study would be beneficial to determine which variables are likely to increase the chances of consistently obtaining treatment gains for any particular subject.

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CHAPTER I

INTRODUCTION

Description of Attention-Deficit/Hyperactivity Disorder

Attention-Deficit/Hyperactivity Disorder (ADHD) is defined by the Diagnostic and Statistical Manual of Mental Disorders, Fourth edition (DSM-IV, 1994) as ". . . a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe than is typically observed in individuals at comparable levels of development" (p.78). In addition, some of the symptoms must have existed prior to the child's seventh birthday, even if referral occurs later, and those symptoms must be present in more than one setting. The pattern of behavior must be problematic in at least two life areas such as academic, social or occupational (school) domains, and must hinder age-appropriate performance in those areas. Finally, the symptoms must not be better explained by a different disorder or diagnosis. Secondary symptoms of ADHD often include behavioral noncompliance, reduced frustration tolerance, poor academic performance, troubled relationships with family members, and more problems with social interactions and peer relationships than occur for non-diagnosed children the same age (Johnston, Pelham & Murphy, 1985).

Etiologies

Multiple etiologies have been suggested to underlie the externalizing child behavior disorders. In a summary of this topic, Barkley (1989) noted that early researchers hypothesized that Attention-Deficit/Hyperactivity Disorder (ADHD) was caused by brain injury, environmental toxins or allergens, diet, or elevated blood lead

levels. However, empirical studies have not demonstrated consistent support for these theories (Barkley, 1989; Taylor, 1986). Rather, data suggest that less than five percent of children qualifying for the diagnosis have identifiable neurological abnormalities (Rutter, 1977). Genetic and biological factors have also been investigated with regard to their relationship to ADHD. However, as noted by Ross and Ross (1976), even when ADHD is found to be more common in first degree relatives than in the general population, it is not possible to rule out environmental or interacting extraneous factors which may contribute as much or more than genetics. Furthermore, while a genetic predisposition for ADHD may exist, empirically studying the relationship is possible incorporating only correlational methods.

Presently, there is no single known or accepted cause for the disorder. Instead, correlational research has suggested that several factors may interact to result in qualification for the diagnosis. Some of these specific factors may include: complications during pregnancy or delivery (Milberger, Biederman, Faraone, Guite, & Tsuang, in press), maternal alcohol consumption or smoking during pregnancy (Milberger, Biederman, Faraone, Chen, & Jones, 1996), hereditary/genetic or biological factors (Barkley, 1989; Ross & Ross, 1976) and environmental contingencies (Taylor, 1986).

Prevalence of Attention-Deficit/Hyperactivity Disorder

According to the DSM-IV (1994), the diagnosis of ADHD exists in approximately three to five percent of school-aged children, when collapsed across gender and subject pools. However, prevalence rates, which differ greatly across studies (Al-Issa, 1982) have been reported to range from 1%-20%. Also, boys are four to nine times more likely to receive the diagnosis than are girls (Barkley, 1990).

Assessment

Unfortunately, the diagnosis of ADHD is typically not clear cut. This is due to the fact that no conclusive physiological test can be conducted to determine a child's qualification for the diagnosis. Additionally, children who do meet the criteria for the diagnosis may present quite differently due to the many possible combinations of diagnostic criteria to be met. For instance, a child may meet any six of the nine diagnostic criteria for inattention, or any six criteria out of nine for hyper-activity/impulsivity. Therefore, two children qualifying for the diagnosis may demonstrate quite different behavioral problems depending on which combination of criteria are met. As such, they may topographically appear very different.

Given this, comprehensive assessment is always necessary when there is a question of problems associated with attention, hyperactivity, and/or impulsivity. This is further necessitated because the diagnosis of ADHD often overlaps with Oppositional Defiant Disorder (ODD), Conduct Disorder (CD) (Semrud-Clikeman, Hynd, Lorys & Lahey, 1993; Shapiro, & Garfinkel, 1986), social skills deficits, mood disorders, and anxiety disorders, as well as mental retardation, Learning Disabilities (LD), and Communication Disorders (DSM-IV, 1994; Biederman, Newcorn, & Sprich, 1991). Accordingly, it is necessary to utilize assessment instruments which enable the therapist to rule out these other diagnoses. Ideally, this includes instruments with sufficient normative information to insure that the behaviors examined are truly "developmentally inappropriate". Similarly, assessment instruments which allow the examiner to consider a child's scores in terms of mental age as well as chronological age will provide additional useful information (Barkley, 1987). Furthermore, given the requirements of the diagnostic criteria, it is necessary to assess the child's behavior

with different caregivers and in different settings to determine whether problem behaviors are due to lacking ability (child "can't" behave appropriately) versus lacking motivation (child "won't" behave appropriately). It is then possible to determine whether the presenting concerns are pervasive or if the child's problem behaviors occur in specific domains and are short-lived. Assessment of this type can be accomplished by conducting interviews with the parent(s), the child and the teacher(s), by utilizing standardized behavior checklists with multiple caregivers, and by observing the child at home and in school settings (Barkley, 1986).

With regard to assessment, Al-Issa (1982) notes that the referral of children tends to occur when their behavior is problematic to adults; especially parents and teachers. In other words, most pathologies in children are subjectively determined by adults. Furthermore, problematic behaviors are often perceived to be more interfering once a child begins school. As such, this is a common time for referrals to begin (Al-Issa, 1982).

Pharmacological Treatment

Stimulant medications, such as Ritalin (methylphenidate), Dexedrine (dextroamphetamine or d-amphetamine), and Cylert (magnesium pemoline) are often used to treat children with the diagnosis of ADHD. However, while these medications may be effective, they are not necessarily the best treatment option. For instance, they often result in side effects such as loss of appetite, retarded development or growth, and disrupted sleep patterns (Baldessarini, 1985; Barkley, McMurray, Edelbrook, and Robbins, 1990). In addition, the purpose of pharmacological treatment is to function as an adjunct to other treatment modalities (Julien, 1992), such as parenting strategies training, self-control training, and behavior management at home and in the classroom.

It is important to note, however, that there are many children today who are treated with medication in the absence of any other form of treatment. In some cases, if a child's problem behaviors are reduced during pharmacological treatment, it is considered "proof" that the child qualifies for the diagnosis. The logical flaws regarding this treatment outcome are obvious. In addition, in the past it was believed that psychostimulants had opposing effects on ADHD children as compared to non-ADHD children. Specifically, it was believed that a stimulant would increase activity level in a control child, but would have a paradoxical or calming effect on an ADHD child. However, empirical studies do not support this theory (Baldessarini, 1985; Julien, 1992; Weingartner, Rapoport, Buchsbaum, Bunney, Ebert, Mikkelsen & Caine, 1980). Furthermore, treatment outcome studies for children undergoing stimulant medication trials indicate that improvements in social skills and peer relations as well as academic performance are limited when no other treatment modalities are used in combination with medication (Henker & Whalen, 1989). Also, children treated with medication typically undergo "medication holidays" (such as on weekends or during summers) at which time the drugs are not used. In these cases, when no other treatment modality is utilized, parents may be unable to effectively cope with children's behavior during these times (Wells, 1987). Finally, there are some parents who simply prefer to utilize non-pharmacological interventions to address the behavioral difficulties their children are exhibiting. Also of interest is the fact that some research has suggested that the most effective treatment outcome occurs when medication is used in conjunction with behavioral interventions (Danforth, Barkley & Stokes, 1991).

Parenting Strategies Programs

Intervening upon environmental contingencies for noncompliant, oppositional,

conduct disordered and ADHD-diagnosed children is one of the least intrusive forms of treatment for the child and is often very effective (Atkeson & Forehand, 1978; Barkley, 1986; Forehand & King, 1977; Forehand, Sturgis, McMahon, Aguar, Green, Wells & Breiner, 1979; O'Dell, 1974; Webster-Stratton, 1993). For over two decades, behavior management training programs have been implemented with the parents of children diagnosed with ADHD and other problematic behaviors. These programs are typically referred to as "parent training" or "behavioral management strategies training" programs, the overall goals of which have been to increase compliance rates and on-task behavior in ADHD children while simultaneously decreasing hyperactive and impulsive behaviors (Wells, 1987). Specifically, parents are taught to track or monitor the child's behavior, reward the child when she or he is behaving appropriately, and remove reinforcement or punish the child when she or he misbehaves, (which often is referred as "Time-Out" from reinforcement) (Armstrong, 1995; Forehand, Rogers, Steffe & Middlebrook, 1984; Patterson, & Gullion, 1968).

Numerous studies have examined the effectiveness of parenting strategies programs for children diagnosed with ADHD and other behavior problems. Overall, positive results have been demonstrated. For instance, a review article examining 70 studies (O'Dell, 1974) indicated that parenting strategies programs for modification of ADHD-type behaviors have provided promising results. Although the content and the training approaches of the programs examined differed greatly and some of the studies relied solely on subjective data, most demonstrated effective behavior change. This review also noted the overall lack of empirical support for the generalization and maintenance of changes in children's behavior following the implementation of parenting strategies programs as well as the necessity and relevance of such research.

Other studies have concurrently assessed changes in parents following the

implementation of behavioral interventions such as those noted. For instance, Forehand and King (1977) examined the effects of a specific parent training program while simultaneously assessing changes in parental behavior and attitude toward their child. Results indicated that child behavioral compliance was improved and maintained over a three month period. After the study was concluded, parents were found to have similar attitudes regarding theirs child's level of adjustment as do parents of controls (Forehand & King, 1977).

Another review, (Atkeson and Forehand, 1978) examined 24 studies incorporating multiple outcome measures to examine the effectiveness of parenting strategies programs. Although some differences were noted across dependent measures, overall results from observational data, parent-collected data and questionnaires completed by parents indicated positive results. It was also noted, however, that when the parents were the source of information obtained, treatment outcome was consistently rated higher as compared to data obtained from independent observers. Given this, it is important to incorporate dependent measures completed by parents as well as by independent observers or alternative caregivers such as teachers or babysitters. Doing so provides the most complete data set possible and insures that no significant differences exist between information sources.

Operationalizing Generalization

Drabman, Hammer and Rosenbaum (1979) reviewed a number of studies addressing behavior modification, child behavior and generalization of treatment gains. Drabman, et al., (1979) noted that the definition of generalization across studies has varied. For example, Stokes and Baer's (1977) definition is noted: "The occurrence of relevant behavior under different, non-training conditions (i.e.,: across subjects,

settings, people, behaviors, and/or time) without the scheduling of the same events in those conditions as has been scheduled in the training conditions" (p. 350). However, in order to offer a more operationalized definition, the authors developed a "Generalization Map" which provided specific definitions of four broad categories of generalization. These include generalization across:

1. Time (Response maintenance) "The continuation of a behavior change in the treatment setting following the withdrawal of a behavioral program" (p. 206).

2. Settings "...a change in behavior in settings separate from the specific environment in which treatment occurred" (p. 207).

3. Behaviors "...a change in a behavior not specifically programmed for change in the behavioral system" (p. 207).

4. Subjects "...a change in the behavior of nontarget subjects..." (p. 207).

In addition, after examining each of the above categories dichotomously and in combination, sixteen separate categories of generalization were suggested to offer more operationalized definitions of generalization. The authors' review of a large number of relevant articles published from 1960-1977 indicated that a paucity of research (zero to five studies) existed for the majority of the 16 generalization classes. The authors concluded their review by underlining the importance and relevance of the assessment of generalization of treatment gains in the parenting strategies literature. Furthermore, they pointed out the necessity of including numerous assessment measures in these studies (Drabman, et al., 1979).

A more recent review of articles pertaining to generalization of treatment gains in the behavior therapy research and incorporating the "Generalization Map" (Drabman, et al,. 1979) was conducted by Allen, Tarnowski, Simonian, Elliott and Drabman (1991). The authors examined 15,141 studies from the years 1978 through 1989

published in 28 different behaviorally-based journals. Result indicated that while numerous additional studies have been conducted over the last two decades addressing generalization, almost all of the sixteen categories proposed by (Drabman, et al., 1979) still lack empirical scrutiny.

Stokes and Osnes (1989) also authored an article addressing the necessity of and attempts toward generalization of treatment effects. To effectively examine the effects of setting generalization of treatment gains following an intervention, the authors noted two necessary considerations. First, "Did the behavior occur in generalized circumstances?", and second, "What are the functional variables which account for that generalization?" (Stokes & Osnes 1989) (p. 340). Furthermore, they pointed out that while some studies attempt to address the first consideration, few have systematically assessed the second.

Assessment of Setting Generalization

A number of studies have examined setting generalization of treatment gains obtained through parenting strategies programs. However, few have systematically and effectively examined the generalization of treatment effects from the home to the classroom setting. One reason for this is that earlier studies lacked sufficient assessment measures. In some cases, researchers neglected to include pretest information, incorporated only observational data, or solely relied on teacher or parent report. Those which included sufficient assessment procedures did not consistently demonstrate significant generalization of treatment gains to the school or classroom settings (Forehand & Atkeson, 1977; Stokes & Osnes, 1989).

Wahler (1969) conducted a study to examine setting generality of child behavior therapy. While an intervention was conducted in the home with the parents, no such

intervention took place in the classroom with teachers. The author conducted functional analyses at home and at school to assess for similar contingencies likely to facilitate comparable problem behaviors as well as the generalization of positive treatment effects across settings. Results demonstrated that inappropriate behaviors at home were reduced while comparable behaviors in the classroom remained at baseline. As noted by Forehand and Atkeson (1977) and Stokes and Osnes (1989) this is typically the case when no intervention procedures are in place in the classroom and no specific programming for generalization is utilized.

These result also suggests some degree of independence of settings with regard to the deviant behavior of children. Specifically, it is likely that different contingencies are operating across the two settings. For instance, teachers are generally less able to provide one-on-one feedback for inappropriate behavior as quickly or consistently as are parents. Furthermore, while teachers may be aware of and utilize general principles of behavior modification in their classrooms, it may be difficult or impossible to control the inadvertent reinforcement a child in a group setting receives for inappropriate behavior (e.g., other students laughing when the child acts out).

Another study utilizing direct observation procedures was conducted to assess the generalization of parent training treatment effects from the home to classroom settings (Forehand, Sturges, McMahon, Aguar, Green, Wells & Breiner, 1979). The authors used the same direct observation coding system in the classroom as was utilized in the home. This included measures of child noncompliance, child appropriate behavior, teacher commands, and teacher attention. Improvements in behavior were noted at home, however, no programming for generalization was incorporated. Pre-test and Post-test measures demonstrated no evidence for generalization to classroom setting, which is consistent with the findings of Wahler, (1969), Forehand and

Atkeson, (1977), Stokes and Osnes (1989).

Given this information, in order to increase the likelihood of obtaining generalization of treatment effects across settings; specifically increased compliance and on-task behavior in the classroom, consistent with treatment gains at home, it is necessary to incorporate an intervention with the classroom teachers that is as similar as possible to that which is in place with the parents.

Rationale

As noted by Allen, et al. (1991), Drabman, et al. (1979), Edelstein (1989), and Stokes and Osnes (1989), the need exists to address the generalization of treatment effects across the behavior therapy literature. It is important to examine this issue given that children who exhibit problem behaviors at home often do so in other settings such as the classroom (Wahler, 1969). Consequently, since many referrals occur when problem behaviors are exhibited at school (Al-Issa, 1982) generalization to the classroom setting is of particular interest. Furthermore, when generalization to another setting occurs, more efficient treatment takes place with fewer resources (Forehand & Atkeson, 1977). However, generalization to a non-training setting such as the classroom, where parents are not present and different functional variables may be in effect, is unlikely to occur unless some sort of intervention is conducted with the caregivers in this setting (Forehand & Atkeson, 1977; Stokes & Osnes, 1989; Wahler, 1969).

Purpose

The purpose of this study was to program and assess for improvements in classroom behavior consistent with those achieved at home, following a Parenting Strategies Program (Armstrong, 1995) (See Appendix A). Specifically, assessment of

compliance and on-task behavior (based on parent reported observations, parent and teacher-completed behavior checklists, and direct observations in the home and classroom), was conducted to determine whether treatment gains were generalized from the home to the classroom setting.

As noted by Drabman et al., (1979), there were four broad categories of generalization to be considered. These included generalization across subjects, time, behaviors, and settings. Assessing generalization across subjects was beyond the scope of this study. That is, it was not possible to incorporate the resources necessary to simultaneously observe every individual child in each of the six classrooms. Furthermore, the implementation of this program occurred at home, and past research provides no evidence to suggest that the behaviors of non-targeted subjects in the classroom would be affected without our specifically programming for such an outcome. This design however, allowed assessment of two important factors relating to the generalization of treatment effects.

First, examination of generalization or maintenance of treatment gains across time utilizing a two-month follow-up was conducted. For ethical reasons, a reversal design which would have required teachers and parents to discontinue utilization of the program (which was demonstrating treatment gains) was not incorporated. However, it was requested that participants continue to utilize the treatment program at home and school utilizing at-home consequences through the follow-up assessments. As such, assessment of generalization across time while the behavioral contingencies remained in effect (Drabman, et al., 1979) was conducted. In the event that parents or teachers had discontinued use of the program, this would have been noted and the follow-up assessment would have provided information regarding generalization across time when the program was no longer in effect (Drabman, et al., 1979). However, this was not

necessary as all participants continued to use the program through the end of the school year. Second, generalization across settings was the main emphasis of this study and is defined as: ". . . refer(ing) to a change in behavior in settings different from the specific environment in which the treatment occurred." (Drabman, et al., 1979; p. 207).

Past research has demonstrated that tactics used to program for generalization vary greatly and are rarely done. This is most likely due to the time and resources required to do so. Furthermore, in order for a program for generalization to become widely adopted, it must be brief, simple, and easy to implement for parents, teachers and therapists. Also, it must bear enough resemblance to the home-based program to facilitate generalization. Furthermore, as noted by Wahler, (1969), Forehand and Atkeson, (1977), and Stokes and Osnes, (1989), in order to increase the likelihood of obtaining generalization from the home to a novel setting such as the classroom, it is necessary to incorporate a classroom-based intervention. In this case, it was one with consequences to be implemented at home. Specifically, parents were taught to implement a positive point/response cost program at home, based on the daily report of the teachers, for child behaviors that occurred in the classroom.

Hypotheses

Hypothesis 1: It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' scores on the parent-completed Current Status Checklist (CSC) (See Appendix B) which is a checklist of the DSM-IV (1994) diagnostic criteria for ADHD, would be lower as compared to his or her own pretest/baseline (Time 1 and Time 2) rates, indicating fewer problems with behaviors associated with the diagnosis of ADHD, (but not to be considered as evidence that the subject no longer qualifies for the diagnosis).

Hypothesis 2: It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' scores on the teacher-completed Current Status Checklist (CSC) (See Appendix B) which is a checklist of the DSM-IV (1994) diagnostic criteria for ADHD, would be lower as compared to his or her own pretest/baseline (Time 1 and Time 2) rates, indicating fewer problems with behaviors associated with the diagnosis of ADHD, (but not to be considered as evidence that the subject no longer qualifies for the diagnosis).

Hypothesis 3: It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' scores on the parent-completed Home Situations Questionnaire- Revised (HSQ-R) (DuPaul & Barkley, 1992) would be lower as compared to his or her own pretest/baseline (Time 1 and Time 2) rates, indicating fewer problems paying attention and concentrating across situations at home.

Hypothesis 4: It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' scores on the teacher-completed School Situations Questionnaire- Revised (SSQ-R) (DuPaul & Barkley, 1992) would be lower as compared to his or her own pretest/baseline rates (Time 1 and Time 2), indicating fewer problems paying attention and concentrating across situations at school.

Hypothesis 5: It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' scores on the parent-completed Child Behavior Checklist (CBCL) (Achenbach & Edelbrock, 1983) would be closer to the non-clinically significant range as compared to his or her own pretest/baseline (Time 1 and Time 2) rates, indicating fewer problems with the behaviors assessed.

Hypothesis 6: It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' weekly average scores on the

teacher-completed Classroom Behavior Assessment Instrument (CBAI) (See Appendix C) would be higher as compared to his or her own pretest/baseline (Time 1 and Time 2) rates, indicating an increase in teacher-reported global measures of task completion and compliance in the classroom.

Hypothesis 7: It was expected that at both pretests (Time 1 and Time 2), each of the six individual experimental subjects' rates of compliance (as measured by direct observation) in the classroom would be lower than the six individual non-diagnosed control subjects observed simultaneously.

Hypothesis 8: It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' rates of compliance (as measured by direct observation) in the classroom would be increased as compared to his or her own pretest/baseline (Time 1 and Time 2) rates.

Hypothesis 9: It was expected that, during the three home observation sessions, each of the six individual experimental subjects' rates of compliance (as measured by direct observation) in the home would be increased as compared to his or her own previous rates.

CHAPTER II

METHOD

Participants

The program was offered to fifteen families to insure that six experimental subjects would complete all phases of the study. Following the intake, the study included sixteen total subjects (eight control and eight experimental) ranging in age from six to eleven at the start of the study (See Table 1). All subjects were in mainstream elementary school classrooms at least 75% of the time (due to the fact that it was not feasible to incorporate this particular classroom-based intervention with subjects who have more than one teacher). However, two experimental (and as a result, two control) subjects discontinued participation prior to Phase II of the study, which resulted in a total of twelve subjects (six experimental and six control) completing participation in the study.

During the initial phone contact, all parents gave permission for their child's school to be aware of their participation in the Parenting Strategies Program (See Appendix A). During the intake interviews all parents and teachers verbally reported that each child exhibited significant behavior problems both in the classroom and at home. However, for some subjects, elevations on pretest (Time 1) data were not significant. These subjects did continue participation, however, given that both parents and teachers reported a need for intervention and a desire to participate. Both single and dual parent families were included. Each control subject was selected from teacher-identified, non-diagnosed children with parental permission to participate. These six controls were each matched with the experimental subject in his or her classroom solely

Table 1

Subject Demographic Information

Subject	Gender	Age	Grade	Medication?	Diagnosed?
A	Male	11	5	No	No
B	Female	6	1	Yes	Yes
C	Female	6	1	Yes	Yes
D	Male	10	5	No	Yes
E	Male	8	3	Yes	Yes
F	Male	7	1	Yes	Yes

for comparisons during the direct observation procedures. Five of the six experimental subjects were diagnosed with at least one of the subtypes of ADHD (by a psychologist, a pediatrician, or a psychiatrist) prior to their inclusion in the study. Additionally, for the five who were diagnosed, at some point it had been recommended that they undergo treatment for ADHD with a psychostimulant medication such as Ritalin (methylphenidate), Dexedrine (dextroamphetamine or d-amphetamine), or Cylert (magnesium pemoline). In order to participate it was not necessary that experimental subjects be taking medication at the present time, as long as it had been recommended at some time in the past. (One subject had not been formally diagnosed with ADHD [A], but did demonstrate elevations on all pretest (Time 1) measures. Also, parent and teacher intake interviews suggested a high likelihood that this child would meet diagnostic criteria for ADHD). Finally, all twelve subjects had parental permission/informed consent, in writing from their parents, to participate (See Appendices D and F). Parents and teachers had the opportunity to raise questions or

concerns at any time throughout the study.

Experimental subjects were recruited in a number of ways. This included: (a) Contact with principals, counselors, and teachers at public elementary schools in north-central California; (b) Contact with pediatricians in the same geographical area; and (c) Contact with a local chapter of a national educational and support group for Attention-Deficit/Hyperactivity Disorder (ChADD). Arrangements had been made for the program to be advertised in local newspapers (See Appendix E), however, this was not necessary. Interested parents, pediatricians, and school professionals were given flyers describing the study (See Appendix E). They were informed that the goals of the study were to obtain improvements in compliance and task-related behavior at home and to generalize these treatment gains to the classroom setting. They were also informed that participation would require approximately fourteen to sixteen weeks of implementation of the skills learned during the Parenting Strategies Program (Phase I). The six non-diagnosed control subjects were recruited by sending letters inviting participation and parental consent forms (See Appendix F) to parents of all children of the same gender as the target child in each of the six classrooms, who were identified by the teacher as normal (non-diagnosed) controls with average classroom behavior. The control subject in each classroom was selected from the pool of parental consent forms returned to the teacher based on close seating proximity to the experimental subjects (as dictated by the direct observation procedures).

No prerequisite skills were necessary for subjects' participation, and their history, with the noted exceptions, prior to the study did not affect subject's inclusion. Subjects, parents and teachers were not paid, and participation or exclusion had no bearing on grades. The program was provided free of charge.

