CONJOINT BEHAVIORAL CONSULTATION, ADHD, AND HOMEWORK: A COMBINED INTERVENTION PACKAGE FOR MIDDLE SCHOOL YOUTH WITH ADHD

by

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CONJOINT BEHAVIORAL CONSULTATION, ADHD, AND HOMEWORK: A COMBINED INTERVENTION PACKAGE FOR MIDDLE SCHOOL YOUTH WITH ADHD

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University of Nebraska, 2002

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This study investigated the effects of a homework intervention package on the homework performance of middle school students with Attention Deficit Hyperactivity Disorder (ADHD). The homework intervention package was implemented within the context of Conjoint Behavioral Consultation (CBC). Using a multiple baseline design across participants, this study examined the effects of the combined intervention package on the homework productivity (percent of items completed on time) and accuracy (percent of items completed correctly on time) of ADHD middle school students. The social validity of the CBC process was also investigated. The participants included four middle school students attending regular education classrooms in a midwestern metropolitan community. The participants met DSM-IV diagnostic criteria for ADHD. Three participants were male, one 6th grade student and two 7th grade students. The fourth participant was an eighth grade female student. The consultees included the participants' social studies teachers and mothers. Self-management strategies (i.e., goal setting and self-monitoring) and a structured homework routine were delineated and individualized to address the specific needs of each student participant. Reliability was assessed for the

integrity of the CBC process and teacher report of homework productivity and