Exclusionary Criteria

In order to participate, it was required that experimental subjects not undergo a significant change in their medication status during the study, such as beginning or discontinuing medication. Throughout both phases of the study, parents were instructed to inform investigators of any changes in dose or medication status and these changes were monitored to the greatest extent possible. However, difficulties were noted regarding the monitoring of medical compliance. For instance, one child attended a private school and no supervision was provided regarding compliance with afternoon dose of medication. Similarly, another subject was responsible for taking his morning dose, and in some instances, it reportedly was not taken.

It was also required that no subject have a behavior modification program that was required to be implemented within the classroom and that was determined to be incompatible with this program. Furthermore, no subject was removed from the mainstream classroom for more than 25% of the day for special services (i.e., resource room support, speech and language services, etc.). No subject had a pre-existing Section 504 of the Rehabilitation Act of 1973 or an Individualized Education Program (IEP) in place (Reid & Katsiyannis, 1995) which would prohibit the implementation of this intervention. However, two of the subjects were involved in outpatient family therapy. Discussion with the two therapists was conducted and both indicated that their treatment plans did not address parenting strategies or behavioral interventions. Prior to the participation of these subjects, both therapists agreed the program would be useful to their clients. No subject had physical disabilities, gross neurological disorders, psychosis, or mental retardation (DuPaul, Guevremont, & Barkley, 1992). Subjects with a dual diagnosis were excluded with the exception of those who had a primary diagnosis of ADHD and a secondary diagnosis of Oppositional Defiant

Disorder (ODD) or Learning Disorder (LD). These factors were assessed prior to the Parenting Strategies (Phase I) of the study via an intake interview and a background information form completed by parents.

Setting

The study was based in four north-central California cities with populations ranging from approximately 20,000 and 300,000. All phases of data collection for the study were conducted: (a) on the campus of California State University, Stanislaus, (CSUS); (b) in each of the experimental subjects' homes; and (c) in subjects' elementary schools. Meetings for the Parenting Strategies Program were conducted in conference rooms at the elementary schools for the five experimental subjects living more than ten miles away from the campus of CSUS. For all classroom observations, to the greatest extent possible, measures were taken to insure that the subjects were not aware they were being observed. Specifically, as in prior research (Schachar, Sandberg & Rutter, 1986), at the initial observation sessions, teachers introduced the research assistants as student teachers in the class to observe. The target subjects (one experimental and one non-diagnosed control) were privately designated to the observer(s) by the teachers. By the second set of observations, this was no longer necessary. In some cases, experimental subjects recognized the research assistants from the home observations as it was not always possible for different undergraduate students to conduct classroom and home observations. When this occurred, parents were instructed to tell the experimental subjects that observers were students from the University who were observing a lot of families and elementary school classes for a college class. In these instances, other than saying "Hello", no interactions occurred between observers and subjects. Occasions such as these are noted. The

implementation of the contingency program took place in the subjects' homes and was administered by their parents. Consequently, the subjects remained in familiar, comfortable environments throughout the study.

Measures

Initially, the study attempted to incorporate a multiple baseline design with six experimental subjects. In order to facilitate better control over extraneous variables and to help insure the possibility of replication for future studies, to the greatest extent possible, the selected dependent measures targeted objective, easily defined behaviors. In defining the targets for the present study, two Social Validation methods were incorporated. First, Social Comparison was utilized (Kazdin, 1982). Specifically, the teacher-completed CBAI (See Appendix C) required that teachers compare the behavior of the experimental subject to other students in his or her class. This provided a sample of normative information pertaining to the individual subject's classroom. Second, Subjective Evaluation was utilized (Kazdin, 1982) by collecting data from both parents and teachers to specifically identify problematic behaviors. As noted, both completed the Current Status Checklist (CSC) which is a checklist of the DSM-IV (1994) diagnostic criteria for ADHD (See Appendix B), and the appropriate versions of the Home and School Situations Questionnaires -Revised (DuPaul & Barkley, 1992) which provided consensus across caregivers regarding behaviors at home and in the classroom which were in need of intervention.

Dependent Variables

The dependent variables were collected via parent-completed checklists of diagnostic criteria (See Appendix B), teacher-completed checklists of diagnostic criteria

(See Appendix B), parent-completed Home Situations Questionnaire - Revised (HSQ-R) (DuPaul & Barkley, 1992), teacher-completed School Situations Questionnaire - Revised (SSQ-R) (DuPaul & Barkley, 1992), parent-completed Child Behavior Checklist (CBCL) (Achenbach & Edelbrock 1983), teacher-completed Classroom Behavior Assessment Instrument (CBAI) (See Appendix C), as well as direct observation in the classroom and home.

Current Status Checklist

A number of studies have provided support for the utility of parent and teacher identification of the presence of ADHD symptoms when used in conjunction with professional assessment (Pelham, Gnagy, Greenslade, & Milich 1992; Newcorn, Halperin, Schwartz, Pascualvaca, Wolf, Schmeidler, & Sharma, 1994). Therefore, for the six experimental subjects, parents and teachers completed the Current Status Checklist (CSC) (See Appendix B) which is an 18 item checklist of the DSM-IV (1994) diagnostic criteria for ADHD. The items to be considered specifically address inattention, as well as hyperactivity and impulsivity. This information was obtained to verify agreement with the ADHD diagnostic status and to provide general information regarding problem behaviors present at home and in the classroom prior to the implementation of the intervention (positive point / response cost program). Global scores were totaled for all diagnostic criteria endorsed (scores could range from 0-18), for diagnostic criteria endorsed addressing Inattention (scores could range from 0-9), and for diagnostic criteria endorsed addressing Hyperactivity/Impulsivity (scores could range from 0-9).

This checklist was administered on four occasions. The first, at baseline one (Time 1) prior to the beginning of the Parenting Strategies (Phase I) of the study. The second administration (baseline two) (Time 2) occurred after the Parenting Strategies

(Phase I) of the study and prior to the classroom intervention (Phase II). The third administration (Time 3) occurred after approximately two to four weeks of implementation of the classroom intervention and the fourth administration (Time 4) occurred at two month follow-up. In addition, parents and teachers were asked to report specifically on behaviors occurring in the past week to insure they were reporting the "current" status of the subject's behavior. This provided data for the assessment of changes in behaviors associated with the diagnosis of ADHD following each stage of treatment as well as maintenance across time and generalization across settings and caregivers.

Home and School Situations Questionnaires - Revised

Parents and teachers also completed checklists specifically targeting attention and concentration across a number of different situations. These included the Home Situations Questionnaire-Revised (HSQ-R) (DuPaul & Barkley, 1992) (for parents) and the School Situations Questionnaire-Revised (SSQ-R) (DuPaul & Barkley, 1992) (for teachers). The HSQ-R asks parents whether their child is exhibiting problems in each of 16 situations. If so, parents are then asked to indicate the severity of the problems in that given situation on a scale of 1-9 (mild to severe). Total scores could range from 0-144, with zero reflecting no problems. The SSQ-R asks teachers whether their student is exhibiting problems in each of 13 situations. If so, teachers are then asked to indicate the severity of the problems in that given situation on a scale of 1-9 (mild to severe). Total scores could range from 0-117, with zero reflecting no problems.

These questionnaires have demonstrated the necessary reliability and validity when used for this purpose (DuPaul & Barkley, 1992). These measures were also administered on four occasions. The first, at baseline one (Time 1) prior to the

beginning of the Parenting Strategies (Phase I) of the study. The second administration (baseline two) (Time 2) occurred after the Parenting Strategies (Phase I) of the study and prior to the classroom intervention (Phase II). The third administration (Time 3) occurred after approximately two to four weeks of implementation of the classroom intervention and the fourth administration (Time 4) occurred at two month follow-up. This allowed assessment for changes in attention and concentration across situations following each stage of treatment as well as maintenance across time and generalization across settings.

Child Behavior Checklist

The Child Behavior Checklist (CBCL) (Achenbach & Edelbrock 1983) includes 20 questions related to social competence and 118 questions addressing emotional and physical issues. Resulting scores provided eight clinical scales as well as three summary scales which include externalizing, internalizing, and total indices of global functioning. The CBCL has demonstrated adequate test-retest reliability (Achenbach & Edelbrock, 1983), and has been found to be useful in discriminating children with problems related to the diagnosis of ADHD from children with problems relating to other diagnoses (Mash & Johnson, 1983a). The CBCL was also administered at four times of testing. The first occurred at baseline one (Time 1) prior to the beginning of the Parenting Strategies Program (Phase I) of the study. The second administration (baseline two) (Time 2) occurred after the Parenting Strategies (Phase I) of the study and prior to the classroom intervention (Phase II). The third administration (Time 3) occurred after approximately two to four weeks of implementation of the classroom intervention and the fourth administration (Time 4) occurred at two month follow-up.

Classroom Behavior Assessment Instrument

Given the importance of a global assessment of how problematic classroom behaviors were for each experimental subject (Kazdin, 1982), the study programmed for generalization by training teachers to report classroom behavior and working with parents to implement a contingency program at home that was based on teacher-reported classroom behavior (Forehand & Atkeson, 1977). To accomplish this, teachers completed the Classroom Behavior Assessment Instrument (CBAI) (See Appendix C) which is a global measure assessing the frequency, intensity, and severity of non-compliant and off-task behavior occurring in the classroom. This measure was designed specifically for this study and is based on one devised by Drabman, (personal communication, April, 1995). It was used as a dependent measure to assess changes in each child's on-task and compliant behavior in the classroom. Specifically, for each day that the intervention was in effect, teachers provided two daily global ratings on a Likert-type scale for the experimental subject in their class. Scores could range from one to ten for compliance and one to ten for on-task behavior resulting in daily scores ranging from two to twenty. A score of one described complete absence of compliant and/or on-task behavior, while a score of ten described the subject's compliant and/or on-task behavior as excellent when compared to the average student in the class. (Scores of eight were "average" compared to the rest of the class and were the target scores for experimental subjects). The daily scores obtained on the CBAI were used to determine rewards and punishments for the contingency program to be implemented by parents at home. The CBAI also incorporated a parent-teacher communication / home-work sheet (bound into a notebook) which was returned with each subject each day that the intervention was in effect. This notebook was used to inform parents of the sub-jects' daily obtained global ratings, homework assignments to be completed that

evening, upcoming tests or quizzes, and test scores earned that day. This enabled parents to monitor homework completion and grades earned for the experimental subjects throughout the study.

The CBAI was administered daily for one week, at baseline one (Time 1) prior to the beginning of the Parenting Strategies Program (Phase I). The second administration of the CBAI (at baseline two, Time 2) occurred daily for one week after the Parenting Strategies program and prior to the classroom-based positive point / response cost program (Phase II). During these times of testing, scores were not sent home, parents and children were not informed of scores, and no consequences were incorporated regardless of subjects' obtained scores. At the start of the classroom-based intervention, the measure was completed daily by the teachers through the end of the school year (approximately two-month follow-up). At this time, scores were sent home daily and experimental subjects earned rewards or lost privileges based on those scores.

Direct Observation

Unobtrusive direct observations in the naturalistic settings (home and classroom) were conducted to objectively assess for compliance following parent and teacher requests and commands. Direct observation of subjects prior to both the home- (Time 1) and school-based (Time 2) interventions were conducted to provide a baseline of behavior and to examine for trends. Direct observations during (Time 3) and after (Time 4) implementation of the intervention were conducted to provide assessment and maintenance of behavior change across time.

Classroom Observations

While the coding system used in the classroom would ideally have been the

same as that used by parents in the home (Forehand, et al., 1979), the amount of time required (parents each observed for one hour daily) made this impossible. Instead, twelve observation sessions per experimental subject were conducted by undergraduate research assistants. Multiple observation sessions were used to help prevent reactivity on the part of the teacher (better requests/ prompts resulting in child behavior appearing improved when no actual changes have occurred) or reactivity on the part of the child (behaving better or worse) when an observer was present in the classroom. Furthermore, this number of observations more powerfully demonstrated generalization effects, enabled identification of trends in behavior, and demonstrated the stability of behavior change in the classrooms

Classroom observation sessions occurred three times at baseline one (Time 1) prior to the beginning of the Parenting Strategies Program (Phase I) of the study, three times following Phase I and prior to the classroom intervention (Phase II), (baseline 2, Time 2) three times during the first two to four weeks of implementation of the classroom-based program (Time 3), and three observations in one week conducted at two month follow-up (Time 4).

Home Observations

Direct observations were conducted in the homes of each of the experimental subjects on three occasions. These observations were conducted to verify that parents were correctly implementing the skills learned in the Phase I of the study (i.e.: recognition of child compliance or noncompliance, use of rewards and positive points, use of time-out from reinforcement, and use of back-up punishers). However, in contrast to other studies occurring simultaneously, (Channell, 1997; McGrath, 1997), feedback was provided to the parents at the next session. Specifically, acknowledgement was

made if they had been correctly implementing the skills, but when they were not, the method for doing so was reviewed. Home observations were also conducted to objectively assess child compliance following parent requests and commands. The three home observations occurred during each of the three stages of the Parenting Strategies program. The procedure for the first home observation regarding the assessment of compliance was similar to that utilized for classroom observations. The procedures for the second and third home observations as well as the training of research assistants for these observations is described elsewhere (McGrath, 1997).

Observation Procedures

During the initial observation sessions, observer(s) remained in the home or classroom for approximately five to ten minutes prior to beginning in order to allow subjects and other students and/or family members to habituate to their presence. Observation sessions lasted approximately one hour, and behaviors were observed and coded sequentially. For all classroom observations and for the first home observation, the observer(s) recorded occurrence or nonoccurrence of compliance, the type of request that occurred prior to the response, and the parent's or teacher's response to the child's behavior during each time period. Therefore, the observer(s) also recorded functional relationships of behavior (Stokes & Osnes, 1989), by collecting data on the antecedents and consequences of the occurring behavior. These data provided information regarding behaviors occurring sequentially which resulted in a greater knowledge base about the variables maintaining the behavior (Kazdin, 1982). To the greatest extent possible, all observations for individual subjects were conducted at the same time of day, during times when parents and teachers reported they were likely to make numerous requests. For the teachers, these included requests made to the class as

a whole as well as to individual students. Unfortunately, there were occasions when the class left the regular classroom for extra-curricular activities (Physical Education, music, etc.) that were not known about in advance. These are noted and when possible, the observations were rescheduled.

Interobserver Reliability

As in prior research, (Channell, 1997; McGrath, 1997), observers were trained using a review of definitions, role playing and discussion of coding categories. For one of every three observation sessions, there were two observers (33% of the time). During the other 66% of the time, there was one observer who observed both subjects sequentially. Subjects were observed and behaviors were recorded sequentially as opposed to using a time interval. This was due to the fact that the behaviors observed did not occur at a high enough frequency to necessitate interval coding. During the observation sessions, observers were spaced at least three meters apart in the classroom or home to insure they were observing independently. Agreement was calculated using the formula (A / A + D * 100), where A = agreement and D = disagreement. To the greatest extent possible, the behaviors to be observed were operationally defined and discrete in order to reduce the likelihood of changes due to varying judgements of observers. Steps were also taken to control for instrumentation effects, and to increase the reliability, accuracy and consistency of behaviors observed during the direct observation sessions. Despite this, however, due in part to the fact that observers were typically seated on opposite sides of the classrooms, it was difficult to obtain reliable observational data. Specifically, both observes often did not hear or see all of the same interactions between the experimental or control subjects and the teacher. Following the initial set of observations at baseline one (Time 1), interobserver reliability was ex-

tremely low, with a mean of 64% (range 23% - 93%). Following this, observer re-training was conducted in attempt to increase reliability. However, significant increases were not noted, and following the second set of observations, interobserver reliability remained low, with a mean of 68% (range 38% - 100%). However, once agreement on requests was controlled, agreement was generally higher; with a mean of 94% (range 84% - 100%).

Experimenters

All phases of the study were supervised by a fully licensed psychologist. There were six experimenters in the study. The Parenting Strategies Program (Phase I) was presented by one specially trained doctoral level graduate student (who achieved 100% accuracy on the Knowledge Checks used for parents; See Appendix A). The direct observations for the study were conducted by five advanced undergraduate (or recently graduated) psychology students. No special requirements or contingencies existed for the undergraduate research assistants. They were selected based on prior experience with children and an interest in behavioral interventions for ADHD children. They were not paid, however they had the option to receive field work course credit for their participation.

No specific reinforcers or punishers were used in this study other than praise and appreciation expressed to parents and teachers for their effort and adherence while completing questionnaires and forms and returning them on time.

Independent Variables

In order to demonstrate behavior change across settings, it was necessary to keep the same contingencies in effect in the classroom that were in effect at home

(Drabman et al., 1979). To that end, experimenters strived to keep the same principles of behavior in place across settings as much as possible. Also, in order to insure that the independent variables from Phase I of the study were being implemented correctly, a number of techniques were utilized. Specifically, daily observations by parents, home and classroom observations by research assistants, and parent-completed record sheets were used to monitor this as well as to determine whether or not the behavior of the subjects improved at home. Furthermore, it was required that compliance rates for all subjects improve during the course of the Parenting Strategies Program (Phase I) (25% improvement in compliance rates from baseline to after 'time-out' on at least one dependent measure) to continue participation. These data were included to insure that any lack of improvement in a subject's data was not due solely to failure to achieve initial treatment gains versus failure to generalize those treatment gains across settings.

In order to establish and keep contingencies the same across settings, the study incorporated two phases. The first phase, (Phase I) included an initial intervention which incorporated a Parenting Strategies Program (See Appendix A) in which the parents of the six experimental subjects participated. This program was conducted in three stages: Tracking, Positive Point, and Time-Out. Knowledge checks were administered following each stage to insure that parents had learned the necessary skills for the upcoming week (See Armstrong, 1995; McGrath, 1997 for additional details) (See Appendix A). The second phase (Phase II) of the study took place with the parents of the experimental subjects at home and with the teachers of the subjects in their classrooms. While Phase II of the program was referred to as "classroom-based" this is due to the fact that the classroom was the setting in which data collection occurred and treatment outcome for this portion of the study was assessed. However, consequences for scores earned in the classroom were implemented by parents at home.

The primary independent variable for Phase II of this study was a positive point/response cost contingency program implemented by parents at home based on teacher-reported, global, daily obtained scores on the Classroom Behavior Assessment Instrument (CBAI) (See Appendix C). Consequences were similar to those utilized in Phase I of the study during the Parenting Strategies Program. Specifically, each day that the intervention was in effect, each of the six experimental subjects obtained two scores from his or her teacher ranging from one to ten for compliant behavior and from one to ten for on-task behavior. This resulted in a total daily score ranging from two to 20. These scores and the parent-teacher communication / homework sheet were bound into a notebook which was returned with each subject each day that the intervention was in effect. Each of the six experimental subjects was responsible for bringing the notebook from the teacher to his or her parent(s) at the end of each school day. Failure to do so resulted in a daily obtained score of ten with consequences to be implemented accordingly. At the end of each week, teachers mailed data sheets listing scores earned each day that week and weekly check sheets indicating that they gave the notebook to the child each day and that they had not instituted any new behavioral program for the target child daily (See Appendix C). Rates were calculated to determine the teacher's rate of compliance for each. Compliance rates were at least 90% for returning the form and 100% for not instituting a new behavioral program for continued participation in the study (with the exception of changing the classroom seating arrangements, or changes to a program already in place that were applied to the whole class; such as putting names on the board for misbehavior).

Due to their participation in Phase I of the study, subjects were familiar with the positive point / response cost program. As such, they were informed by their parents prior to the commencement of Phase II, that their total daily obtained scores (home

score + school score) would determine their bedtime and/or other consequences (chosen on an individual basis) for that night (See Appendix H). Depending on the ages of the experimental subjects, parents were asked what the "usual" bedtime was for their child. If the parent(s) chose to use bedtime as a response cost, total daily obtained scores of 16 (which is considered average behavior compared to the class with minimal off-task and noncompliant behavior) or higher resulted in no change in bedtime. No parents chose to use later bedtime as a reward for higher scores. Rewards were earned when experimental subjects obtained total daily scores of 20+ (school score [range of 2-20 points]+ home score; compliance [no maximum] and chore points [two points maximum]). Daily school scores below 16 , resulted in the subject losing time prior to bedtime in half hour increments, or loss of one back-up punisher. For example a score of 14-15 could result in the subject going to bed one half hour earlier (e.g.: from 8:00 pm to 7:30 pm) or loss of one back-up punisher (e.g.: not watching television for that evening). Scores of 12-13 resulted in a one hour earlier bedtime (e.g.: from 8:00 pm to 7:00 pm), or one half hour earlier bedtime and loss of one back-up punisher. Scores of 10-11 resulted in a one hour earlier bedtime (e.g.: from 8:00 pm to 7:00 pm) and loss of one back-up punisher, or one half hour earlier bedtime and loss of two back-up punishers. Scores below 10 resulted in a one hour earlier bedtime (e.g.: from 8:00 pm to 7:00 pm) and loss of two back-up punishers, or one half hour earlier bedtime and loss of three back-up punishers.

Three necessary considerations should be noted. First, for the intervention to be effective, parents must have already been enforcing, or have been willing to enforce a standard bedtime. Furthermore, they must have been willing to make consistent adjustments based on the child's daily obtained score. Second, in order for these contingencies to be effective in changing the behavior of the child, he or she must have

viewed going to bed early as a punishment. In order to determine this information, parents were asked what was currently happening at home with regard to bedtime and how they felt about incorporating this into the intervention. In conjunction with the use of bedtime as a punisher, consequences for classroom behavior were determined based on reinforcer preference and effective punishers from Phase I of the study. Monitoring of sleep deprivation was not necessary as all parents declined use of a later bedtime as a reward for high scores.

As noted, due to the participation of the parents of the six experimental subjects in Phase I of the study, all subjects were familiar with the positive point / response cost system prior to their inclusion in Phase II of the study. In order to increase motivation, at the start of Phase II, all subjects were asked about their reinforcer preferences and were able to choose what it was they wanted to earn in conjunction with parental approval. Lists of six to eight rewards were generated for each experimental subject. Approximately half were social and half were tangible. Some were immediately available while others were delayed. Rewards included, but were not limited to: Fifteen minutes "free time" with mom or dad, playing a game with mom or dad, having a special treat or dessert, renting a video movie or game, getting to choose a small, inexpensive "grab-bag" item, choosing a "puzzle piece" of a large item (bike, roller blades, etc.), sports trading cards, going out to a "fun park", having a friend spend the night, getting a manicure or pedicure from mom or dad, going out to eat at a favorite restaurant, etc. Daily rewards were chosen that could be realistically incorporated each day the child achieved the necessary score. Given this, some rewards (such as going out to eat in a restaurant) were incorporated at the parents' discretion (e.g., with a limit of once per week), and were not a regular choice for the child's daily reward. Back-up punishers included, but were not limited to: No TV, no outside play, no bicycle riding,

no rollerblading, no video games, etc. for the rest of the night.

In order to insure that parents were implementing the appropriate consequences at home, they were asked to keep weekly charts on which they recorded the child's earned home and school score each day and whether or not bedtime changed or other consequences were administered contingently. This was developed in conjunction with the forms from Phase I of the study (See Appendix H). Parents were encouraged to be very honest as accurate data were to their child's benefit. These forms were returned in person during Phase I of the study and via postage paid envelopes during Phase II of the study. Unfortunately, in some instances, parents were unable to implement consequences at home each week (80% of the time or 4 out of 5 school days) as was initially required. This was primarily due to school vacations, child illness, joint parental custody, or year-round school attenders being "off-track". However, in each instance, due to parental commitment and desire to continue participation, these issues were addressed and monitored individually. The importance of consistency was reinforced with the parents, and no subjects discontinued participation for this reason. This occurred as follows for each subject:

Table 2

Percent of Weeks Parents Did Not Implement Intervention Eighty Percent of the Time

Subject	A	B	C	D	E	F	Mean
Phase I	40%	40%	40%	33%	0%	0%	29%
Phase II	43%	0%	14%	0%	0%	14%	12%

It took between four and eight weeks for parents to complete Phase I. During Phase I, parents did not progress to the next stage of treatment when the intervention

had not been implemented 80 percent of the time. During Phase II, parent's were instructed to continue to implement the intervention when they were out of town, which occurred some of the time. Most often consequences were not implemented because the child was not with the parent participating in the program (visiting grandparents, with father, etc.).

Parents were contacted approximately weekly by phone to assess their compliance with the implementation of consequences for daily obtained scores during Phase II, and to insure that parents were continuing to implement the positive point and time-out program. The weekly forms were also used to monitor each experimental subjects' rate of compliance at home. Specifically, in place of the observations parents conducted during Phase I of the study, during Phase II, they were asked to provide a daily global rating of their child's compliance (score 1 to 5) and to record the number of time-outs their child had each day (See Appendix H).

Experimental Design

As noted, a total of twelve child subjects were included. Six of these served as non-diagnosed controls for the sole purpose of classroom direct observation comparisons. The other six served as experimental subjects. In addition, one or both parents of each of the experimental subjects were included. For the six experimental subjects, characteristics were relatively similar on such factors as ADHD diagnosis and medication status (with one exception), age, (6-11 years), SES level, and race. However, due to the limited number of subjects available, the intensive data collection procedures to be incorporated, and the uncontrollable homogeneity and the possible variation in subjects who met criteria for participation (e.g., gender, type and dose of medication prescribed, medication compliance, parent marital status, pervasiveness of problematic

behavior [home and school, etc.]), this study initially attempted to utilize a multiple baseline design (Kazdin, 1982). Phase I of the intervention was applied randomly to experimental subjects at approximately one week intervals. However, due to cancelled appointments, spring break, child and/or parent illness, the up-coming end of the school year, as well as parents' and teachers' strong desire to move to Phase II of treatment, variation in the schedules occurred. Nevertheless, using a small number of experimental subjects allowed a more detailed assessment of the behavior of each of the experimental subjects over time. Use of this design with multiple cases provided information about the stability of behaviors targeted and assessed changes in those behaviors before, during, and after the intervention and over time. Within subject comparisons were made whereby each subject served as his or her own control, and results provided inferences regarding each individual's treatment outcome (Kazdin, 1982). As such, the goal of this study was not to generalize to the entire population of children qualifying for the diagnosis of ADHD, but to intensely examine a cross-section of this population. Whereas group studies do not always allow the experimenter to generalize results to the individuals receiving the treatment, this design did so (Kazdin,1982).

Threats to Internal Validity

Utilization of a multiple baseline design would have provided greater control over threats to validity than the incorporation of case studies or group designs. Given the aforementioned difficulties, control for threats related to history may have been compromised. For instance, although subjects began Phase I at randomly assigned different times, four of the six experimental subjects began Phase II at the same time. Given this, there is less certainty that historical events occurring at the time of the experiment did not extraneously affect the results. However, all of the experimental

subjects did attend different elementary schools in four different cities. The Parenting Strategies Program (Phase I) was completed within a six to eight week period and the classroom-based intervention was completed within an additional twelve to sixteen week period, and therefore, it is unlikely that time passage or maturation effects affected measures of setting generalization. Parents and teachers were required to complete measures on only four occasions across a twenty week time period and child subjects were not required to complete any measure at any time. Therefore, it is unlikely that extraneous effects due to repeated testing influenced the results. In order to control for instrumentation affects, direct observation procedures utilized two observers for 33% of the time throughout both phases of the study. To the greatest extent possible, the behaviors to be observed were operationally defined and were discrete which should have reduced the likelihood of changes due to varying judgements of observers. However, as noted, difficulties occurred regarding the reliability procedures when the requests were not controlled. Given that each subject served as his or her own control, (with the exception of the direct observation procedures), and all six who began Phase II completed participation, statistical regression and attrition did not influence treatment outcome data. Similarly, selection bias was eliminated as a threat to internal validity as the inferences to be made did not depend on comparisons across individuals. Finally, because this design incorporated two phases of one treatment and no reversals, diffusion of treatment effects was unlikely to affect the results obtained (Kazdin, 1982).

Procedure

Phase I

The first phase of the study incorporated a Parenting Strategies training program

for the parents of the six experimental subjects (See Appendix A). Specifically, this program taught parents to: Observe and record their child's compliant and noncompliant behavior (Stage 1, Tracking), reward their child with attention, praise and points for appropriate behavior (Stage 2, Positive Point), and utilize time-out and back-up punishers effectively for noncompliant behavior (Stage 3, time-out). (For a more detailed description of this program, see Armstrong, 1995).

Phase II

The second phase of the study incorporated techniques to facilitate generalization of treatment gains from the home setting to the classroom setting. Steps were taken in each classroom to increase the likelihood that generalization would take place in this setting. Specifically, this included the following:

1. A positive point/response cost contingency program was incorporated with consequences to be implemented at home based on each experimental subject's behavior in the classroom. This allowed the incorporation of contingencies in the classroom similar to those utilized at home. Specifically, the teachers completed the Classroom Behavior Assessment Instrument (See Appendix C) daily. As noted, this measure globally assessed each child's daily compliance and on-task behavior, based on teacher report.

2. A short handout was given to the teachers describing the Parenting Strategies Program that the parents of the experimental subjects underwent (See Appendix I).

3. An approximately five to ten minute long phone conference was held with each teacher. This provided an opportunity for the education of teachers about ADHD (if necessary), discussion regarding the necessity for classroom interventions

Table 3

Experimental Design

	Parent Training (Tracking)	Parent Training (Positive Point)	Parent Training (Time Out)		Classroom Intervention	Post-Test	2 Month Follow-Up
		(4-8 Weeks)		(1 Week)		(2-4 weeks)	(1 Week)
Measure	Time 1			Time 2		Time 3	Time 4
CSC	X			X		X	X
HSQ-R	X			X		X	X
SSQ-R	X			X		X	X
CBAI	1 Week * -			1 Week * -	Through Follow-Up ** +		
D.O.H	X			X		X	X
D.O.C.	X X X			X X X		X X X	X X X

Table 3--Continued

Legend.

CSC = Current Status Checklist.

HSQ-R = Home Situations Questionnaire - Revised.

SSQ-R = School Situations Questionnaire - Revised

CBAI = Classroom Behavior Assessment Instrument.

CBCL = Child Behavior Checklist.

D.O.H. = Direct Observation in the Home.

D.O.C. = Direct observation in the Classroom.

* - = Assessment without the implementation of at-home consequences.

** + = Assessment with the implementation of at-home consequences.

concurrent with home interventions, clarification of the goals of the Parenting Strategies Program, determination when observation sessions should take place, review of the definition of compliance, assessment of subjects' baseline rate of classroom behavior, brief assessment of the degree of rules and structure in the classroom, and discussion of specifics regarding the intervention to be implemented in the classroom.

Dependent measures were administered on four occasions. The first, at baseline one (Time 1) prior to the beginning of the Parenting Strategies (Phase I) of the study. The second administration (baseline two) (Time 2) occurred after the Parenting Strategies Program (Phase I) of the study and prior to the classroom intervention (Phase II). The third administration (Time 3) occurred after approximately two to four weeks of implementation of the classroom intervention and the fourth administration (Time 4) occurred at two month follow-up. This allowed for assessment of changes in behavior following each stage of treatment as well as maintenance across time. The independent variables were in effect for a total of twelve to sixteen nonconsecutive weeks (See Table 3).

CHAPTER III

RESULTS

Overall, it was expected that the experimental subjects would perform better on the dependent measures at post-test (Time 3) and follow-up (Time 4) than at pre-tests (Time 1 and Time 2). Multiple baseline and case study designs incorporating a small number of experimental subjects have historically strived to achieve clinically significant treatment outcomes as opposed to statistically significant ones. Given this, results are addressed using visual inspection of data rather than statistical analyses (Kazdin, 1982). Data are displayed in table and line graph form. Specifically, the following areas have been examined:

1. Mean - The shift in average rate of performance across time (calculated for all measures).

2. Trend - The systematic increases or decreases in scores (calculated for CBAI only; See Appendix G).

Initially, latency (defined as how quickly the behavior changes once the intervention is in effect [Kazdin, 1982]), was to be examined, however given the slow gradual improvement in scores across the weeks, this information was not useful.

As a manipulation check, it was required that all six experimental subjects demonstrated change in behavior (a minimum of 25% increase in compliance) on at least one dependent measure at the end of Phase I following the Parenting Strategies Program. All subjects did so and continued participation into Phase II. Although not all parents returned observational data every week, compliance rates based on parent observation improved a minimum of 66% and a maximum of 466%. Mean

improvement was 181% (See Table 4, Figure 1). Observations were conducted by both parents for two of the subjects (C, E).

Table 4

Parent Tracking / Percent Compliance

Subject	A	B	C	D	E	F	
Week #							Mean
1	32%	33%	31%	18%	44%	12%	28%
2	N/R	44%	32%	51%	44%	19%	38%
3	49%	54%	N/R	43%	53%	25%	45%
4	53%	53%	N/R	42%	62%	22%	46%
5	N/R	80%	N/R	N/R	63%	47%	63%
6	N/R	N/R	N/R	N/R	82%	68%	75%
7	N/R	N/R	90%	N/R	82%	N/R	86%
Percent Improved	66%	142%	190%	133%	86%	466%	181%

For all dependent measures, when two parents were reporting on the same child, the mother's score was used for comparison purposes, however, both scores are included on the table with the fathers' scores in parentheses. The mother's score was used because, in all cases in which both parents completed measures, the mother attended all training sessions during Phase I whereas the two fathers participating did not. Furthermore, past research has typically emphasized the report of the mother (Armstrong, Channell, McGrath, & Maeritsch, 1997), and less information is currently available regarding father-completed data.

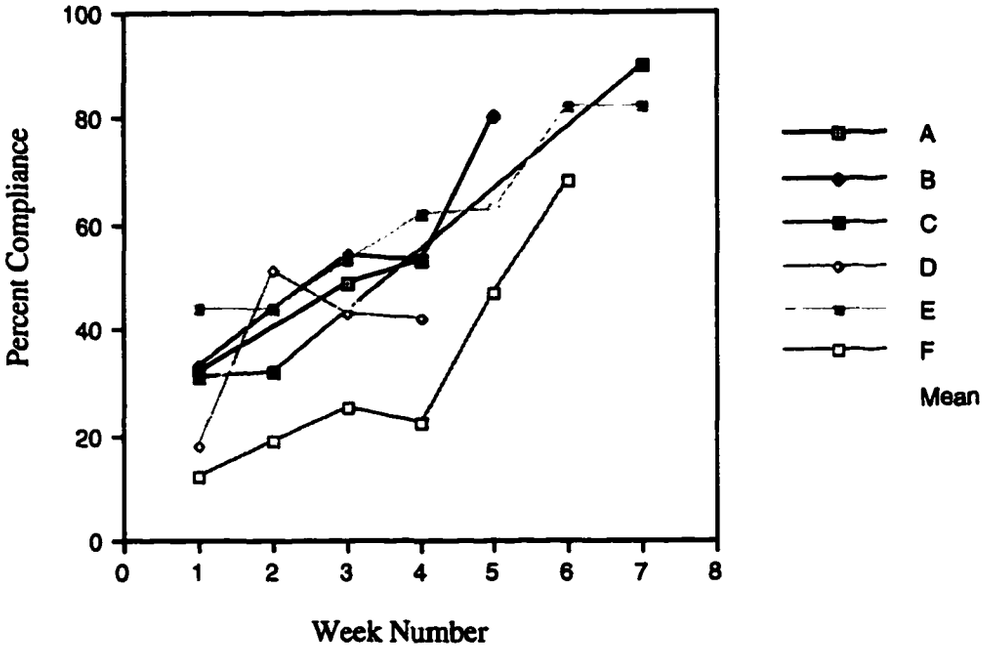

Figure 1. Parent Tracking.

Current Status Checklist (CSC) (Parent-Completed)

It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' total scores on the parent-completed Current Status Checklist (CSC) (See Appendix B) which is a checklist of the DSM-IV (1994) diagnostic criteria for ADHD, would be lower as compared to his or her own pretest/baseline rates (Time 1 and Time 2), indicating fewer problems with behaviors associated with the diagnosis of ADHD (but not to be considered as evidence that the subject no longer qualifies for the diagnosis).

For all six experimental subjects, scores at each of the four times of testing are presented in table and line graph form. Scores have been visually examined for

changes in mean across time. Global scores have been examined for the total number of items endorsed (scores could range from 0-18) (See Table 5, Figure 2) as well as separately for items endorsed addressing Inattention (scores could range from 0-9) (See Table 6, Figure 3) and items endorsed addressing Hyperactivity/Impulsivity (scores could range from 0-9) (See Table 7, Figure 4).

Overall, at pretest (Time 1), experimental subjects had parent-reported mean scores on the CSC of 13 (range 6-16). At pretest 2 (Time 2; following the Parenting Strategies Program and prior to classroom interventions), experimental subjects had parent-reported mean total scores on the CSC of 10 (range 5-14). At Time 3, experimental subjects had parent-reported mean total scores on the CSC of 8 (range 2-12), and at Time 4, experimental subjects had parent-reported mean total scores on the CSC of 8 (range 6-11). In summary, five of the experimental subjects (all but B) demonstrated improvement on this measure based on their parents' report. Average improvement from Time 1 to Time 4 was 6 points (improvement ranged from 3 points to 9 points) for those five subjects demonstrating improvement. However, two subjects demonstrated greater improvements at Time 3 than at Time 4. For one (F), treatment gains were achieved at Time 3, but maintained to a lesser degree at the end of the study. For the other subject (B), slight treatment gains were achieved at Time 3, but scores returned to baseline at Time 4, demonstrating no consistent change in the behaviors assessed for this subject. However, it should be noted that floor effects may have played a part as scores at pretest (Time 1) were quite low for one subject (B). No subject was rated higher (worse) on this measure following either Phase I (Time 2) or Phase II (Time 3) than at pretest (Time 1). Overall, results from this measure provide moderate support for the effectiveness of this intervention (See Table 5, Figure 2).

Table 5

Current Status Checklist (CSC) Parent (Total Scores)

Subject / Time	A	B	C(m)	C(f)	D	E(m)	E(f)	F	Mean
1	16	6	14	(14)	13	16	(15)	15	13
2	10	7	14	(8)	12	14	(16)	5	10
3	11	4	11	(6)	12	8	(15)	2	8
4	8	6	11	(11)	9	8	(15)	6	8
Improve	8	0	3	(3)	4	8	(0)	9	6

Legend.

(m) = Measure completed by the child's mother

(f) = Measure completed by the child's father

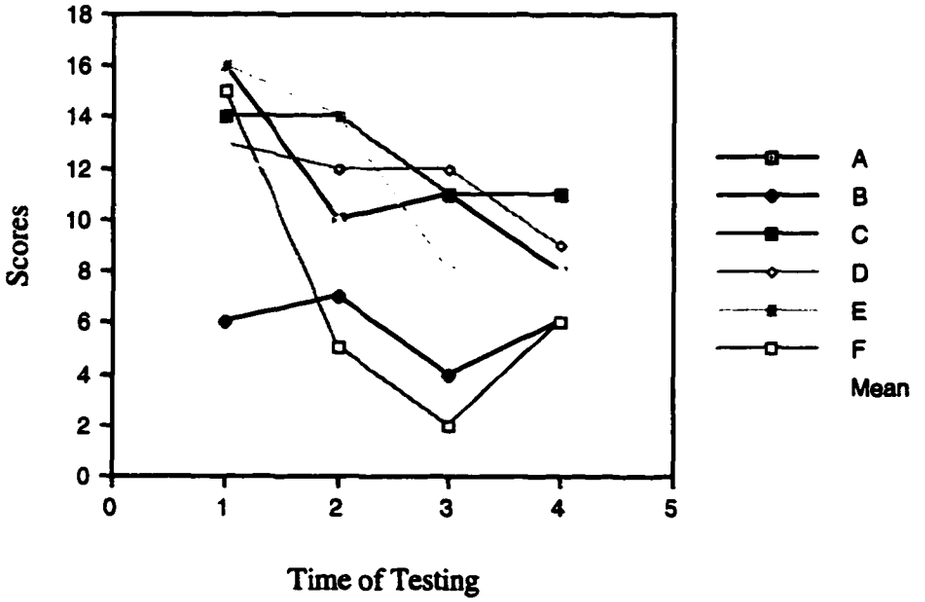

Figure 2. Current Status Checklist (CSC) Parent (Total Scores).

In order to be diagnosed with ADHD-Inattentive Type, a child must meet six of the nine diagnostic criteria pertaining to Inattention. When examining these scores separately in terms of the diagnostic criteria specifically addressing Inattention (See Table 6, Figure 3), five of the six subjects (all but B) met the criteria for a diagnosis of ADHD-Inattentive Type at pretest/baseline (Time 1), based on parent report. At Time 4, scores for three of the five subjects (A, D, F) demonstrating improvements were reduced to the point that they no longer met the criteria for diagnosis of ADHD-Inattentive Type based on their parents' report. Two subjects (C, E) still met the diagnostic criteria, but slight improvements were noted for each. Finally, as noted, one subject (B) did not meet the diagnostic criteria for ADHD-Inattentive Type at Time 1, and was scored as slightly worse at Time 4. Specifically her score changed from 2 to 3, but she still did not meet diagnostic criteria. Once again, due to low scores at pretest (Time 1) for this subject, floor effects may have made improvements difficult to reveal had they been present.

Table 6

Current Status Checklist (CSC) Parent (Inattention)

Subject Time	A	B	C(m)	C(f)	D	E(m)	E(f)	F	Mean
1	9	2	7	(7)	7	8	(6)	8	7
2	9	3	7	(4)	5	6	(8)	1	5
3	7	1	6	(4)	7	6	(6)	0	4
4	4	3	6	(6)	4	6	(6)	1	4
Change	5	(-1)	1	(1)	3	2	(0)	7	4

Legend

(m) = Measure completed by the child's mother

(f) = Measure completed by the child's father

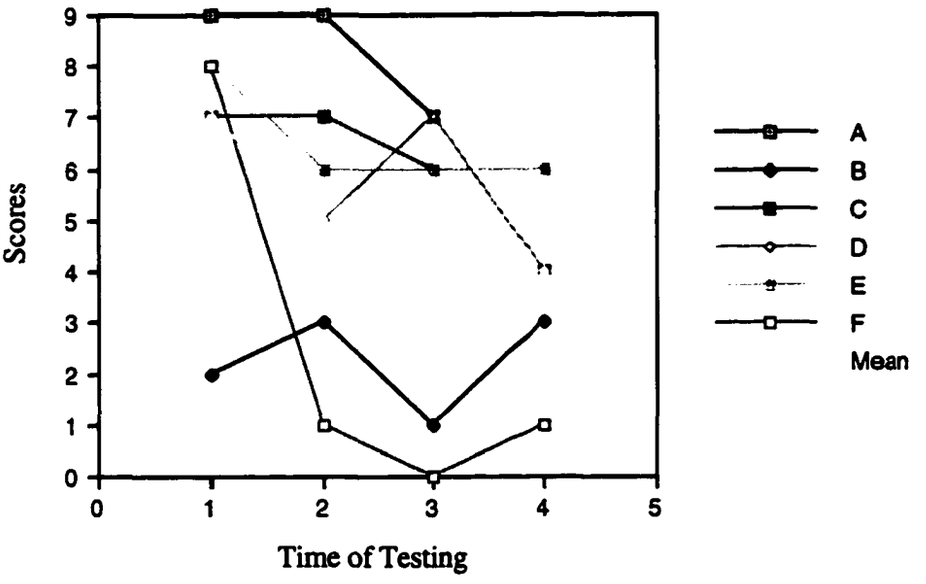

Figure 3. Current Status Checklist (CSC) Parent (Inattention).

In order to be diagnosed with ADHD-Hyperactive/Impulsive Type, a child must meet six of the nine diagnostic criteria pertaining to Hyperactivity/Impulsivity. When examining these scores specifically in terms of the Hyperactivity/Impulsivity criteria (See Table 7, Figure 4), results suggest that at Time 1, the same five experimental subjects met the diagnostic criteria for ADHD-Hyperactive/Impulsive Type. Consequently, these five (not B) met the criteria for ADHD-Combined Type. Results suggest that at Time 4 all subjects had demonstrated at least slight improvements, and no subject met the diagnostic criteria for ADHD-Hyperactive/Impulsive Type at this final time of testing. No subject was rated as higher (worse) on this measure following the intervention.

Table 7

Current Status Checklist (CSC) Parent (Hyperactive/Impulsive)

Subject Time	A	B	C(m)	C(f)	D	E(m)	E(f)	F	Mean
1	7	4	7	(7)	6	8	(9)	7	7
2	1	4	7	(4)	7	8	(8)	4	5
3	4	3	5	(2)	5	2	(9)	2	4
4	4	3	5	(5)	5	2	(9)	5	4
Improve	3	1	2	(2)	1	6	(0)	2	3

Legend

(m) = Measure completed by the child's mother

(f) = Measure completed by the child's father

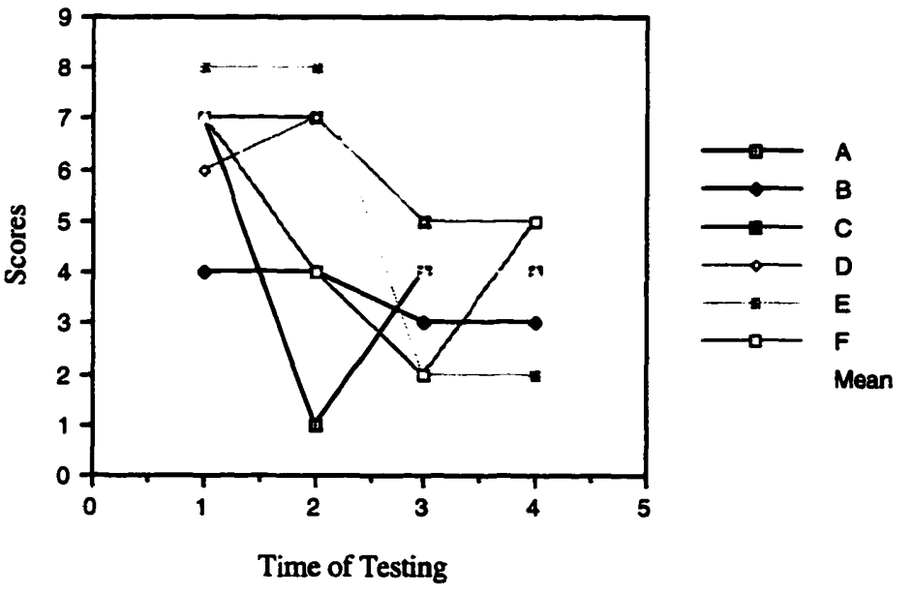

Figure 4. Current Status Checklist (CSC) Parent (Hyperactive/Impulsive).

In summary, based on this parent-completed measure, five subjects (not B) met the diagnostic criteria for ADHD-Inattentive Type and Hyperactive/Impulsive-Type (resulting in diagnoses of ADHD Combined-Type) at pretest (Time 1). At Time 4, two subjects met the diagnostic criteria for ADHD Inattentive-Type (C, E), and none met the diagnostic criteria for ADHD-Hyperactive/Impulsive Type. Significant improvements were noted for subjects demonstrating problems associated with both Inattention and Hyperactivity/Impulsivity.

Current Status Checklist (CSC) (Teacher-Completed)

It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' total scores on the teacher-completed Current Status Checklist (CSC) (See Appendix B) which is a checklist of the DSM-IV (1994) diagnostic criteria for ADHD, would be lower as compared to his or her own pretest/baseline (Time 1 and Time 2) rates, indicating fewer problems with behaviors associated with the diagnosis of ADHD, (but not to be considered as evidence that the subject no longer qualifies for the diagnosis).

For all six experimental subjects, scores at the four times of testing are presented in table and line graph form. Scores have been visually examined for changes in mean across time. Global scores have been examined for total items endorsed (scores could range from 0-18) (See Table 8, Figure 5) as well as for items endorsed addressing Inattention (scores could range from 0-9) (See Table 9, Figure 6) and items endorsed addressing Hyperactivity/Impulsivity (scores could range from 0-9) (See Table 10, Figure 7).

Overall, teacher-completed CSC scores were as follows (See Table 8, Figure 5): at pretest (Time 1), the six experimental subjects had teacher-reported mean total

scores on the CSC of 8 (range 3-14). At pretest 2 (Time 2; following the Parenting Strategies Program and prior to classroom interventions), the six experimental subjects had teacher-reported mean scores on the CSC of 6 (range 2-15). Despite repeated efforts to contact her, one teacher (F) did not return questionnaires from Time 3 or Time 4 of testing. However, her report indicated that this child demonstrated improvements of 5 points from Time 1 to Time 2 of testing (although contingencies were not in place for this). At Time 3, the five experimental subjects whose teachers returned the measures had teacher-reported mean scores on the CSC of 2 (range 0-5), and at Time 4 of testing the five experimental subjects whose teachers returned the measures had teacher-reported mean scores on the CSC of 2 (range 0-5). In summary, subjects with complete data demonstrated improvement on this measure based on their teachers' report. However, due to low scores at pretest (Time 1) for some subjects (C, D), these improvements may be less obvious due to floor effects. Average improvement from baseline to Time 4 of testing was 5 points for subjects with complete data (improvement ranged from 1 point to 14 points).

Table 8

Current Status Checklist (CSC) Teacher (Total Scores)

Subjects / Time	A	B	C	D	E	F	Mean
1	7	8	3	4	14	10	8
2	6	8	2	2	15	5	6
3	3	5	1	3	0	N/R	2
4	3	5	1	3	0	N/R	2
Improve	4	3	2	1	14	(5)	5

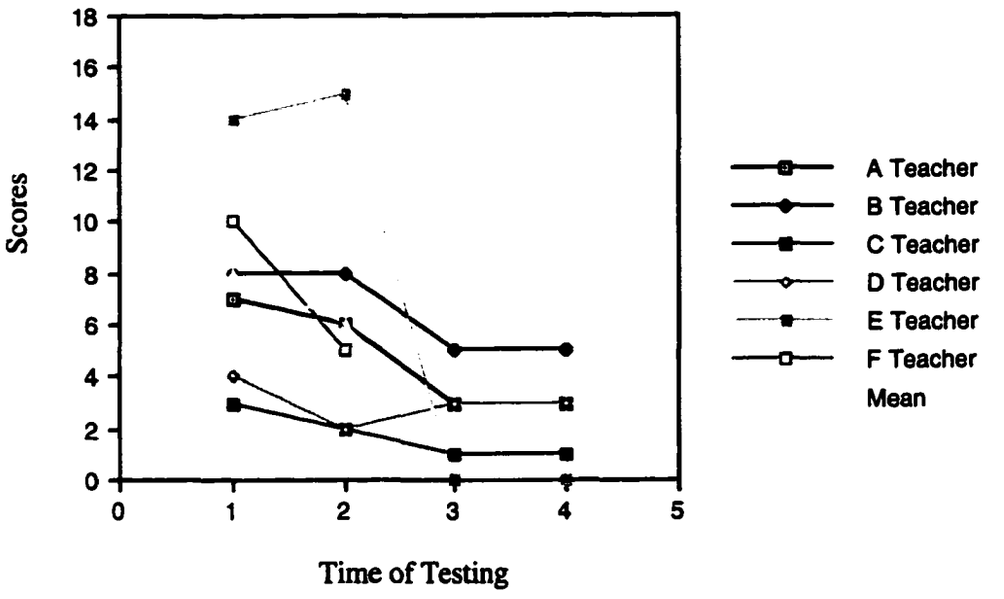

Figure 5. Current Status Checklist (CSC) Teacher (Total Scores).

As noted, in order to be diagnosed with ADHD-Inattentive Type, a child must meet six of the nine diagnostic criteria pertaining to Inattention. When examining these scores in terms of the diagnostic criteria specifically addressing Inattention (See Table 9, Figure 6), two of the five subjects with complete data (A, E) met the criteria for a diagnosis of ADHD-Inattentive Type at Time 1 based on their teacher's ratings (one of these [E] also met the criteria for ADHD-Hyperactive/Impulsive Type, resulting in a diagnosis of ADHD-Combined Type for this subject). At Time 4, scores for both of these subjects were reduced to the point that they no longer met the criteria for diagnosis of ADHD-Inattentive Type. All subjects demonstrated at least slight improvements on this measure at Time 4 as compared to Time 1, with no subjects meeting the diagnostic criteria for ADHD Inattentive-Type following the study.

Table 9

Current Status Checklist (CSC) Teacher (Inattention)

Subjects Time	A	B	C	D	E	F	Mean
1	6	5	2	3	6	7	5
2	5	5	1	2	6	3	4
3	3	3	1	1	0	N/R	2
4	3	2	1	2	0	N/R	2
Improve	3	3	1	1	6	(4)	3

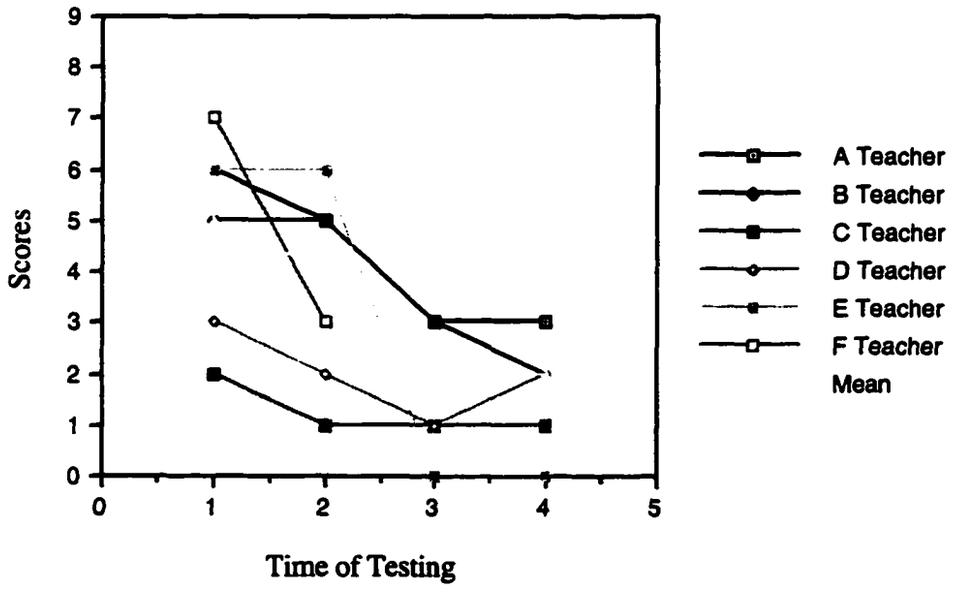

Figure 6. Current Status Checklist (CSC) Teacher (Inattention).

In order to be diagnosed with ADHD-Hyperactive/Impulsive Type, a child must meet six of the nine diagnostic criteria pertaining to these diagnostic criteria. When examining these scores in terms of the diagnostic criteria specifically addressing

Hyperactivity/Impulsivity (See Table 10, Figure 7), one subject (E) met the criteria for a diagnosis of ADHD-Hyperactive/Impulsive Type at Time 1 based on teacher's ratings. This subject also met the criteria for ADHD Inattentive Type, resulting in a diagnosis of ADHD Combined-Type. At Time 4, the score for this subject was reduced to the point that he no longer met the criteria for diagnosis of ADHD-Hyperactive/Impulsive Type. Of the five subjects with complete data, none were rated as worse on this measure at Time 4 as compared to Time 1, and four subjects demonstrated at least slight improvements.

Table 10

Current Status Checklist (CSC) Teacher (Hyperactive/Impulsive)

Subjects Time	A	B	C	D	E	F	Mean
1	1	3	1	1	8	3	3
2	1	3	1	0	9	2	3
3	0	2	0	2	0	N/R	1
4	0	3	0	1	0	N/R	1
Improve	1	0	1	0	8	(1)	2

Based on this teacher-completed measure, two subjects met the diagnostic criteria for ADHD Inattentive Type, and one met the diagnostic criteria for ADHD Hyperactive/Impulsive Type as well, resulting in a diagnosis of ADHD - Combined Type at pretest (Time 1). At Time 4, no subjects met the diagnostic criteria for ADHD Inattentive Type or Hyperactive/Impulsive Type.

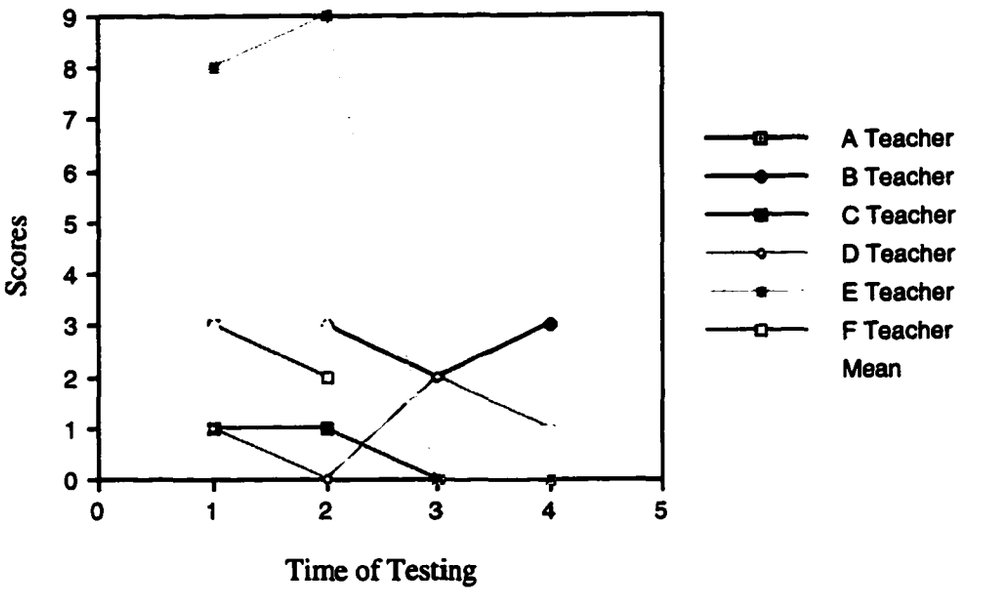

Figure 7. Current Status Checklist (CSC) Teacher (Hyperactive/Impulsive).

Home Situations Questionnaire - Revised (HSQ-R)

It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' total scores on the parent-completed Home Situations Questionnaire- Revised (HSQ-R) (DuPaul & Barkley, 1992) would be lower as compared to his or her own pretest/baseline rates (Time 1 and Time 2), indicating fewer problems paying attention and concentrating across home situations.

Again, for all six experimental subjects, scores at each of the four times of testing are presented in table and line graph form. Scores have been visually examined for changes in mean across time. Total scores could range from 0-144, with zero reflecting no problems (See Table 11, Figure 8).

Overall, at pretest (Time 1), experimental subjects had parent-reported mean scores on the HSQ-R of 75 (range 34-115). At pretest 2 (following the Parenting Strategies Program and prior to classroom interventions) (Time 2), experimental

subjects had parent-reported mean scores on the HSQ-R of 44 (range 4-100). At Time 3, experimental subjects had parent-reported mean scores on the HSQ-R of 37 (range 19-64), and at Time 4, experimental subjects had parent-reported mean scores on the HSQ-R of 35 (range 4-50). In summary, all six experimental subjects demonstrated improvement on this measure based on their parents' report. Average improvement from baseline to Time 4 of testing was 40 points (improvement ranged from 3 points to 74 points). However, the amount improved varied greatly (mean 40 points; range 3 to 74). For the subject whose parent-reported scores on this measure only improved 3 points (B), once again, detection of clinically significant improvements was limited with this measure given the floor effects due to low a low scores at Time 1.

Table 11

Home Situations Questionnaire - Revised (HSQ-R)

Subject / Time	A	B	C (m)	C (f)	D	E (m)	E (f)	F	Mean
1	34	41	80	(59)	94	115	(80)	87	75
2	4	20	60	(56)	100	60	(54)	22	44
3	19	35	38	(43)	64	41	(57)	26	37
4	4	38	35	(39)	50	41	(55)	43	35
Improve	30	3	45	(20)	44	74	(25)	44	40

Legend.

(m) = Measure completed by the child's mother

(f) = Measure completed by the child's father

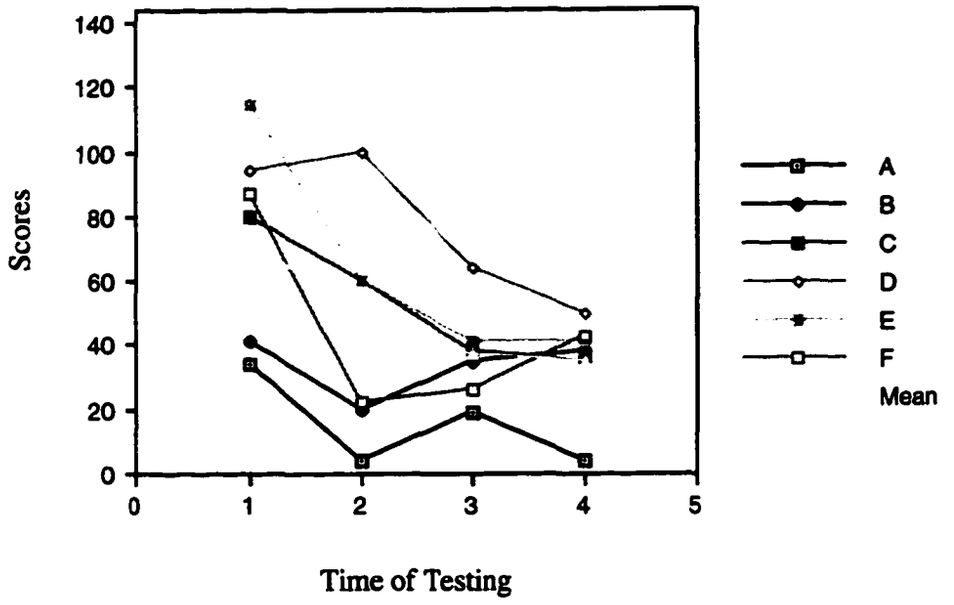

Figure 8. Home Situations Questionnaire - Revised (HSQ-R).

School Situations Questionnaire - Revised (SSQ-R)

It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' scores on the teacher-completed School Situations Questionnaire- Revised (SSQ-R) (DuPaul & Barkley, 1992) would be lower as compared to his or her own pretest/baseline (Time 1 and Time 2) rates, indicating fewer problems paying attention and concentrating across school situations.

For all six experimental subjects, scores at each of the four times of testing are presented in table and line graph form. Scores have been visually examined for changes in mean across time. Total scores could range from 0-117, with zero reflecting no problems (See Table 12, Figure 9). Overall, at pretest (Time 1), the six experimental subjects had teacher-reported mean scores on the SSQ-R of 39 (range 12 - 85). At pretest 2 (Time 2; following the Parenting Strategies Program and prior to

classroom interventions), the six experimental subjects had teacher-reported mean scores on the SSQ-R of 34 (range 8 - 67). At Time 3 of testing the five experimental subjects whose teachers returned the measures had teacher-reported mean scores on the SSQ-R of 19 (range 3-44), and at Time 4 of testing the five experimental subjects whose teachers returned the measures had teacher-reported mean scores on the SSQ-R of 17 (range 0-51).

Table 12

School Situations Questionnaire - Revised (SSQ-R)

Subject / Time	A	B	C	D	E	F	Mean
1	53	31	21	12	85	31	39
2	46	32	34	15	67	8	34
3	18	23	44	6	3	N/R	19
4	11	18	51	6	0	N/R	17
Change	42	13	(-30)	6	85	(23)	37*

Legend * = Average improvement from baseline (Time 1) to Time 4 of testing was 37 points (range 6-85) for the four subjects with complete data and noted improvements.

In summary, of the five experimental subjects with complete teacher data, four demonstrated improvements on this measure based on their teachers' report. However, once again, due to low scores at pretest (Time 1) for one subject (D), improvements may be less obvious due to floor effects. *Average improvement from baseline (Time 1) to Time 4 of testing was 37 points (range 6-85) for the four subjects with complete data and noted improvements. However, scores for one child (C) got progressively

worse across time. Scores at Time 4 of testing for this child were 30 points higher than at baseline (Time 1). However, according to her parents, this child experienced a number of significant stressors during this time period (death of a good friend, mother working longer than usual hours, etc). Also, as noted, despite repeated efforts to contact her, one teacher (F) did not return questionnaires from Time 3 or Time 4 of testing. However, her report indicated that this child demonstrated improvements of 23 points from Time 1 to Time 2 of testing (although contingencies were not in place for this). Overall, this measure provided moderate support for the effectiveness of this intervention based on teacher report.

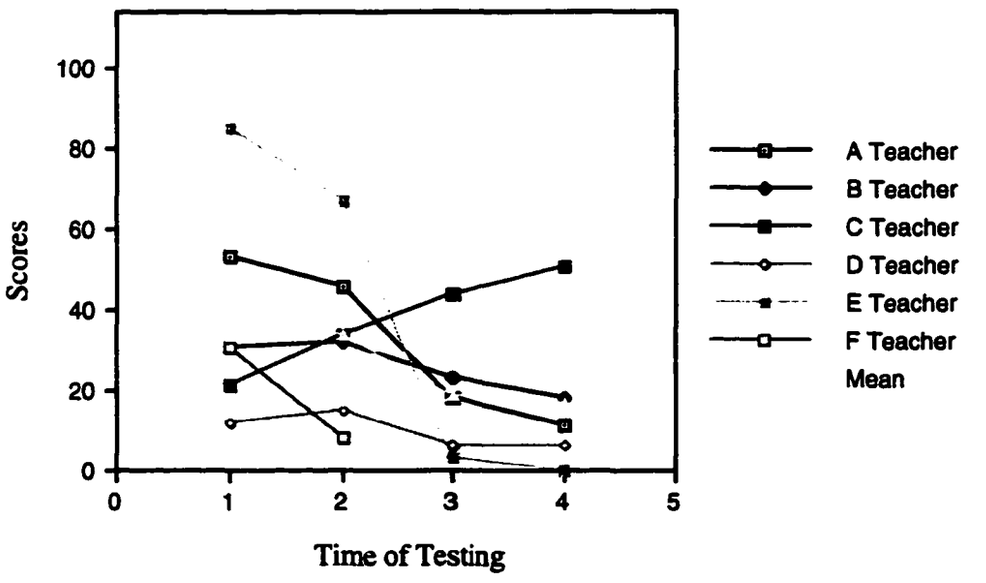

Figure 9. School Situations Questionnaire - Revised (SSQ-R).

Child Behavior Checklist (CBCL)

It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' scores on the parent-completed Child Behavior

Checklist (CBCL) (Achenbach & Edelbrock, 1983) would be closer to the non-clinically significant range as compared to his or her own pretest/baseline rates (Time 1 and Time 2), indicating fewer problems with the school-based behaviors assessed.

For all six experimental subjects, the T-scores for clinical and summary scales at each of the four times of testing are presented in table and line graph form (See Tables 13 and 14, Figures 10 and 11). A total of eight clinical scales could be elevated, and three summary scales could be elevated. Scales have been examined for changes in mean elevation across time.

Overall, when considering the total number of scale elevations (See Table 14) at pretest (Time 1), experimental subjects had an average of 2.3 elevated clinical scales (range 0-6), and an average of 2.2 elevated summary scales (range 1-3). At pretest 2 (Time 2; following the Parenting Strategies [Phase I] Program and prior to the classroom interventions [Phase II]), experimental subjects had an average of 1.3 elevated clinical scales (range 0-5), and an average of 1 elevated summary scale (range 0-3). At Time 3 of testing experimental subjects had an average of .67 elevated clinical scales (range 0-2), and an average of 1 elevated summary scale (range 0-3). At Time 4 of testing, experimental subjects had an average of .33 elevated clinical scales (range 0-2), and an average of .5 elevated summary scales (range 0-2). In summary, five subjects (all but D) demonstrated improvement on this measure based on parent report. Average improvement from Time 1 to Time 4 of testing was 2 elevated clinical scales and 1.67 summary scales reduced to non-clinically significant range for those five subjects. The sixth subject (D) had two scales elevated at Times 1 and 4 of testing demonstrating no change in parent-reported behavior assessed with the CBCL (See Table 14).

Table 13

Child Behavior Checklist (CBCL) T-scores

Time	Scales	Subjects					
	Clinical	A	B	C	D	E	F
1	1. Withdrawn	T=50	T=50	T=54	T=54	T=54	T=67*
2	1. Withdrawn	T=50	T=50	T=50	T=50	T=54	T=54
3	1. Withdrawn	T=61	T=50	T=50	T=54	T=50	T=54
4	1. Withdrawn	T=50	T=50	T=50	T=54	T=50	T=54
1	2. Somatic	T=61	T=54	T=64	T=50	T=82**	T=61
2	2. Somatic	T=56	T=50	T=50	T=67*	T=67	T=50
3	2. Somatic	T=61	T=50	T=62	T=56	T=50	T=50
4	2. Somatic	T=56	T=58	T=50	T=56	T=50	T=50
1	3. Anx./Depress.	T=52	T=50	T=66	T=62	T=79**	T=55
2	3. Anx./Depress.	T=50	T=50	T=59	T=58	T=72**	T=50
3	3. Anx./Depress.	T=64	T=50	T=52	T=58	T=64	T=50
4	3. Anx./Depress.	T=58	T=50	T=52	T=58	T=64	T=50
1	4. Social Probs.	T=56	T=52	T=52	T=64	T=73**	T=68*
2	4. Social Probs.	T=50	T=50	T=52	T=60	T=80**	T=56
3	4. Social Probs.	T=64	T=52	T=50	T=52	T=60	T=60
4	4. Social Probs.	T=56	T=52	T=50	T=52	T=64	T=56

Table 13--Continued

Time	Scales	Subjects					
	Clinical	A	B	C	D	E	F
1	5.Thought Probs	T=64	T=65	T=70**	T=64	T=70**	T=70**
2	5.Thought Probs	T=57	T=58	T=50	T=64	T=70**	T=64
3	5.Thought Probs	T=67*	T=58	T=50	T=64	T=50	T=67*
4	5.Thought Probs	T=57	T=65	T=50	T=64	T=50	T=67*
1	6. Attention	T=57	T=61	T=77**	T=69*	T=78**	T=70**
2	6. Attention	T=51	T=51	T=63	T=70**	T=75**	T=54
3	6. Attention	T=60	T=58	T=50	T=63	T=65	T=54
4	6. Attention	T=54	T=54	T=58	T=63	T=65	T=57
1	7. Delinquent	T=63	T=62	T=67*	T=75**	T=70**	T=67*
2	7. Delinquent	T=54	T=51	T=67*	T=78**	T=54	T=54
3	7. Delinquent	T=70**	T=51	T=51	T=72**	T=59	T=63
4	7. Delinquent	T=54	T=50	T=50	T=72**	T=54	T=59
1	8. Aggressive	T=68*	T=64	T=78**	T=83**	T=69*	T=73**
2	8. Aggressive	T=55	T=50	T=62	T=88**	T=70**	T=53
3	8. Aggressive	T=68*	T=50	T=57	T=77**	T=56	T=64
4	8. Aggressive	T=55	T=50	T=57	T=77**	T=55	T=65

Table 13--Continued

Time	Scales	Subjects					
	Summary	A	B	C	D	E	F
1	Internalizing	T=51	T=43	T=65**	T=59	T=77**	T=61*
2	Internalizing	T=43	T=33	T=54	T=60*	T=70**	T=43
3	Internalizing	T=64**	T=46	T=52	T=57	T=57	T=46
4	Internalizing	T=53	T=46	T=46	T=57	T=57	T=46
1	Externalizing	T=68**	T=64**	T=74**	T=78**	T=70**	T=71**
2	Externalizing	T=54	T=40	T=64**	T=82**	T=68**	T=53
3	Externalizing	T=69**	T=42	T=56	T=74**	T=56	T=65**
4	Externalizing	T=54	T=40	T=54	T=74**	T=54	T=65**
1	Total Probs.	T=66**	T=61*	T=73**	T=72**	T=76**	T=72**
2	Total Probs.	T=51	T=43	T=60*	T=74**	T=72**	T=56
3	Total Probs.	T=70**	T=49	T=51	T=70**	T=58	T=63*
4	Total Probs.	T=56	T=49	T=50	T=70**	T=57	T=63*

Legend. * = Borderline elevations for clinical scales T=67-69.

* = Borderline elevations for summary scales T=60-63.

** = Clinical elevations for clinical scales T=70 or higher.

** = Clinical elevations for summary scales T=64 or higher.

For all six experimental subjects, the T-scores for clinical and summary scales at each of the four times of testing are presented in table and line graph form (See Table

13, Figures 10 and 11). A total of eight clinical scales could be elevated, and three summary scales could be elevated. Scales have been examined for changes in mean elevation across time.

Table 14

Child Behavior Checklist (CBCL) Number of Scales Elevated

Subjects / Time	A	B	C(m)	C(f)	D	E(m)	E(f)	F	Mean
1	0 / 2	0 / 1	3 / 3	(1 / 2)	2 / 2	6 / 3	(5 / 3)	3 / 2	2.3/ 2.2
2	0 / 0	0 / 0	0 / 1	(0 / 0)	3 / 2	5 / 3	(5 / 3)	0 / 0	1.3 / 1
3	2 / 3	0 / 0	0 / 0	(0 / 0)	2 / 2	0 / 0	(3 / 3)	0 / 1	.67 / 1
4	0 / 0	0 / 0	0 / 0	(0 / 0)	2 / 2	0 / 0	(1 / 3)	0 / 1	.33 / .5
Improve	0 / 2	0 / 1	3 / 3	(1 / 2)	0 / 0	6 / 3	(4 / 0)	3 / 1	2 / 1.7

Legend.

(m) = Measure completed by the child's mother

(f) = Measure completed by the child's father

Regarding the total number of scale elevations (See Table 14, Figures 10 and 11) at pretest (Time 1), experimental subjects had an average of 2.3 elevated clinical scales (range 0-6), and an average of 2.2 elevated summary scales (range 1-3). At pretest 2 (Time 2), experimental subjects had an average of 1.3 elevated clinical scales (range 0-5), and an average of 1 elevated summary scale (range 0-3). At Time 3, experimental subjects had an average of .67 elevated clinical scales (range 0-2), and an average of 1 elevated summary scale (range 0-3). At Time 4, experimental subjects had an average of .33 elevated clinical scales (range 0-2), and an average of .5 elevated

summary scales (range 0-2).

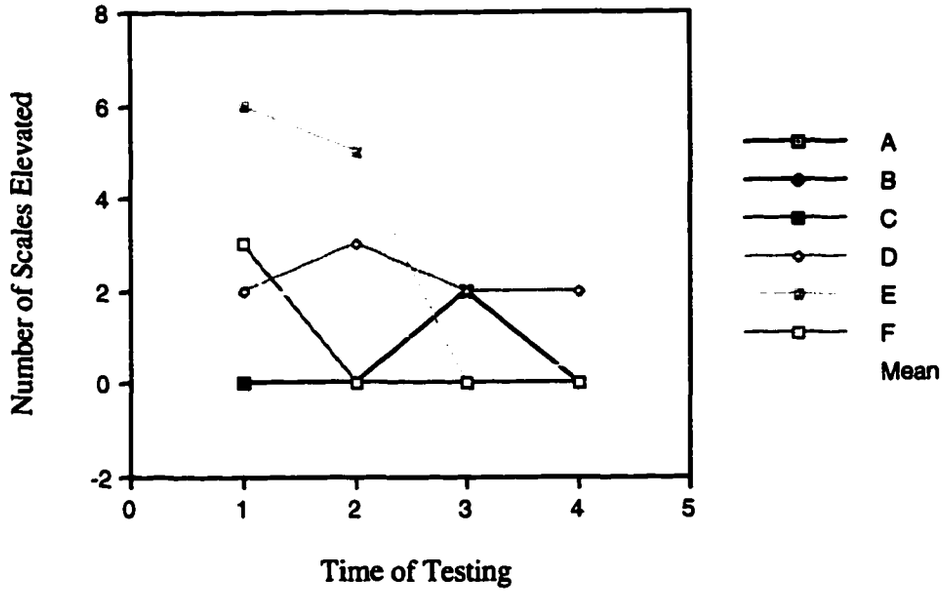

Figure 10. Child Behavior Checklist (CBCL) Clinical Scales.

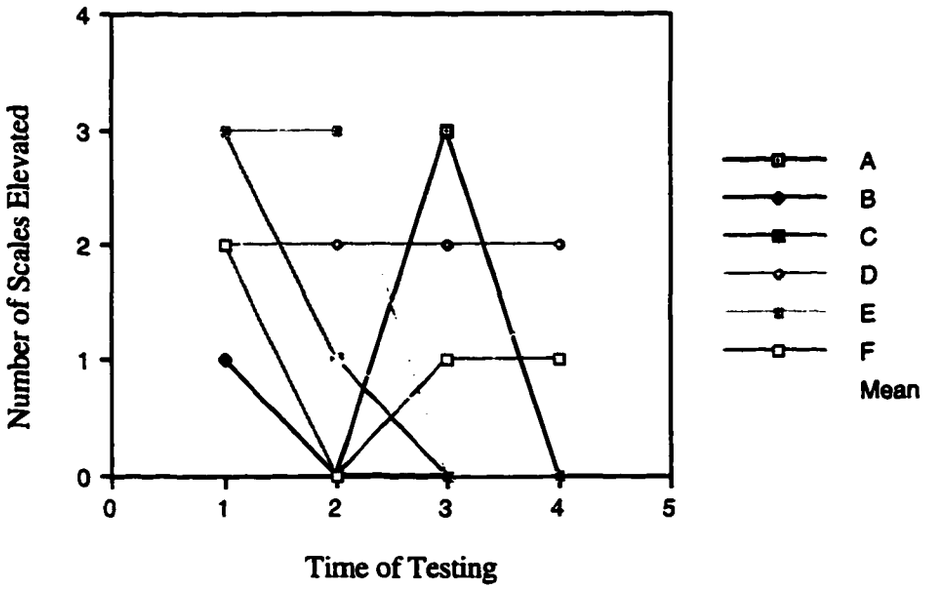

Figure 11. Child Behavior Checklist (CBCL) Summary Scales.

In summary, five subjects (all but D) demonstrated improvement on this measure based on parent report. Average improvement from Time 1 to Time 4 of testing was 2 elevated clinical scales and 1.67 summary scales reduced to non-clinically significant range for those five subjects. The sixth subject (D) had two scales elevated at Times 1 and 4 of testing demonstrating no change in parent-reported behavior assessed with the CBCL (See Tables 13 and 14).

Classroom Behavior Assessment Instrument (CBAI)

It was expected that at post-test and each consecutive weekly follow-up, each of the six individual experimental subjects' weekly average global scores (range from two to twenty) on the teacher-completed Classroom Behavior Assessment Instrument (CBAI) would be higher as compared to his or her own pretest/baseline (Time 1 and Time 2) rates, indicating an increase in global measures of task completion and compliance in the classroom (See Appendix C for score equivalents).

For all six experimental subjects, weekly average scores at pretest 1 (Time 1) and pretest 2 (Time 2) as well as the following eight to ten consecutive weeks of testing are presented in table and line graph form (See Table 15, Figure 12). (For raw scores for the CBAI, See Appendix G). For this measure, scores have been visually examined for changes in mean. Initially, latency was to be examined, however given the slow gradual improvement in scores across the weeks, this information was not useful.

Overall, at pretest (Time 1), the six experimental subjects had teacher-reported mean scores on the CBAI of 13 (range 11-16). At pretest 2 (Time 2; following the Parenting Strategies Program and prior to classroom interventions), the six experimental subjects had teacher-reported mean scores on the CBAI of 12 (range 10-15). For the following weeks scores were as follows:

Table 15

Classroom Behavior Assessment Instrument (CBAI)

Subject Week#	A	B	C	D	E	F	Mean
1	11	12	15	16	13	11	13
2	13	11	10	15	12	12	12
3*	13	12	13	12	14	19	14
4	17	12	16	15	13	13	14
5	16	13	16	16	13	15	15
6	17	13	15	15	15	15	15
7	15	14	16	14	16	16	15
8	15	14	15	15	17	14	15
9	16	13	16	15	16	14	15
10	15	13	16	16	18	15	16
11	N/A	13	16	16	20	15	16
Improve	4	1	1	0	7	4	3**

Legend. * = The intervention began at Week 3.

** = For the five experimental subjects demonstrating improvement.

Week 3: teacher-reported mean scores on the CBAI of 14 (range 12-19), Week 4: teacher-reported mean scores on the CBAI of 14 (range 12-17), Week 5: teacher-reported mean scores on the CBAI of 15 (range 13-16), Week 6: teacher-reported mean scores on the CBAI of 15 (range 13-17), Week 7: teacher-reported mean scores on the CBAI of 15 (range 14-16), Week 8: teacher-reported mean scores on the CBAI of 15

(range 14-17), Week 9: teacher-reported mean scores on the CBAI of 15 (range 13-16), Week 10: teacher-reported mean scores on the CBAI of 16 (range 13-18), Week 11 (five subjects only): teacher-reported mean scores on the CBAI of 16 (range 13-20) (See Table 15, Figure 12).

In summary, five of the six experimental subjects demonstrated improvements on this measure based on their teachers' report. However, once again, due to high scores at pretest (Time 1) for two subjects (C, D), improvements may be less obvious due to ceiling effects. Average improvement from baseline (Time 1) to the end of Week 11 for the five subjects demonstrating improvement was 3 points (range 1 to 7). No child demonstrated lower scores at the end of the study (Time 4) than at pretest (Time 1), however, one subject (D) demonstrated no change.

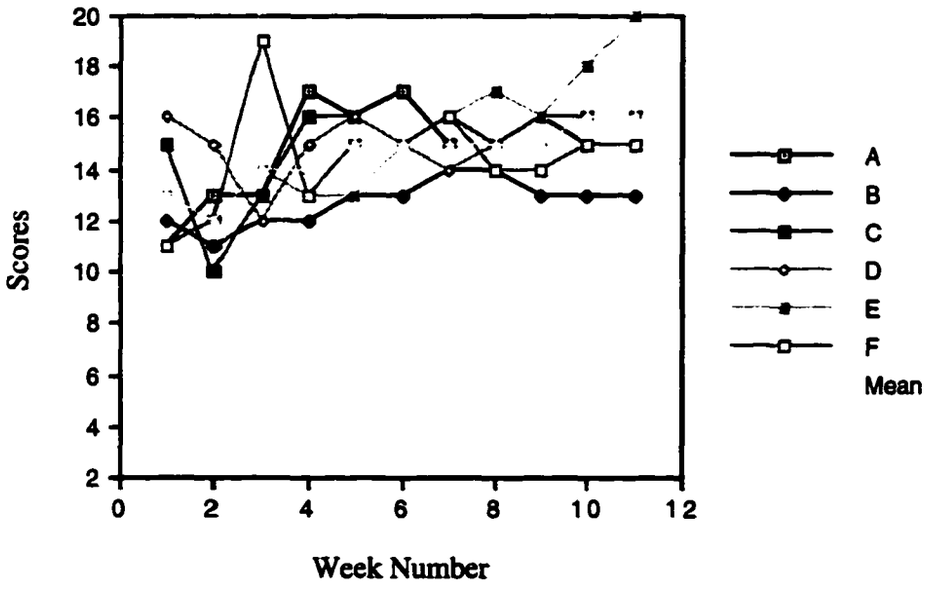

Figure 12. Classroom Behavior Assessment Instrument (CBAI).

Direct Observation in the Classroom (D.O.C.) Baselines

It was expected that at both pretests (Time 1 and Time 2), each of the six individual experimental subjects' mean rate of compliance (as measured by direct observation) in the classroom would be lower than the six individual non-diagnosed control subjects observed simultaneously.

For all six experimental subjects, weekly average scores from each of the twelve classroom observation sessions are presented in table and line graph form (See Tables 16-18, Figures 13-15). Again, scores have been visually examined for changes in mean across time. Compliance rates could range from 0% to 100%. Antecedents and consequences to the observed instances of compliance or noncompliance were examined post-hoc to assess functional variables maintaining behaviors. At each of the four times of testing, three observations were conducted. Although possible trends were noted, for the ease of comparison, the results reported are the means of the three sessions for each subject at each of the four times of testing.

As noted, the parents and teachers of all experimental subjects verbally reported significant behavior problems including noncompliance, at home and in the classroom during the intake interview. Direct observations, however, sometimes revealed less severe difficulties. In such instances, illustration of treatment gains was difficult due to ceiling effects.

Overall, compliance rates for the six control subjects ranged from 85% to 100% (mean 92%) at all times of testing (See Table 18, Figure 15). One exception occurred in which one control child's (A) mean compliance for Time 4 of testing was 62% (range for the three observations sessions was 54% to 67%). These numbers were likely impacted by the lower than typical request rate during the observation sessions; (mean number of requests was 7 [range 3-13]), as well as the upcoming summer vaca-

tion.

Overall, experimental subjects were typically less compliant than their non-diagnosed controls at baseline/pretest (Time 1) (See Table 16, Figure 13). Specifically, compliance rates for control subjects ranged from 86% to 100% (mean 95%), while compliance rates for experimental subjects at this time of testing ranged from 68% to 88% (mean 83%). At baseline one (Time 1) for all six experimental subjects, classroom observations revealed average differences in compliance rates of 12% (range 1%-32%) with controls demonstrating more compliance.

Table 16

Classroom Observations (Baseline)

Subject	A-E	B-E	C-E	D-E	E-E	F-E	Mean
Time							
1	88%	68%	87%	87%	84%	81%	83%
2	90%	89%	96%	100%	97%	83%	93%
Change	+2%	+21%	+9%	+13%	+13%	+2%	
Subject	A-C	B-C	C-C	D-C	E-C	F-C	Mean
Time							
1	97%	100%	96%	88%	86%	100%	95%
2	92%	97%	100%	92%	83%	97%	94%
Change	-5%	-3%	+4%	+4%	-3%	-3%	

Legend. E = Experimental Subjects

C = Control Subjects

Overall, four experimental subjects remained slightly less compliant than their non-diagnosed controls at pretest 2 (Time 2; after the Parenting Strategies [Phase I] Program and prior to school-based interventions [Phase II]). However, although no contingencies were in place for this, compliance rates for all experimental subjects improved from between 2% to 21% (mean improvement 10%) at this second time of testing. Compliance rates for control subjects at pretest 2 (Time 2) ranged from 83% to 100% (mean 93%), while compliance rates for experimental subjects at this time of testing ranged from 83% to 100% (mean 93%). For four of the subjects, control subjects were an average of 7% more compliant (range 2%-14%) at Time 2. However, for two experimental subjects (D, E), the mean compliance rates were 11% (range 8% to 14%) better than the matched controls.

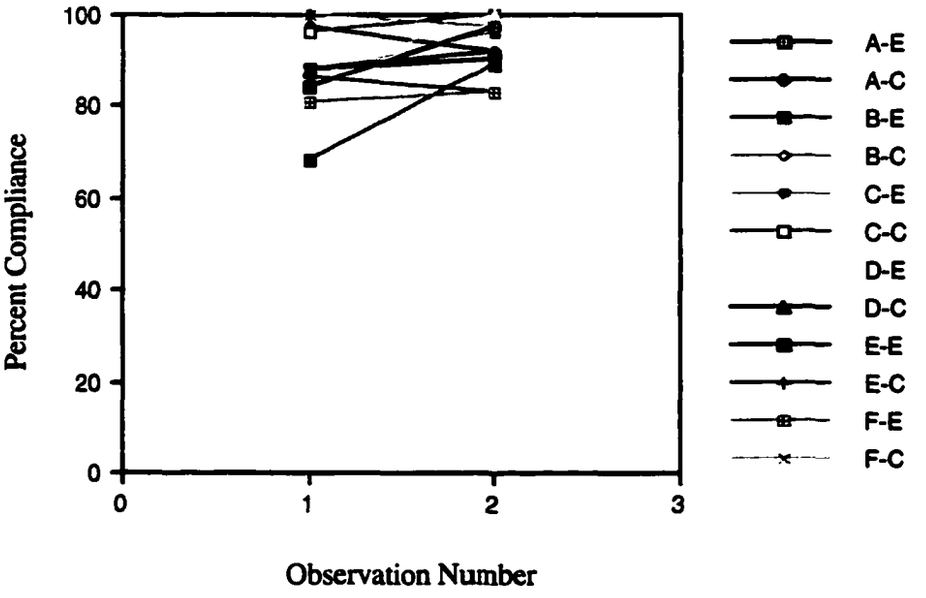

Figure 13. Classroom Observations (Baseline).

Direct Observation in the Classroom (D.O.C.)

It was expected that at post-test (Time 3) and follow-up (Time 4), each of the six individual experimental subjects' rates of compliance (as measured by direct observation) in the classroom would be increased as compared to his or her own pretest/baseline rates (Time 1 and Time 2) (See Table 17, Figure 14).

The third set of observations (Time 3) were conducted when the classroom-based interventions had been in effect for two to four weeks. Given that compliance rates for the experimental subjects were comparable to the control subjects at the second time of testing (Time 2), it was difficult to demonstrate significant improvements based on classroom observations at this time of testing. Overall, at Time 3 compliance rates for five of the experimental subjects (not E) improved from between 2% to 19% (mean improvement 9%) from baseline (Time 1). However, one experimental subject (E) demonstrated no change in compliance from Time 1 to Time 3 of testing. Compliance rates for two of the experimental subjects (A, F) improved from between 4% to 17% (mean improvement 11%) from Time 2 to Time 3 of testing. The other four experimental subjects demonstrated decreases in compliance rates from 2% to 13% (mean decrease 7%) at this time of testing. Compliance rates for control subjects at Time 3 of testing ranged from 85% to 100% (mean 92%) (See Table 17, Figure 14). For three of the subjects, control subjects (B, D, E) remained an average of 7% more compliant (range 1% to 13%). The other three experimental subjects (A, C, F), were an average of 6% more compliant than controls (range 3% - 9%).

The fourth set of observations (Time 4) occurred four to six weeks after the commencement of Phase II. Four of the experimental subjects demonstrated decreases in rates of compliance from Time 3 to Time 4 of testing. Mean decreases for these four was 7% decrease in compliance (range 2% to 12%). Two experimental subjects (C, D)

demonstrated slight increases in rates of compliance from Time 3 to Time 4 of testing. Mean increases for these two was 3% (range 2% to 4%).

Table 17

Classroom Observations. Percent Compliance for Experimental Subjects

Subject Time	A-E	B-E	C-E	D-E	E-E	F-E	Mean
1	88%	68%	87%	87%	84%	81%	83%
2	90%	89%	96%	100%	97%	83%	93%
3	94%	87%	94%	89%	84%	100%	91%
4	82%	80%	96%	93%	82%	95%	88%
Change	(-6%)	+12%	+9%	+6%	(-2%)	+14%	

Legend. E = Experimental Subjects

Table 18

Classroom Observations. Percent Compliance for Control Subjects

Time	A-C	B-C	C-C	D-C	E-C	F-C	Mean
1	97%	100%	96%	88%	86%	100%	95%
2	92%	97%	100%	92%	83%	97%	94%
3	85%	100%	89%	90%	92%	97%	92%
4	62%	87%	96%	85%	89%	100%	87%
Change	(-35%)	(-13%)	0%	(-3%)	+3%	0%	

Legend. C = Control Subjects

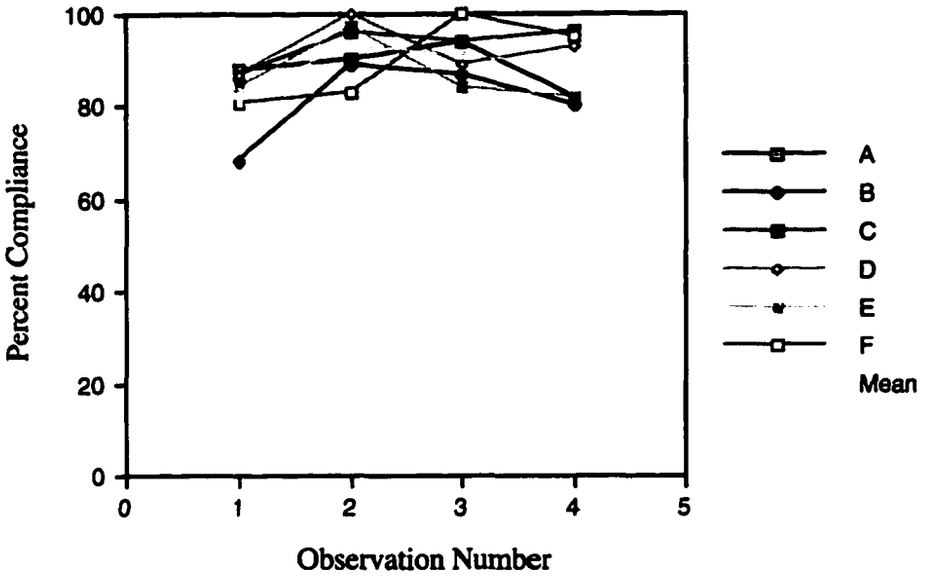

Figure 14. Classroom Observations. Percent Compliance for Experimental Subjects.

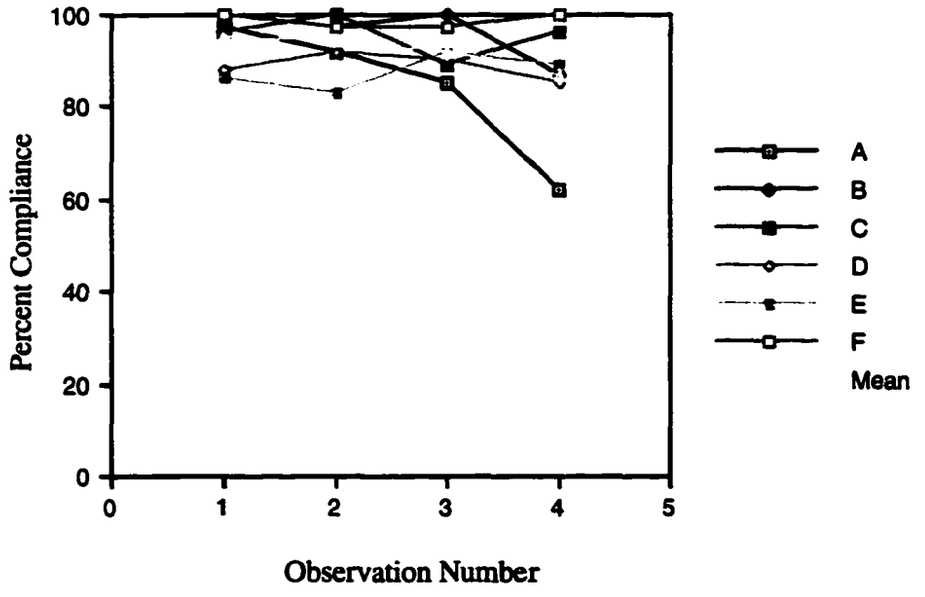

Figure 15. Classroom Observations. Percent Compliance for Control Subjects.

In summary, four of the experimental subjects demonstrated increases in

compliance from pretest 1 (Time 1) to Time 4 of testing (B, C, D, F). Mean improvements for these four was 10% improvement in compliance (range 6% to 14%). Two experimental subjects (A, E) demonstrated decreases in compliance from pretest 1 (Time 1) to Time 4 of testing. Mean decreases for these two was 4% (range 2% to 6%). However, the decreases may have been related to the upcoming summer vacation and resulting changes in daily schedule. This is demonstrated by decreases in compliance rates for the control subjects as well. Specifically, three control subjects (A, B, D) demonstrated decreased compliance rates ranging from 3% to 35% (mean decrease is 17% for those three subjects). Two of the control subjects (C, F) demonstrated no change in compliance from Time 1 to Time 4 of testing. One control subject (E) demonstrated a 3% increase in compliance at the fourth time of testing.

Table 19

Number of Requests for School Observations

Subject / Time	A-E	A-C	B-E	B-C	C-E	C-C	C-E	C-C	E-E	E-C	F-E	F-C
1	13	10	17	10	5	5	7	5	7	7	17	7
2	9	7	18	7	18	17	7	9	10	9	13	9
3	11	10	16	12	10	10	16	17	11	9	10	12
4	10	7	19	12	12	14	14	17	6	5	8	3

Legend. -E = Experimental Subject

-C = Control Subject

The inconsistent results based on this dependent measure may be due to numerous factors. First, consideration must be given to the number of requests made

to subjects by teachers (See Table 19). Overall, request rates were typically higher for experimental subjects, perhaps because teachers predicted they were less likely to be compliant with the first request. As such, lower request rates for control subjects resulted in one or two instances of noncompliance in an observation session, having a greater impact on the overall rate of compliance for that observation (See Table 19).

Another issue concerns reactivity on the part of experimental subjects during classroom observations (Schweigert, 1994). As noted, on a number of occasions, experimental subjects may have recognized the research assistants from the home observations as it was not always possible for different undergraduate students to conduct classroom and home observations (See Table 20). This was due to the high number of observations conducted during certain weeks, the class schedules of the research assistants, and the cities in which the research assistants and the experimental subjects lived (20 mile range). As noted, when this occurred, parents informed experimental subjects that observers were students from the University who were observing a lot of families and classes for a college class. In these instances, other than saying "Hello", no interactions occurred between observers and subjects. However, this may have impacted the results of the observational procedures.

Table 20

Percent of Classroom Observations Conducted by Home Observer

A	B	C	D	E	F
44%	31%	6%	31%	19%	25%

Lack of generalization during observation procedures may have also been related to the fact that, unfortunately, there were occasions when the class left the

regular classroom for extra-curricular activities (computer, library, Physical Education, music, etc.) (See Table 21). Despite the fact that every attempt was made to obtain such information during the teacher intake prior to the study, schedule changes occurred due to vacations, field trips, achievement testing, etc., which were not known to the experimenter in advance. Specifically, the class was then engaged in another activity (that may not have included a high request rate), and that was different from the activity generally occurring during observations. Furthermore, the teacher making requests in these instances was not rating the child on the CBAI and therefore would be less likely to obtain treatment gains similar to that of the regular teacher. When possible, the observations were rescheduled. However, instances when this was not possible are noted.

Table 21

Percent of Classroom Observations When Children Were in a Different Class

A	B	C	D	E	F
8%	0%	25%	33%	25%	8%

Direct Observation in the Home (D.O.H.)

It was expected that at each observation session, each of the six individual experimental subjects' rates of compliance (as measured by direct observation) in the home would be increased as compared to his or her own previous rates. Direct observations were conducted in the homes of the six experimental subjects on three occasions during the first three stages of the Parenting Strategies program in order to objectively assess compliance following parent requests and commands. This also provided information regarding verification that parents were correctly implementing

skills learned in the Parenting Strategies (Phase I) of the study (i.e.: recognition of child compliance or noncompliance, use of rewards and positive points, use of time-out from reinforcement, and use of back-up punishers) which were examined post-hoc. Furthermore, in contrast to other studies (Channell, 1997; McGrath, 1997), when parents were not correctly implementing skills learned, this was reviewed at the next Parenting session. Depending on the error and the child's compliance rates from that week, judgment was made by the therapist as to whether to proceed to the next stage of the Parenting Strategies Program, or to repeat the current stage.

For all six experimental subjects, scores from each of the three home observation sessions are presented in table and line graph form (See Table 22, Figure 16). Scores have been visually examined for changes in mean rates of compliance across time. Compliance rates may range from 0% to 100%.

Table 22

Home Observations Percent Compliance

Observation	A	B	C	D	E	F	Mean
1	22%	48%	59%	38%	69%	42%	46%
2	24%	33%	55%	33%	100%	54%	50%
3	40%	40%	N/A	62%	56%	84%	56%
Change:	+18%	(-8%)	(-4%)	+24%	(-13%)	+42%	

Average compliance rates for the six experimental subjects were as follows: Time 1 (Tracking phase); mean was 46% (range 22% to 69%), Time 2 (Positive Point Program); mean was 50% (range 33% to 100%), Time 3 (Time Out) (conducted for five subjects only as home observations for one was discontinued), mean was 56%

(range 40% to 84%). Only three subjects (A, D, F) demonstrated significant improvements in compliance based on these observations (mean 28%, range 18% to 42%). The other three subjects demonstrated decreases in compliance based on these observations (mean decrease was 8%, range 4% to 13%). While this is in contrast to the improvements in compliance reported by parents during tracking procedures, it was not expected that parents and observers would obtain identical results as in prior research (Channell, 1997; McGrath, 1997), the observations were generally conducted at different times.

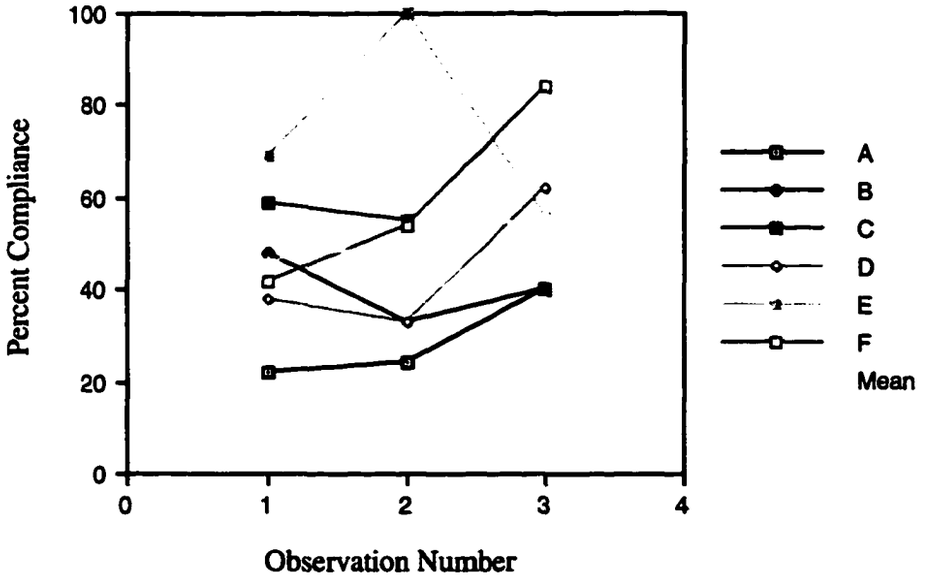

Figure 16. Home Observations Percent Compliance.

Both parents and subjects reported discomfort during these observations. Although every attempt was made to keep the observations unobtrusive, it appeared that both experimental subjects and their parents may have been exhibiting reactivity (Schweigert, 1994). For instance, one parent reported that she thought she was

supposed to make numerous requests while the observer was there. This occurred to the point that she neglected to determine whether the child had completed one task before making another request. The child in this case responded with frustration and anger. Other parents and child subjects reported that having an observer in the home (to whom they could not talk) made them feel nervous and uncomfortable. Therefore, the results of these observations should be considered conservatively.

Table 23

Global Parent Ratings of Compliance

Subject Week #	A	B	C	D	E	F	Mean
1	N/R	N/R	4	4	3	N/R	4
2	N/R	3	N/R	N/R	3	4	3
3	N/R	4	4	3	3	4	4
4	N/R	4	4	3	2	4	3
5	N/R	4	4	2	2	3	3
6	N/R	4	4	2	3	N/R	3
7	N/R	4	5	3	2	N/R	4

Legend. N/R = Not Returned

Global Parent Ratings of Compliance

At the start of Phase II of the study, instead of observing for an hour daily, parents were asked to provide daily global ratings from one to five for experimental subject's compliance (See Table 23), based on the following scale:

1= My child was not compliant with any requests made at home today.

2= My child was compliant with less than half of the requests made at home today.

3= My child was compliant with about half of the requests made at home today.

4= My child was compliant with most of the requests made at home today.

5= My child was compliant with all of the requests made at home today.

Given that these ratings were taken during Phase II (after completion of the Parenting Strategies Program) and were based solely on compliance at home, as expected, there were no significant changes across time. It was important to collect this information, however, as continued monitoring of home behavior ensured that experimental subjects did not begin acting out at home once contingencies were in place targeting classroom behavior (See Appendix H).

CHAPTER IV

DISCUSSION

At the present time, there is little research in the behavior therapy literature that addresses the generalization of treatment effects for interventions used with ADHD children (Allen, et al.,1991; Drabman, et al., 1979, Edelstein,1989, and Stokes & Osnes, 1989). This is an important issue given that children who exhibit problem behaviors at home often do so in other settings such as the classroom (Wahler, 1969) and many referrals occur when problem behaviors are exhibited at school (Al-Issa, 1982). Furthermore, when generalization to another setting occurs, more efficient treatment takes place with fewer resources (Forehand & Atkeson, 1977). However, generalization to a non-training setting such as the classroom, where parents are not present and different functional variables may be in effect, is unlikely to occur unless some sort of intervention is conducted with the caregivers in this setting (Forehand & Atkeson, 1977; Stokes & Osnes, 1989; Wahler, 1969).

This study examined a number of hypotheses related to the generalization of treatment gains (from home to school) following a Parenting Strategies Program for ADHD-diagnosed children. Below, initial requirements for continued participation following the parenting program will be described. Second, data from parent- and teacher- completed questionnaires will be discussed. Third, information obtained via direct observations conducted in the classrooms and homes of the experimental subjects will be reviewed. Finally, limitations to the present study will be addressed, and directions for future research will be outlined.

Summary

Prior to assessing for generalization, evidence of initial treatment efficacy was required. Specifically, following the the Parenting Strategies Program, and prior to the initiation of strategies to facilitate generalization, all six experimental subjects demonstrated improved compliance at home on at least one dependent measure. This information was collected to insure that any lack of improvement in a subject's data following the study was not due solely to failure achieve initial treatment gains verses failure to generalize treatment gains across settings. Given that all subjects met this initial requirement, the following dependent measures were administered to all six experimental subjects.

A number of the dependent measures demonstrated support for the effectiveness of this intervention. For instance, on the parent-completed Current Status Checklist (CSC), individual experimental subjects' total scores were generally lower following participation in the study, indicating fewer problems with behaviors associated with the diagnosis of ADHD. Specifically, five of the six experimental subjects demonstrated improvement on this measure. Interestingly, two subjects demonstrated greater improvements at Time 3 than at Time 4. For one of these, treatment gains were achieved at Time 3, but maintained to a lesser degree at the end of the study. For the other, slight treatment gains were achieved at Time 3, but scores returned to baseline at Time 4, demonstrating no consistent change in the behaviors assessed for this subject. Overall, results from this measure provide moderate support for the effectiveness of this intervention, noting that treatment effects were not maintained for one of the subjects over an eight week period.

In order to gain more specific information regarding the types of behaviors impacted during the study, the Parent-completed CSC scores were separately examined in

terms of the diagnostic criteria specifically addressing Inattention verses those addressing Hyperactivity/ Impulsivity. Results suggested that, at baseline, five of the six experimental subjects met the diagnostic criteria for ADHD-Inattentive Type as well as Hyperactive-Impulsive Type, resulting in diagnoses of ADHD-Combined Type for these five subjects. Based on parent-report, no subject solely met the diagnostic criteria for Hyperactive/Impulsive-Type at baseline. Following the study, only two subjects met the diagnostic criteria for ADHD Inattentive-Type, and none met the diagnostic criteria for ADHD-Combined Type. Overall, improvements in ADHD symptomatology following the intervention were were demonstrated for both Inattention and Hyperactivity / Impulsivity.

Similar results were obtained with the teacher-completed CSC. While the five subjects with complete data demonstrated improvement on this measure following the study, low scores at pretest resulted in difficulty with interpretation due to floor effects. When examining these scores in terms of the separate diagnostic criteria, two of the five subjects met the diagnostic criteria for ADHD Inattentive-Type, while one of these also met the diagnostic criteria for ADHD Combined-Type at baseline. As with the parents' responses on this measure, no subject solely met the diagnostic criteria for Hyperactive/Impulsive-Type at baseline. Overall, results demonstrated at least slight improvements for four of the five subjects, and no subject was rated worse on this measure following the study. Furthermore, following the study, no subjects met criteria resulting in any type of ADHD diagnosis. Results from this measure also provide moderate support for the effectiveness of this intervention.

Another parent-completed measure revealed clinically significant changes for all six experimental subjects. Following the study, each of the six individual experimental subjects' scores on the parent-completed Home Situations Questionnaire-Revised

(HSQ-R) was lower as compared to baseline, indicating fewer problems paying attention and concentrating across situations at home. While all subjects demonstrated improvement on this measure, the amount each improved varied greatly. For the subjects whose parent-reported scores on this measure improved only slightly, detection of clinically significant improvements was limited due to floor effects because of low scores at baseline. Overall, results from this measure provide moderate support for the effectiveness of this intervention.

Teachers completed a parallel version of the HSQ-R entitled the School Situations Questionnaire- Revised (SSQ-R). As noted, five experimental subjects had complete teacher data following the study. Of these, four demonstrated improvements on the SSQ-R based on their teachers' report. However, once again, due to low scores at pretest for some subjects, improvements may be less obvious due to floor effects. It should be noted that on this measure only, scores for one child got progressively worse across time. As such, there is inconsistent support for the effectiveness of this intervention based on teacher report with the SSQ-R.

More consistent support was provided by the parent-completed Child Behavior Checklist (CBCL). Specifically, five subjects demonstrated improvement on this measure following participation in the study. Clinical scales that improved following intervention included: Somatic Complaints (N=1), Anxious/Depressed (N=1), Social Problems (N=1), Thought Problems, (N=3), Attention Problems (N=4), Delinquent Behavior (N=2), and Aggressive Behavior (N=3). All three summary scales improved following the intervention. These included: Internalizing Behavior (N=3), Externalizing Behavior (N=6), and Total Problems (N=5). Overall, this measure also demonstrated clinically significant support for the effectiveness of this intervention across time.

As earlier noted, generalization to a non-training setting such as the classroom

(where parents are not present and different functional variables may be in effect) is unlikely to occur unless some sort of intervention is conducted with the caregivers in this setting (Forehand & Atkeson, 1977; Stokes & Osnes, 1989; Wahler, 1969). Therefore, the primary measure for this study, the teacher-completed Classroom Behavior Assessment Instrument (CBAI), served as both a dependent measure and an independent variable. Weekly average scores on the (CBAI) were higher following the study for five of the experimental subjects. This indicated an increase in teacher-reported global measures of task completion and compliance in the classroom. However, once again, due to high scores at pretest for two subjects, improvements may be less obvious due to ceiling effects. No child demonstrated scores lower at the end of the study than at pretest on this measure, however, one subject demonstrated no change. It should be noted that, while scores gradually increased over time, they did not increase as quickly nor as much as was expected.

In addition to gaining information from parents and teachers via paper and pencil measures, more objective information was obtained by conducting direct observations (Atkeson and Forehand, 1978). As predicted, observations in the classroom revealed that experimental subjects were typically less compliant than their non-diagnosed controls at pretest, and remained slightly less compliant at Time 2. Overall, four of the experimental subjects demonstrated increases in compliance from pretest to the completion of the study, and two experimental subjects demonstrated decreases in compliance. Some of the decreases may have been related to the upcoming summer vacation and resulting changes in daily schedule over which there was unfortunately, little control (Kazdin, 1982). This is demonstrated by decreases in compliance rates for the control subjects as well.

Also of interest regarding the observation procedures are the antecedents and

consequences to the request (Stokes & Osnes, 1989). Given that these functional relations often contribute greatly to the maintenance of a behavior, an attempt was made to assess these during observations. Overall, it was found that most requests made in the classroom were made to the group verses the individual experimental subject (by a ratio of approximately 2:1). However, as noted earlier, compared to control subjects, experimental subjects received more requests directed at an individual. Also, it was interesting to note that in the classroom, teachers were extremely unlikely to acknowledge the noncompliance or compliance. For instance, in a sample of 200 requests, there were twelve instances (6%) of praise following compliance (40 instances) and three instances (2%) of punishment following noncompliance (160 instances). However, it was often difficult to accurately assess this as teachers often simply repeated the request instead of punishing or otherwise responding to the noncompliance. In contrast, during the second home observation sessions (when parents had been instructed to give points for compliance and ignore noncompliance), points were provided eight times for 28 instances of compliance (29%). While this was lower than expected, it was noted that some parents were providing points only during the one hour they were observing. During the third home observation sessions (when parents had been instructed to give points for compliance and use Time Out for noncompliance), points were provided 24 times for 77 instances of compliance (31%), and Time Out was provided 16 times for 43 instances of noncompliance (37%). Feedback was given to parents at the subsequent Parenting Sessions reminding them to give points for every instance of compliance and use Time Out for every instance of noncompliance the whole day. If necessary, the goals for that week were repeated instead of progressing to the next week. Results suggest that parents provided consequences at a higher rate than did teachers. This may contribute to the less than

optimal levels of generalization of treatment gains to the classroom.

Another issue had to do with instances in which parents were unable to implement consequences at home each week (80% of the time or 4 out of 5 school days) as was initially required. As noted, this was primarily due to school vacations, child illness, joint parental custody, or year-round school attenders being "off-track". However, in each instance, due to parental commitment and desire to continue the program, these issues were addressed and monitored individually. The importance of consistency was reinforced with the parents, and no subjects discontinued participation for this reason. During Phase I, parents did not progress to the next stage of treatment when the intervention had not been implemented 80% of the time. However, during Phase II, this occurred for one parent (A) 43% of the time. Despite this, the child consistently demonstrated improvements on the dependent measures. While consistency with implementation of behavioral contingencies is important in order to obtain maximum improvement following an intervention, these results suggest further research should be conducted to examine the minimum requirements to obtain treatment gains.

When examining the results of direct observations conducted in the home by research assistants, only three subjects demonstrated significant improvements in compliance, while the other three subjects demonstrated decreases in compliance. This is in contrast to the improvements in compliance reported by parents during tracking procedures. However, it was not expected that parents and observers would obtain identical results as the observations were generally conducted at different times (Channell, 1997). This is interesting given that other research has suggested that parents may report greater improvement than that obtained through objective measures (Atkeson and Forehand, 1978). Also, it is not certain that home observation revealed accurate rates

of compliance, as both parents and subjects reported discomfort during these observations. Specifically, although every attempt was made to keep the observations unobtrusive (Schachar, et al., 1986), it appeared that both experimental subjects and their parents may have been exhibiting reactivity (Schweigert, 1994). As a result these observations should be interpreted with caution.

Furthermore, home observation procedures provided information regarding the mistakes parents made at each of the three stages of the Parenting Strategies Program. This study improved upon an earlier one (McGrath, 1997) in that information from these observations was reviewed with parents at the next Parenting Strategies meeting. When things were done correctly, this was noted and parents were given positive feedback. However, in most instances, some error was being made. These included, but were not limited to: stating the request as a question, "Will you. . .?", repeating the request prior to 15 seconds having passed, stating double-barrelled requests, giving but not announcing points or not giving points, giving more than one warning before using Time-Out, and making numerous mistakes when administering Time-Out. In these instances, the correct procedure was reviewed with parent(s) and/or the previous stage of the Parenting Strategies Program was repeated.

As noted, interobserver reliability for both home and school observations was extremely low despite observer re-training. However, once agreement on requests was established, agreement reached an acceptable level. Nevertheless, interpretation of the results are limited as observers did not necessarily code the same requests. Reasons for this included not hearing all of the same requests (due to being spaced apart) and not interpreting requests the same way (e.g., differences in coding requests that were phrased as questions, were embedded in other requests, were delayed, or were repeated prior to the passage of fifteen seconds). One way to address this would be to spend

part of a Parenting Session addressing appropriate requests (that match the coding scheme), or changing the coding scheme to better separate such requests.

Parent and Teacher Satisfaction Questionnaires

Finally, although not used as a formal dependent measure, parents and teachers had the option of anonymously completing and returning questionnaires (parents; 20 total items, teachers; 16 total items) regarding their satisfaction (See Appendix K). Six out of eight parents and four out of six teachers returned these forms. Overall, results suggested that both parents and teachers were somewhat to extremely satisfied with the program as well as the changes they observed in the experimental subjects' behavior (parent items 1-4, 6, 9-13; teacher items 1-4, 8, 11). However, some reported less satisfaction with changes in behavior at school (parent item 14; teacher items 5, 9-14). All indicated that they believed that the amount of paperwork and questionnaires to be completed was excessive in light of other demands (parent items 5, 7, 8; teacher items 6, 7).

Limitations and Directions for Future Research

In order to demonstrate behavior change across settings, it was necessary to keep the same contingencies in effect in the classroom that were in effect at home (Drabman et al., 1979). To that end, contingencies were structured to be the same at home and at school as much as possible. However, some factors could not be controlled. One of these concerned the less than optimal similarity between the home and school interventions. For instance, the goal of the response of parents to instances of compliance and noncompliance was to be immediate and have a 1:1 correlation between the behavior and the consequence. In contrast, the scores reported by teachers

were daily global scores and the consequences were delayed until the child got home. Furthermore, there was likely to be a much lower correlation between the behavior and consequence as each score was based on a whole day's worth of behavior. The Parenting Strategies Program taught parents to implement immediate consequences for every instance of compliance and noncompliance. Teachers do not typically administer consequences consistently. However, it may be somewhat unrealistic to expect a teacher with a class of students to effectively do so in the same way a parent can. This is clearly an issue which warrants further examination.

Another difficulty which occurred on multiple occasions was that pretest measures did not always demonstrate the significant problems reported by parents and teachers during the intake. Thus, it became difficult to use empirically validated instruments to measure the reported concerns. Instead, these measures were used as indices which have been summarized. As clinicians, it is always necessary to consider the subjective nature from which much of the information requested from parents and teachers comes. Specifically, it is important to recognize that variables such as affect, optimism or pessimism, social support and time of school year may affect the results. In this case, when scores were not significantly elevated following pretest, in-depth clinical interviews were conducted with each parent and teacher to verify the necessity for interventions. Although less quantifiable, this information is probably more valid (Barkley, 1989; Sattler, 1988). Although results have been presented in a quantifiable manner, the clinical aspect must also be addressed, as sometimes the two are compatible and at other times, they are discrepant.

Also, as noted, this study initially attempted to utilize a multiple baseline design (Kazdin, 1982). The Parenting Strategies Program was initially applied randomly to experimental subjects at approximately one week intervals. However, due to cancelled

appointments, spring break, illness, the up-coming end of the school year, as well as parents' and teachers' strong desire to move to Phase II of treatment, variation in the schedules occurred. As a result, use of statistics and control over threats to internal validity related to history, were limited. One way to avoid this problem in a similar future study would be to obtain more control over time lines enabling a cleaner multiple baseline design. This would result in greater control over extraneous variables.

Another significant limitation to this study concerned the classroom observation procedures during which the use of normal control subjects in the study was limited. This was necessary as it was not practical for control subjects to also be diagnosed with ADHD. This is due to the fact these direct observation procedures were conducted in the classroom of the six experimental subjects. Therefore, it would not have been logistically possible to recruit ADHD subjects in pairs based on their classroom placement. However, despite the difficulties in doing so, designing such a study would provide additional valuable information.

As noted, other difficulties occurred regarding the observational procedures. The inconsistent results obtained may be a function of numerous factors including the fact that request rates were typically higher for experimental subjects. Lower request rates for control subjects resulted in one or two instances of noncompliance having a greater impact on overall rates of compliance for that observation. A second issue affecting observations concerned reactivity on the part of experimental subjects during classroom observations (Schweigert, 1994). As noted, on a number of occasions, experimental subjects may have recognized the research assistants from the home observations as it was not always possible for different undergraduate students to conduct school and home observations. Also, lack of generalization during observation procedures may have been related to the fact that, unfortunately, there were occasions

when the class left the regular classroom for extra-curricular activities (computer, library, Physical Education, music, etc.) that were not known about in advance. Specifically, the class was engaged in another activity (that may not have included a high request rate), and that was different from the activity generally occurring during observations. Also of relevance is the fact that the teacher making requests in these instances was not the same teacher rating the child on the CBAI. Given this, there would be a reduced likelihood of obtaining treatment gains similar to that of the regular teacher, since behavior with this second teacher was not directly related to scores and consequences (Forehand & Atkeson, 1977; Stokes & Osnes, 1989). Finally, as noted in previous research (McGrath, 1997), it is possible that the observation procedures may not have been conducted for long enough time periods (one hour) to get a reliable sample of behavior. Furthermore, it may be the case that the behaviors observed were not generally the most important or relevant to those targeted. As such, observation procedures, which are necessary as a source of objective data, should be revised for future research.

Another important limitation in this study had to do with medication noncompliance and dose titration (DuPaul & Kyle, 1995). Although it was initially required that subjects not undergo a significant change in their medication, this was found to be the case with at least one subject. Furthermore, the report of parents and teachers suggested that there were times when experimental subjects did not take their medication as prescribed. More consistent control over this issue would be very beneficial to follow-up studies.

Another limitation is that all teachers returned forms at all times of testing via United States mail. For a number of the teachers, the final two times of testing were returned together (although they were reportedly completed at the appropriate times).

This issue is of concern because for all teachers, scores on the CSC remained exactly the same from Time 3 to Time 4. Furthermore, despite repeated efforts to contact her, one teacher did not return forms for either of the final two times of testing.

Conclusion

Given that clinically significant improvements were demonstrated for the experimental subjects at post-test (Time 3) and follow-up (Time 4), there is evidence to suggest that treatment gains obtained through the Parenting Strategies Program can be generalized to the classroom setting. Furthermore, these data suggest that this intervention is an effective method for doing so. However, treatment gains were inconsistent for some measures. Thus, future research is necessary to determine which variables are likely to increase the chances of consistently obtaining treatment gains for any particular subject. Future research could be improved in a number of ways. For instance, requiring that all subjects have significant elevation on all dependent measures prior to inclusion in the study would better address difficulties associated with floor or ceiling effects. Another obvious factor is related to the necessity of improving observational procedures. It is of great importance to include objective data such as this, in conjunction with the subjective data collected via parent and teacher report. One such improvement might include video taping interactions in the home as opposed to having observers present. This would reduce reactivity on the part of the parent and child subjects as observations would be unobtrusive. This would also make coding procedures more reliable.

Overall, parent-completed questionnaires demonstrated the most consistent support for treatment gains following participation in this study. Teacher-report revealed improvements as well, however, these were less significant than those noted

by parents. This information is relevant because, as in previous research, (Atkeson and Forehand, 1978) parents consistently rated improvements as greater than objective data (although observational data were not consistent) and teacher-reported data. Differences such as these underscore the necessity of utilizing dependent variables which are obtained from different sources (parents, teachers, observers), and by different methods (paper and pencil completed questionnaires, unobtrusive direct observations). Another issue of relevance is that the referral of children tends to occur when their behavior is problematic to adults; especially parents and teachers (Al-Issa, 1982). In other words, most pathologies in children are subjectively determined by adults. As such, findings in which parents and teachers report greater improvements than objective measures are still useful as the referring adults report improvements in the behaviors of most concern to them.

Overall, given the improvements noted, this study contributed to the literature as there is currently little research addressing the generalization of treatment effects across the behavior therapy literature (Allen, et al.,1991; Drabman, et al., 1979, Edelstein,1989, and Stokes & Osnes, 1989). Devising a program which effectively targets the problem behavior of children in more than one setting results in more effective treatment and better addresses the identified concerns.

Appendix A

Description of the Parent Strategies Training Program

Parenting Strategies Program (See Armstrong, 1995 for more detail).

About 15 years of research preceded development of this program. Outcome research predicts it is effective for 8/10 families.

The program will incorporate three basic skills:

#1: Seeing behavior and tracking it: Parents will learn to observe and record the most important parts of their child's behavior.

#2: Positive Point Program: After identifying problem behaviors, parents will learn to take the opposite, prosocial behaviors and reward them. By rewarding positive behaviors that are incompatible with negative behaviors, problem behaviors can be reduced and appropriate behaviors increased. By incorporating the Positive Point Program, children will be taught about what they should be doing, as well as what they shouldn't be doing. This phase of the program will create a mechanism by which a child can earn points toward rewards. We are rewarding behaviors the child should be engaged in, our goal is to help the child internalize motivation for doing the chore, so that they eventually do it on their own.

#3: "Time Out": Parents will learn to incorporate a non-physical, no hassle way to effectively punish inappropriate behaviors. This will involve a very special form of "time-out" that is far more effective than the most commonly used variations. The time-out program will not be utilized until after the child is hooked on the reward program and has learned more appropriate and positive ways of responding. This is important because punishment should never be used unless the child is both capable of and knows how to act more appropriately. By definition, "Time- out" is designed to remove a child from positive attention (i.e., removing the child from social reinforcement). Another benefit is that it helps

keep interactions from escalating between parents and children-when things get too negative, no learning takes place. The goal here is to pair boredom with problem behaviors while removing everyone from a conflict situation. Parents also will learn that inconsistent punishment is worse than no punishment at all. When parents punish inconsistently, children become more interested in figuring out if the parents are really going to punish or not and, consequently, they don't get into the good habit of simply getting up and doing what the parent asks.

Defining Compliance and Noncompliance

Compliance is initiating doing what is asked within 15 seconds of the request being made (excluding safety issues like "Put the knife down." or "Get out of the street." which should be done immediately).

Noncompliance is not initiating doing what was asked within 15 seconds or using talking back, arguing, or whining as escape or avoidance techniques.

Research suggests that kids who back-talk or argue with parents and teachers are at greater risk for being labeled as "trouble-makers" or "problem children." These behaviors undermine a teacher's authority in a classroom and make it difficult for everybody to learn effectively. Arguers and Back-talkers also end up learning to use these behaviors to escape or avoid difficult tasks. It may be appropriate for a child to ask nicely why something needs to be done but it is not appropriate for children to use these questions as delay tactics or as challenges to a teacher or a parent's authority. Furthermore, research suggests that kids who whine are less popular with classmates. It's alright for a child to feel sad or angry about having to stop doing something they enjoy but its not alright for the child to use whining as an escape or avoidance tactic.

KNOWLEDGE CHECK

Quiz One

1. So, when you are home this week, how long are you going to wait after making a request before you decide if it was a compliance or noncompliance?

_____ C / I

2. What if your child complies with your request but argues with you? What would you record?

_____ C / I

3. What if your child does the task but waits for 20 seconds before he/she begins?

_____ C / I

4. Where are you going to record your child's responses to your requests?

_____ C / I

5. Consider the time periods (each of) you are going to be monitoring. How long will you try to monitor?

_____ C / I

6. What if you asked your child to turn off the T.V. and he/she did so immediately, but mumbled bad things under his breath? What would you record?

_____ C / I

7. What if your child turns off the T.V. within 15 seconds and then opens up a book?

_____ C / I

8. What if your child snapped back, "But it's not my turn!" and didn't budge?

_____ C / I

9. What if your child turns off the T.V. but stomps his feet on the ground while doing it?

_____ C / I

10. What time periods are (each of) you going to monitor?

_____ C / I

KNOWLEDGE CHECK

Quiz Two

1. Show me where you record the child's total for each day.

_____ C / I

2. When you first explain the chores for the child, who actually does the chore?

_____ C / I

3. Is it o.k. to steer the child away from any of the listed rewards?

_____ C / I

4. Imagine a day where your child gets all their chore points and is good enough for most of the day to make his/her point total. However, he disobeys you right after supper. When you review the day with him/her before bedtime, does s/he still get his reward for the day?

_____ C / I

5. If you ask your child to clean up their toys and they begin the task within 15 seconds, but don't finish it before then, do they still get their points for compliance?

_____ C / I

6. If your child complies with your request what do you do?

_____ C / I

7. How many points does your child need to get to meet their daily point total?

_____ C / I

8. When you are reviewing your child's daily point total, which would it be correct to say?....

"I am very upset that you didn't meet your point total. You have disappointed me once again. You'd better work harder tomorrow, or else!"

OR...

"Well, you didn't get your points today, but maybe tomorrow you will. Tomorrow's a brand new day! If you get XX points, then you can choose from all those good rewards!"

_____ C / I

9. If your child successfully completes all steps of both of their chores, how many points will they get?

_____ C / I

10. How many warnings do you give your child before checking on their chore?

_____ C / I

KNOWLEDGE CHECK

Quiz Three

1. What important piece of equipment must you have before you begin to use time-out?

_____ C / I

2. Let's say that you make a request of your child and they are noncompliant. You should send them to what?

_____ C / I

3. Then they walk in the bathroom and quietly close the door as they are supposed to. How long do you set the timer?

_____ C / I

4. Let's say you've given your child a time-out but s/he continues to misbehave. What is the only thing that you can say?

_____ C / I

5. What's the longest time you can send your child to time-out?

_____ C / I

6. If you get to 10 minutes for a time-out, what warning do you give your child after you say, "That's 10 minutes?"

_____ C / I

7. If your child continues to be noncompliant with time-out, what do you say at this point?

_____ C / I

8. Let's say that you ask your child to wash his hands and he says, "I don't want to." You tell him that's a time-out and he says, "I don't care." What do you say?

_____ C / I

9. Then he stomps his foot and says, "You can't make me." What do you say?

_____ C / I

10. What if he gets up to 10 minutes - what do you say?

_____ C / I

Appendix B

Current Status Checklist (CSC)

Child's Name_____ Teacher's Name_____

Child's Code Number _____ Grade _____ School _____

Person completing this form: _____

Time of Testing: 1 2 3 4

Current Status Checklist

NOTE: After you have completed this form, please erase the child's name at the top (but leave the code number).

Please check as many of the following statements that you believe have applied to this student for *the past week*, more so than for other children the same age.

_____ This child often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities.

_____ This child often has difficulty sustaining attention in tasks or play activities.

_____ This child often does not seem to listen when spoken to directly.

_____ This child often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions).

_____ This child often has difficulty organizing tasks and activities.

_____ This child often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework).

_____ This child often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools).

_____ This child is often easily distracted by external stimuli.

_____ This child is often forgetful in daily activities.

_____ This child often fidgets with his or her hands or feet or squirms in his or her seat.

_____ This child often leaves his or her seat in classroom or in other situations when remaining seated is expected.

_____ This child often runs about or climbs excessively in situations in which it is inappropriate.

_____ This child often has difficulty playing or engaging in leisure activities quietly.

_____ This child is often "on the go", or often acts as if he or she is "driven by a motor".

_____ This child often talks excessively.

_____ This child often blurts out answers before questions have been completed.

_____ This child often has difficulty awaiting his or her turn.

_____ This child often interrupts or intrudes on others (i.e., butts into conversations or games).

IA= _____

H/I=_____

Appendix C

Classroom Behavior Assessment Instrument (CBAI)

Classroom Behavior Assessment Instrument

Sometimes we ask teachers to use a rating scale from 1-10 to describe a child's classroom behavior. A scale like this helps us understand how a child is doing from day to day. We can tell that a child is trying harder when he or she receives higher scores day after day, and we can tell that the child is not doing well when lower scores are earned. Number are clearer and easier to compare than verbal descriptions. They are also easier for parents and children to understand. In order to make the best use of the ratings we have devised the following guideline for using the scale. Please remember that a child should be compared with himself or herself and the average student in the class, not with the best child in the class. The child should receive two scores; one for on-task behavior and one for compliance. Homework that is not completed should be noted on the record sheet so that his or her parents can follow up at home. The child will receive appropriate daily reward or punishment at home depending on the score he or she earns at school. We do not expect children to be always make 9's or 10's. Do not be discouraged if a child earns low scores occasionally. Testing authority is a characteristic often associated with children with behavior problems. The low score a child earns today will serve as a reminder for tomorrow. We are also asking that you complete a simply data sheet (transfer the child's daily scores) and weekly record sheet (simply circle "yes" or "no: to each of two questions each day) to keep us informed of any changes in your classroom. We will provide you with postage paid envelopes to drop in the mail to us at the end of each week. The child's parents will be contacted by phone regularly to keep us informed of the child's scores. We may also call you from time to time to see how things are going. Please feel free to contact me if you have any questions. Thank you very much for your help. Without your cooperation and accurate ratings, this program would not help your student improve.

	On-Task Behavior	Compliant Behavior
10	This child's on-task behavior during independent seat work, large group activities, and small group activities is excellent compared to the average student in his or her class.	This child's compliant behavior (initiating compliance within 15 seconds of request) is excellent compared to the average student in his or her class.
9	This child's on-task behavior during independent seat work, large group activities, and small group activities is excellent for this child.	This child's compliant behavior (initiating compliance within 15 seconds of request) is excellent for this child.
8	This child's on-task behavior during independent seat work, large group activities, and small group activities is as good as the average student in his or her class with regard to frequency, intensity and severity.	This child's compliant behavior (initiating compliance within 15 seconds of request) is as good as the average student in his or her class with regard to frequency, intensity and severity.
7	This child's on-task behavior during independent seat work, large group activities, and small group activities is acceptable with regard to frequency, intensity and severity, but he or she does engage in minimal off-task behavior.	This child's compliant behavior (initiating compliance within 15 seconds of request) is acceptable, with regard to frequency, intensity and severity, but he or she does exhibit minimal noncompliance.
6	This child's on-task behavior during independent seat work, large group activities, and small group activities occurs less than 3/4 of the time.	This child's compliant behavior (initiating compliance within 15 seconds of request) occurs less than 3/4 of the time.
5	This child's on-task behavior during independent seat work, large group activities, and small group activities occurs less than 1/2 of the time.	This child's compliant behavior (initiating compliance within 15 seconds of request) occurs less than 1/2 of the time.
4	This child's on-task behavior during independent seat work, large group activities, and small group activities occurs less than 1/3 of the time.	This child's compliant behavior (initiating compliance within 15 seconds of request) occurs less than 1/3 of the time.

	On-Task Behavior (cont.)	Compliant Behavior (cont.)
3	This child's on-task behavior during independent seat work, large group activities, and small group activities occurs less than 1/4 of the time.	This child's compliant behavior (initiating compliance within 15 seconds of request) occurs less than 1/4 of the time.
2	This child's on-task behavior during independent seat work, large group activities, and small group activities occurs less than 1/8 of the time.	This child's compliant behavior (initiating compliance within 15 seconds of request) occurs less than 1/8 of the time.
1	This child so rarely exhibits on-task behavior during independent seat work, large group activities, and small group activities that he or she may be removed from the class.	This child so rarely exhibits compliant behavior (initiating compliance within 15 seconds of request) that he or she may be removed from the class.

Student's name: _____

Date:_____

Total Daily Score:_____

1. HOMEWORK ASSIGNMENTS

2. TESTS TO STUDY FOR:

3. TEST SCORES RECEIVED:

4. SCORE FROM 0 TO 10:

   On-Task Behavior _____

   Compliance _____

5. TEACHER'S SIGNATURE: _____

DATA SHEETS

Student's name: _____ Teacher's Name: _____

Date	Scale	Score
____/____/____	On-Task Behavior Compliance	____/10 ____/10 Total ____/20
____/____/____	On-Task Behavior Compliance	____/10 ____/10 Total ____/20
____/____/____	On-Task Behavior Compliance	____/10 ____/10 Total ____/20
____/____/____	On-Task Behavior Compliance	____/10 ____/10 Total ____/20
____/____/____	On-Task Behavior Compliance	____/10 ____/10 Total ____/20

	M	T	W	Th	F
Was the daily form (with scores and homework information) given to the child at the end of the day today?	yes no	yes no	yes no	yes no	yes no
Did you institute a new behavioral program for this child today?	yes no	yes no	yes no	yes no	yes no

Please complete this form each day and mail it back to us in the postage paid envelopes at the end of each week.

Code _____
(for office use only)

Appendix D

Parental Permission / Informed Consent for Experimental Subjects

California State University, Stanislaus Letterhead

Principle Investigator: Kevin J. Armstrong, Ph.D.
Research Associate: Barbara M.Todd-Nelson, M.A.
Research Associate: Gina M. Pallotta, Ph.D.

Dear Parents/Guardians:

Two copies of this form are enclosed. Please return one and keep the other for your records.

This project is offered in conjunction with California State University, Stanislaus. We are from the Department of Psychology and are interested in gaining useful information regarding teaching parents effective strategies for managing the behavior of children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). This information will enable us to better assess and treat children who present with such concerns. We are especially interested in the experimental effects this home-based program has on the classroom behavior of each child.

The purpose of this two-part study is to assess your child's behavior at home and in the classroom and to improve your child's task completion and compliance (following directions) while at home and school. To do this we are asking permission for you and your child to participate in the following study. This study will last approximately sixteen weeks and will include twelve children.

The first part of the study will include a parenting strategies program designed to reduce conflict at home, increase your child's compliance with your requests and rules, decrease your child's negative behaviors, and help your child become more cooperative with others. In addition, most parents report increased confidence in their ability to successfully handle their child's problematic behavior. The first part of the study will be conducted over eight one-hour sessions. Your child will need to come to the first and last sessions. During the first session, you will be asked to complete an interview and several paper and pencil questionnaires. During the second session, parent(s) will learn to define and monitor important child behaviors. Following this session, you will be asked to periodically monitor your child's behavior at home. During the next session, you will review your home observations with your trainer. You will then be introduced to the Positive Point Program. This program teaches parents how to increase positive behaviors in their children. You will then be asked to use this unique praise and reward system at home to help your child learn more cooperative and desirable behaviors. Once the Positive Point Program has been successfully implemented, you will be introduced to a specially designed time-out procedure. This version of time-out is a non-physical, no-hassle, yet highly effective substitute for punishment that is designed to decrease negative behaviors in your child. You will be asked to try this version of time-out at home in order to help your child reduce undesirable behaviors (defiance, back-talk, or whining). The remaining sessions (up to session 7) will be used to address any problems specific to the implementation of the parenting strategies program. During the last session, you will again be asked to complete an interview and several paper and pencil questionnaires.
We will also ask your permission to conduct observation sessions on four separate

occasions during a sixteen week time period in your home. Each session will be conducted by one or two undergraduate research assistants and will last about one hour. The type of observations we are conducting are unobtrusive. That is, the research assistants will sit quietly and will not interact with family members during the observations.

There are no unusual risks to parents for participating in these sessions. Prior outcome research suggests that the program is effective for approximately 80% of families. If the program is not effective for you and your family and the required services are deemed beyond the scope of that offered through this program, an appropriate referral will be made.

The goal of the second part of the study is to obtain improvements in your child's behavior at school, similar to those obtained at home. In order to do so, your child's teacher will be asked to complete several paper and pencil questionnaires on four occasions. S/he will also be asked to complete a home/school report card and provide ratings of your child's behavior daily for eight to ten weeks. You will then be asked to implement consequences (similar to those used in the first part of the study) based on these teacher ratings.

We will also ask your permission to conduct observation sessions on fifteen separate occasions during a sixteen week time period in your child's classroom. Each session will be conducted by one or two undergraduate research assistants and will last about one hour. The type of observations we are conducting are unobtrusive. That is, the research assistants will sit quietly in the back of the classroom and will not interact with any of the students in the class. No students will be removed from the classroom at any time, nor will they be singled out. Your child's teacher will privately point out the two children in the classroom to be observed to the research assistants. The children will not be told they are being observed.

All training will be supervised by a doctoral level clinical psychologist (Fully licensed in the state of California for three years), and will be conducted by a doctoral level graduate student. Participation is completely voluntary and can be terminated at any time without prejudice or penalty to you or your child.

Please read the following section before signing at the end.

****

I understand that my child and I/we have been invited to participate in a research project entitled: An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children. I further understand that the purpose of this project is to fulfill Barbara Todd-Nelson's dissertation requirement.

YES _____ NO _____

I understand that my consent for my child to participate in this project means that I (and/or my child's other parent) will participate in an eight week program designed to learn parenting strategies. I further understand that the goal of this program is to increase my child's task completion and compliance (following directions) while at home.

YES _____ NO _____

I understand that my consent for my child to participate in this project means that I (and/or my child's other parent) will be asked to continue to implement the strategies learned from the first part of the study, for approximately eight additional weeks (sixteen weeks total). I further understand that the goal of this second part of the program is to increase my child's task completion and compliance (following directions) while at school.

YES _____ NO _____

I understand that my consent for my child to participate in this project means that my child and I/we will be unobtrusively observed in our home for 45 minutes to one hour on four separate days by one or two undergraduate research assistants.

YES _____ NO _____

I understand that my consent for my child to participate in this project means that my child will be unobtrusively observed in his or her classroom for 45 minutes to one hour on fifteen separate days by one or two undergraduate research assistants. I further understand that my child (and all of the children in my child's class) will remain unaware that my child is being observed.

YES _____ NO _____

I understand that if my child and I/we choose to participate, this will mean that I (and/or my child's other parent) and my child's teacher(s) will complete a brief 18 item behavior checklist, entitled the Current Status Checklist on four occasions. Additionally, I (and/or my child's other parent) will complete a brief checklist entitled the Home Situations Questionnaire-Revised (16 items) and my child's teacher will complete the School Situations Questionnaire-Revised (13 items) also on four occasions. Finally, I (and/or my child's other parent) will complete the Child Behavior Checklist on four occasions.

YES _____ NO _____

In addition, I understand that my child's teacher will complete the Classroom Behavior Assessment Instrument (CBAI) daily for eight to ten weeks. I understand that this measure will be used to compare my child's behavior in the classroom across time. Each day, my child's teacher will provide a score based on his or her behavior that day . The scores will be used to incorporate a positive point/response cost contingency program (similar to that used during the Parenting Strategies). I (and/or my child's other parent) will be asked to implement this simple behavior management program at home based on my child's behavior at school.

YES _____ NO _____

I understand that if I do not agree to participate in this study, there will be no negative effect on my child's school grades. I further understand that my child and I are free at any time to choose not to participate or to discontinue our participation. If this is my decision, there will be no negative effects on my child's school programming.

YES _____ NO _____

Benefits

I understand that immediate benefits to my child for participating include a possible increase in compliance (following directions) at home and in the classroom and a possible increase in on-task behavior. Additionally, future benefits to my child may include more consistent completion of homework assignments which may result in higher grades and more effective home and classroom behavior.

YES _____ NO _____

Risks

I understand that there are no anticipated risks to my child due to our participation in this study. As in all research, there may be unforeseen risks to my child. If an accidental injury occurs, appropriate emergency procedures will be taken; however, no compensation or treatment will be made available to my child.

YES _____ NO _____

I further understand that all information collected and all individual scores on all measures will be kept confidential, will be securely stored at California State University, Stanislaus, and will be destroyed after completion of the study. I understand that none of the individual results will be available to anyone in my child's school without my explicit permission. No names will be kept with the scores, and instead a code number will be attached. I understand that if any of the results are published or shared in a professional meeting, no names or identifying information about my child will be used.

YES _____ NO _____

Furthermore, I understand that if I have any questions or concerns about this study prior to, during, or after it's completion, I may contact Barbara Todd-Nelson at (209)669-0306, Dr. Kevin Armstrong at (616)387-8311, and/or Dr. Gina Pallotta at (209)667-3505. I may also contact the Chair of Human Subjects Institutional Review Board (HSIRB) at Western Michigan University (616)387-8293, or the Advisory Committee on the Protection of Human Subjects Institutional Review Board (HSIRB) at California State University, Stanislaus (209)667-3493. I may also contact the Vice President for Research (Western Michigan University) at (616)387-8298 if questions or problems arise during the course of the study.

YES _____ NO _____

Two copies of this form are enclosed. Please return one and keep the other for your records. Thank you.

Please return one copy of this form in the enclose, postage-paid envelope, regardless of whether or not you choose to participate in this study by signing in the appropriate blank.

If you choose to participate, you will be contacted by phone to schedule your first appointment.

****

My signature below indicates that I have answered **"Yes"** to all of the above and I **give permission** for my child to participate in the research project entitled: An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children.

I give permission for *(child's name)* _____
to participate in An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children.

Signature: _____ Date _____

Child's grade: _____

Child's age: _____

Child's teacher: _____

Child's school: _____ traditional year-round
(circle one)

Phone number(s): (H)_____ (W)_____

****

My signature below indicates that I have answered **"No"** to one or more of the above and I **do not** give permission for my child to participate in the research project entitled: An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children. Therefore, my child will not be included in this study.

I **do not** give permission for *(child's name)* _____
to participate in An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children.

Signature: _____ Date _____

Appendix E

Recruitment Flyer and Newspaper Advertisement for Experimental Subjects

Flyer:

IS YOUR 6-11 YEAR OLD CHILD HAVING PROBLEMS

AT HOME OR SCHOOL RELATED TO

ATTENTION-DEFICIT / HYPERACTIVITY DISORDER?

As you are probably aware, children with problem behaviors at home usually exhibit them at school as well. These behaviors often interfere with learning and with social development. In conjunction with the Psychology Department at California State University - Stanislaus, we are conducting a two-part study designed to reduce problem behaviors associated with ADHD at home and at school. Participation in this study is free and will last 12-16 weeks (starting early 1997). Participation will teach parents strategies to increase the positive behaviors and decrease the negative behaviors their child may be exhibiting at home and school. If you are interested in participating or have questions, please contact:

Barbara M. Todd-Nelson, M.A. (209)669-0306
(leave message)
Department of Psychology
California State University-Stanislaus
Turlock, CA 95382

Newspaper Advertisement:

IS YOUR CHILD HAVING PROBLEMS RELATED TO ADHD?

The Psych. Dept. at CSU is conducting a study to reduce problem behaviors at home and school for ADHD children. Participation is free and will last 16 weeks. Parents will learn strategies to increase positive behaviors and decrease negative behaviors. For more information, please contact: Barbara Todd-Nelson (209)669-0306.

Appendix F

Recruitment Letter and Parental Permission / Informed Consent for Control Subjects

California State University, Stanislaus Letterhead

Principle Investigator: Kevin J. Armstrong, Ph.D.
Research Associate: Barbara M.Todd-Nelson, M.A.
Research Associate: Gina M. Pallotta, Ph.D.

Dear Parents/Guardians:

Two copies of this form are enclosed. Please return one and keep the other for your records. Thank you.

This project is offered in conjunction with California State University, Stanislaus. We are asking for help from you and your child. We are from the Department of Psychology and are interested in gaining useful information regarding teaching parents effective strategies for managing the behavior of children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). This information will enable us to better assess and treat children who present with such concerns. We are especially interested in the experimental effects this home-based program has on the classroom behavior of each child. One purpose of this study is to compare the classroom behavior of children who ARE diagnosed with ADHD to those who are NOT. We are writing to you because your child's teacher has indicated that your child does not typically exhibit problem behaviors at school. Given this, we are asking for your permission to observe your child at the same time we will be observing another child who exhibits some problem behaviors at school. Observation of your child will enable us to compare changes in the ADHD diagnosed child's behavior over time.

Observation sessions will take place on fifteen separate occasions during a sixteen week time period. Each session will be conducted by one or two undergraduate research assistants and will last about one hour. The type of observations we are conducting are unobtrusive. That is, the research assistants will sit quietly in the back of the classroom and will not interact with any of the students in the class. No students will be removed from the classroom at any time, nor will they be singled out. Your child's teacher will privately point out the two children in the classroom to be observed to the research assistants. This study will include a total of twelve children. There will be one ADHD diagnosed child and one non-diagnosed child in each of six different classrooms. No child will be told who is being observed and why.

Please read the following section before signing at the end.

****

I understand that my child has been invited to participate in a research project entitled: An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children. I further understand that the purpose of this project is to fulfill Barbara Todd-Nelson's dissertation requirement.

YES _____ NO _____

My consent for my child to participate in this project means that my child will be unobtrusively observed in his or her classroom for 45 minutes to one hour on fifteen separate days by one or two undergraduate research assistants. I further understand that my child (and all of the children in my child's class) will remain unaware that any child is being observed.

YES _____ NO _____

I understand that if I do not agree to participate, there will be no negative effect on my child's school grades. I further understand that my child and I are free at any time to choose not to participate or to discontinue our participation. If this is my decision, there will be no negative effects on my child's school programming.

YES _____ NO _____

Benefits

I understand that there may be no immediate benefits to my child for participating. However, benefits to the ADHD diagnosed child may include an increase in compliance (following teacher's direction) in the classroom, and an increase in on-task behavior. Additionally, future benefits to ADHD diagnosed child may include more consistent completion of homework assignments which may result in higher grades and more effective classroom behavior.

YES _____ NO _____

Risks

I understand that there are no anticipated risks to my child due to our participation in this study. As in all research, there may be unforeseen risks to my child. If an accidental injury occurs, appropriate emergency procedures will be taken; however, no compensation or treatment will be made available to my child.

YES _____ NO _____

I further understand that all individual scores on all measures will be kept confidential, will be safely stored at California State University, Stanislaus, and will be destroyed after completion of the study. I understand that no individual results will be available to anyone in my child's school without my explicit permission. No names will be kept with the scores, and instead a code number will be attached. I understand that if any of the results are published or shared in a professional meeting, no names or identifying information about my child will be used.

YES _____ NO _____

Furthermore, I understand that if I have any questions or concerns about this study prior to, during, or after it's completion, I may contact Barbara Todd-Nelson at (209)669-0306, Dr. Kevin Armstrong at (616)387-8311, and/or Dr. Gina Pallotta at (209)667-3505. I may also contact the Chair of Human Subjects Institutional Review Board (HSIRB) at Western Michigan University (616)387-8293, or the Advisory Committee on the Protection of Human Subjects Institutional Review Board (HSIRB) at California State University, Stanislaus (209)667-3493. I may also contact the Vice President for Research (Western Michigan University) at (616)387-8298 if questions or problems arise during the course of the study.

YES _____ NO _____

Two copies of this form are enclosed. Please return one and keep the other for your records. Thank you.

Please sign in the appropriate blank and return this form to your child's teacher in the enclosed envelope, regardless of whether or not you choose to participate in this adjunctive study.

****

My signature below indicates that I have answered **"Yes"** to all of the above and I **give permission** for my child to participate in the research project entitled: An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children.

I give permission for *(child's name)* _____
to participate in An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children.

Signature: _____ Date _____

Child's grade: _____

Child's age: _____

Child's teacher: _____

****

My signature below indicates that I have answered **"No"** to one or more of the above and I **do not** give permission for my child to participate in the research project entitled: An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children. Therefore, my child will not be included in this study.

I **do not** give permission for *(child's name)* _____
to participate in An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children.

Signature: _____ Date _____

Appendix G

Raw Scores for the Child Behavior Assessment Instrument (CBAI)

CBAI Raw Scores

Subject	A	B	C	D	E	F
1	9	11	16		15	12
2		11	15	19	12	12
3	13	12	15	15	13	12
4	11	12	15	15	12	8
5	12	12	15	15	12	
6						
7			10	15	12	
8	13		10	15	11	18
9	12	12	10	16	11	10
10	12	12	10	14	12	8
11	13	10			13	
12						
13	13	13	16		15	18
14	16	11	16	13	13	18
15	11	11	12	14	14	18
16		12	12	13	15	20
17		12	11	6		
18						
19	16	10	16	14	12	12
20		11	16	13	12	14
21		12	15	14	13	
22	17	12	16	16	13	
23	17	13	15	17	14	
24						
25	14	13	15	15	13	16
26	16	13	16	16	14	16
27	16	12	16	16	12	15
28	18	13	16	16	14	14
29	17	14	16	15	14	15
30						
31		14	12	16	15	16
32	16	13	15	15	15	16
33	17	13	16	15	15	11
34	17	13	16	15	15	14
35	16	14	15	16		16
36						
37	15	15	16		16	16
38	15	14	16	16	16	16
39	16	14	16	13	16	16
40	14		15	13	15	16
41	13		16	16	15	18

CBAI Raw Scores--Continued

Subject	A	B	C	D	E	F
42						
43	14	15	16	14	17	12
44	16	14	16	16		
45	16	13	14	15	16	
46	14	14	15	15	17	
47	14	13	16	15	17	16
48						
49		12	16	16		12
50	15	13	16	16	16	10
51	15	15	16	16	17	16
52	17	14	15	15	15	16
53	17	13	16	14	16	
54						
55	16				17	16
56	15		15	16	17	9
57	14	12	16	16	18	16
58	14	13	16	14	19	16
59	16	14	16	17	19	18
60						
61		14	16	16	20	
62		13	16	18	19	16
63		12	16	18	20	16
64		13	16	16	20	18
65			16	11		11

Appendix H

Procedure for Parents for the Child Behavior Assessment Instrument (CBAI)

Parents of the six experimental subjects described the intervention to the children based on the following outline:

1. Parents were instructed to get rewards in house first. They were reminded that they must be able to provide any reward offered so the child could depend on them keeping their end of the bargain.

2. At bedtime, parents reminded the children of the use of the Positive Point Program during the Phase I of the study. Then, parents were instructed to tell the child "At home, you do things we really, really like. And we want you to do more of those things while you're at school. So to help you, we want to give you a chance to earn point like before, only this time, they will be based on things that happen at school. By getting high scores you can get x,y, and z." Children were encouraged to help generate a new list of rewards.

3. Parents then explained the points teachers would send home each day in the notebook and how these scores would determine the rewards and/or loss of privileges for the rest of that day.

Parent Record Sheet

For each day, please complete the weekly record form according to the following criteria and mail it in the enclosed postage paid envelope.

A. Record the number of compliance points earned at home each day.

B. Record the number of points earned for each chore.

C. Record your child's daily obtained score earned from school.

D. Record your child's usual and actual bedtime for each day.

E. Record the number of Time-Outs your child had each day.

F. Record the number of back-up punishers you had to use each day.

G. Provide a global rating from one to five for your child's compliance based on the following.

1: My child was not compliant with any requests made at home today.
2: My child was compliant with less than half of the requests made at home today.
3: My child was compliant with about half of the requests made at home today.
4: My child was compliant with most of the requests made at home today.
5: My child was compliant with all of the requests made at home today.

H. List available rewards and back-up punishers.

Behavior/Chores	Description	Value	M	T	W	Th	F		S	Su
COMPLIANCE	Does what told to do, ***RIGHT AWAY***, without back-talk, arguing, or whining.	1 point each **ALL DAY**								
CHORE # 1	_____	1point								
CHORE # 2	_____	1point								
SCHOOL SCORE	(see notebook)	**20**								
		Must Make **20**	Total	Total	Total	Total	Total	Must Make **10**	Total	Total
USUAL BEDTIME: (record daily)		Actual								
# TIME-OUTS (record daily)										
BACK-UP PUNISHERS (record daily)										
COMPLIANCE (record daily 1-5)										

REWARDS:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

BACK-UP PUNISHERS / LOSS OF PRIVILEGES:

1. _____
2. _____
3. _____
4. _____
5. _____
6. 30 MINUTES EARLY TO BED

Appendix I

Recruitment Letter and Outline for Teacher Participation

California State University, Stanislaus Letterhead

Dear teachers,

We are writing to you in regard to _____;
a student in your class.

This child and his or her parent(s) are currently participating in a project offered through the Department of Psychology at California State University, Stanislaus. We are interested in gaining information about teaching parents effective strategies for managing the behavior of children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). Additionally, we are interested in the effects this program has on the classroom behavior of children. As such, this child's parent(s) has/have requested your participation to help generalize treatment gains achieved at home to the classroom setting.

As you may be aware, teaching children to comply with parental requests often helps them get along better with other adults. However, research suggests that if no simultaneous program is implemented at school, the child's classroom behavior is not likely to change. We believe it is possible for parents to learn to better support teacher's behavior management goals by incorporating consequences at home for behaviors that occur at school. In doing so, this program may also help to facilitate positive and useful communication between yourself and the child's parents.

Immediate benefits to this child for your participation include the likelihood of an increase in compliance and on-task behavior in the classroom. Additionally, future benefits to this child may include more consistent completion of homework assignments which may result in higher grades and more effective classroom behavior.

On the following page you will find a brief description of the Parenting Strategies Program in which your student's family is participating. This set of parenting strategies is simple yet research and clinical experience reveal the potential for unsupervised parents to misuse techniques at home. For example, parents often try punishment techniques for changing behavior before they try reinforcement strategies. Another misuse involves time-out strategies. Time-out should be brief (3-10 minutes), yet unsupervised parents often adapt much longer and potentially harmful time-out periods. We believe that families who have children with significant behavioral problems should consult with a trained psychologist before using aspects of this program. If you are aware of other families who would benefit from these types of strategies, please support them in consulting with a psychologist or family therapist.

We hope that you will choose to participate in this project. On the following pages, is a description of exactly what your participation would entail. Please feel free to contact us if you have any questions.

Outline for Teacher Participation

An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children

Phase I:

We are asking teachers to participate in a phone conference prior to the start of data collection, which will last approximately five to ten minutes. The phone conference will serve the following purposes:

1. Review the goals of the home parenting strategies and answer any questions.
2. Describe the goals of the intervention to be implemented in the classroom and answer any questions.
3. Gain information regarding the daily and weekly schedules of your class.
4. Identify convenient times to conduct unobtrusive observations in the classroom on fifteen occasions over a sixteen week time period.
5. Send home and collect informed consent forms for control subjects

Phase II: Data Collection

We are also asking teachers to provide information regarding the behavior of the target student. Specifically, this will entail completing two brief checklists (one is 18 sentences long, just check "yes" or "no", the other is 8 sentences long; rank items on a scale of 1-9) on four occasions. We are asking you to complete them more than once to allow us to assess changes in behavior after the intervention and across time. Additionally, we are asking teachers to provide two daily scores for the target child. Objective criteria will allow you to give scores between one and ten. The scores you provide will determine consequences to be administered by the parents at home. This is a special type of positive point/response cost program. Children will be taught that they can earn rewards at home for appropriate behavior at school, but that inappropriate behavior at school will result in loss of privileges. We will ask you to provide these scores for about eight to ten weeks.

Finally, we are asking teachers to use a parent-communication / homework sheet to be returned each day with the target child. This record sheet will serve to inform parents of the child's daily obtained global ratings as well as to note homework assignments to be completed that evening, upcoming tests to be studied for, and test scores earned that day.

Please contact us at your earliest convenience to disuss this program

Thank you.
Sincerely,

Barbara M. Todd-Nelson, M.A. (209)669-0306
Gina Pallotta, Ph.D.
Department of Psychology
California State University, Stanislaus
Kevin J. Armstrong, Ph.D. (616)387-8311
Department of Psychology
Western Michigan University

Appendix J

Human Subjects Institutional Review Board (HSIRB) Approval

Human Subjects Institutional Review Board

Kalamazoo, Michigan 49008-3899

WESTERN MICHIGAN UNIVERSITY

Date: 27 January 1997

To: Kevin Armstrong, Principal Investigator
Barbara Todd-Nelson, Student Investigator

From: Richard Wright, Chair

Re: HSIRB Project Number 95-08-02

This letter will serve as confirmation that your research project entitled "An Assessment of Generalization Across Settings of Parenting Strategies Program for ADHD Children" has been **approved** under the **expedited** category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you must seek specific approval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: 16 January 1998

CALIFORNIA STATE UNIVERSITY, STANISLAUS
801 West Monte Vista Avenue • Turlock, California 95382

January 9, 1997

Barbara Todd-Nelson
1100 Pedras Rd. #J214
Turlock, CA 95382

Dear Barbara,

The Institutional Review Board of California State University, Stanislaus met and determined that your proposed research is approved.

Should you need any additional information please contact me or Carole Taylor (phone/voice mail: (209) 667-3493; FAX: (209) 667-3026; email: jeffries@toto.csustan.edu or Taylor_Carole@macmail.csustan.edu).

Sincerely,

Frances Jeffries

Frances M. Jeffries, Ph.D.
Director, Office or Research and Grants

FMJ:ct

cc: Loreen Broker - Western Michigan University

Human Subjects Institutional Review Board

Kalamazoo, Michigan 49008-3899

WESTERN MICHIGAN UNIVERSITY

Date: 20 November 1996

To: Kevin Armstrong

From: Richard Wright, Chair

Re: HSIRB Project Number 95-08-02

This letter will serve as confirmation that the changes to your research project "An Assessment of Generalization Across Settings of a Parenting Strategies Program for ADHD Children" requested in your memo dated 17 November 1996 have been **conditionally** approved by the Human Subjects Institutional Review Board. Before final approval can be given, The HSIRB must receive notification of approval by the Institutional Review Board at California State University, Stanislaus.

Please submit the above changes in writing to the HSIRB, 320C Walwood Bldg (East Campus). To avoid delays, please do not send revisions addressed to myself.

If you have any questions, please call the HSIRB office, telephone number 387-8293.

xc: Barbara Todd-Nelson

Human Subjects Institutional Review Board

Kalamazoo, Michigan 49008-3899
616 387-8293

WESTERN MICHIGAN UNIVERSITY

To: Barbara M. Todd-Nelson
Kevin J. Armstrong

From: Richard A. Wright, Chair
Human Subjects Institutional Review Board

Richard A. Wright

Subject: HSIRB Project # 95-08-02

Date: September 12, 1996

This letter will serve as confirmation that the extension of your research project "An Assessment of Generalization Across Settings of a Parent Skills Training Program for ADHD Children," requested in your memo, has been approved by the Human Subjects Institutional Review Board.

Your project is approved for a period of one year from the above date. If you should revise any procedures relative to human subjects or materials, you must resubmit those changes for review in order to retain approval. Should any untoward incidents or unanticipated adverse reactions occur with the subjects in the process of this study, you must suspend the study and notify me immediately. The HSIRB will then determine whether or not the study may continue.

Please be reminded that all research involving human subjects must be accomplished in full accord with the policies and procedures of Western Michigan University, as well as all applicable local, state, and federal laws and regulations. Any deviation from those policies, procedures, laws or regulations may cause immediate termination of approval for this project.

Thank you for your cooperation. If you have any questions, please do not hesitate to contact me.

Project Expiration Date: September 12, 1997

Human Subjects Institutional Review Board

Kalamazoo, Michigan 49008-389
616 387-8293

WESTERN MICHIGAN UNIVERSITY

Date: March 26,1996

To: Barbara Todd-Nelson

From: Richard Wright, Chair Richard A. Wright

Re: HSIRB Project Number 95-08-02

This letter will serve as confirmation that the changes to your research project "An assessment of generalization across settings of a parent skills training program for ADHD children" requested in your memo dated March 22, 1996 have been approved by the Human Subjects Institutional Review Board.

The conditions and the duration of this approval are specified in the Policies of Western Michigan University.

You must seek reapproval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: August 8, 1996

xc: Kevin Armstrong, PSY

Human Subjects Institutional Review Board

Kalamazoo, Michigan 49008-3899
616 387-8293

WESTERN MICHIGAN UNIVERSITY

Date: August 8, 1995

To: Todd-Nelson, Barbara M.

From: Richard Wright, Chair Richard A. Wright

Re: HSIRB Project Number 95-08-02

This letter will serve as confirmation that your research project entitled "An assessment of generalization across settings of a parent skills training for ADHD boys" has been approved under the expedited category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you must seek specific approval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: Aug. 8, 1996

xc: Armstrong, Kevin, PSY

Appendix K

Parent and Teacher Satisfaction Forms

Western Michigan University Letterhead

PARENT EVALUATION OF THE PARENTING STRATEGIES TRAINING PROGRAM

DIRECTIONS: We would like your feedback regarding the Parenting Strategies Training program in which you participated. Please feel free to offer any additional comments in the space provided. Completion is optional but would be very beneficial as we make changes for next year.

There are no code numbers on this form. Your responses are completely anonymous.

1. How satisfied were you with the amount of time that elapsed between your first phone contact, your intake, and the scheduling of your first appointment?

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

2. How satisfied were you with the intake and background information collected?

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

3. How satisfied were you with the therapist? (Therapist's name: _____)
   (Therapist was on time, polite, professional, flexible regarding appointment times and locations, available by phone, etc.)

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

4. How satisfied were you with the home observers? (observers' names: _____)
   (Observers were on time, polite, professional, flexible regarding appointment times, etc.)

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

5. How helpful were the quizzes given during the Parenting Strategies Training program sessions?

(1)	(2)	(3)	(4)	(5)
extremely helpful	somewhat helpful	neutral	somewhat unhelpful	extremely unhelpful

Comments:_____

6. Has the Parenting Strategies Training program helped or hindered you in your parenting?

(1)	(2)	(3)	(4)	(5)
significantly helped	somewhat helped	neutral	somewhat hindered	significantly hindered

Comments:_____

7. How satisfied were you with the overall amount of time required for the Parenting Strategies Program?

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

8. In your opinion, how reasonable was the amount of paperwork required (daily recording of behavior, completion of questionnaires, etc.) given that the program was provided at no cost?

(1)	(2)	(3)	(4)	(5)
extremely reasonable	somewhat reasonable	neutral	somewhat unreasonable	extremely unreasonable

Comments:_____

9. How willing would you have been to participate if there was a cost for participation?

(1)	(2)	(3)	(4)	(5)
extremely willing	somewhat willing	neutral	somewhat unwilling	extremely unwilling

What do you think is a reasonable amount to charge for this program? $ _____

Comments:_____

10. How satisfied were you with the amount of time spent in face-to-face interactions with your therapist verses phone consults?

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

11. Overall, has there been any change in the amount of time spent in *negative interactions* (scolding, arguing, repeating requests, disciplining, etc.) with your child at home?

(1)	(2)	(3)	(4)	(5)
significant decrease (-)	some decrease (-)	no change (-)	some increase (-)	significant increase (-)

12. Overall, has there been any change in the amount of time spent in *positive interactions* (playing, talking, working together, etc.) with your child at home?

(1)	(2)	(3)	(4)	(5)
significant increase (+)	some increase (+)	no change (+)	some decrease (+)	significant decrease (+)

13. Overall, how satisfied were you with the amount of change that you have seen in your child's behavior at home?

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

14. How satisfied were you with the amount of change that you have seen in your child's behavior at school?

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

15. Overall, how would you rate your experience with the Parenting Strategies Program (Home-based component)?

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

16. Overall, how would you rate your experience with the Parenting Strategies Program (School-based component)?

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

17. How likely would you be to recommend this program to other parents?

(1)	(2)	(3)	(4)	(5)

extremely likely somewhat likely neutral somewhat unlikely extremely unlikely

Comments:_____

18. How flexible was this program in adapting to your child's specific needs?

(1) (2) (3) (4) (5)

extremely flexible somewhat flexible neutral somewhat inflexible extremely inflexible

Comments:_____

19. In your opinion, what was the best part of this program?

_____

_____

_____

20. In your opinion, what was the worst part of this program?

_____

_____

_____

If you have any concerns regarding this program that were not adequately addressed by your therapist, please feel free to contact: Dr. Kevin J. Armstrong, Western Michigan University, (616)387-8311

Thank you for your participation!

Western Michigan University Letterhead

TEACHER EVALUATION OF THE PARENTING STRATEGIES TRAINING PROGRAM

DIRECTIONS: We would like your feedback regarding the behavior modification program in which you participated. Please feel free to offer any additional comments in the space provided. Completion of this form is optional but would be very beneficial as we make changes for next year.

There are no code numbers on this form. Your responses are completely anonymous.

1. How satisfied were you with the amount of time that elapsed between your first phone contact with the therapist and the beginning of the school-based component of the program?

(1) extremely satisfied (2) somewhat satisfied (3) neutral (4) somewhat dissatisfied (5) extremely dissatisfied

Comments:_____

2. How satisfied were you with the therapist? (Therapist's name: _____)
   (Therapist was polite, professional, available by phone, explained things fully, was organized regarding scheduling of observations, etc.)

(1) extremely satisfied (2) somewhat satisfied (3) neutral (4) somewhat dissatisfied (5) extremely dissatisfied

Comments:_____

3. How satisfied were you with the classroom observers? (observers' names if known: _____)
   (Observers were on time, polite, professional, did not interact with students, etc.)

(1) extremely satisfied (2) somewhat satisfied (3) neutral (4) somewhat dissatisfied (5) extremely dissatisfied

Comments:_____

4. How obtrusive were the classroom observations?

(1)	(2)	(3)	(4)	(5)
extremely unobtrusive	somewhat unobtrusive	neutral	somewhat obtrusive	extremely obtrusive

Comments:_____

5. Has your participation in this program helped or hindered you in your teaching?

(1)	(2)	(3)	(4)	(5)
significantly helped	somewhat helped	neutral	somewhat hindered	significantly hindered

Comments:_____

6. How satisfied were you with the overall amount of time required for participation in this program?

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

7. In your opinion, how reasonable was the amount of paperwork required (daily recording of behavior, completion of questionnaires, etc.) given that the program was provided at no cost to parents?

(1)	(2)	(3)	(4)	(5)
extremely reasonable	somewhat reasonable	neutral	somewhat unreasonable	extremely unreasonable

Comments:_____

8. How satisfied were you with the amount of time spent in face-to-face interactions with the therapist verses phone consults?

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

9. Overall, has there been any change in the amount of time spent in *negative interactions* (scolding, arguing, repeating requests, disciplining, etc.) with the student in the classroom?

(1)	(2)	(3)	(4)	(5)
significant decrease (-)	some decrease (-)	no change (-)	some increase (-)	significant increase (-)

Comments:_____

10. Overall, has there been any change in the amount of time spent in *positive interactions* (playing, talking, working together, etc.) with the student in the classroom?

(1)	(2)	(3)	(4)	(5)
significant increase (+)	some increase (+)	no change (+)	some decrease (+)	significant decrease (+)

Comments:_____

11. Overall, how satisfied were you with the amount of change that you have seen in the student's behavior at school?

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

12. Overall, how would you rate your experience with this program?

(1)	(2)	(3)	(4)	(5)
extremely satisfied	somewhat satisfied	neutral	somewhat dissatisfied	extremely dissatisfied

Comments:_____

13. How likely would you be to recommend this program to other teachers?

(1)	(2)	(3)	(4)	(5)
extremely likely	somewhat likely	neutral	somewhat unlikely	extremely unlikely

Comments:_____

14. How flexible was this program in adapting to your student's specific needs?

(1)	(2)	(3)	(4)	(5)
extremely flexible	somewhat flexible	neutral	somewhat inflexible	extremely inflexible

Comments:_____

15. In your opinion, what was the best part of this program?

_____

_____

16. In your opinion, what was the worst part of this program and what would you like to see changed?

_____

_____

If you have any significant concerns regarding this program that you feel were not adequately addressed by the therapist, please feel free to contact:
Dr. Kevin J. Armstrong, Western Michigan University, (616)387-8311
Thank you for your time and participation!

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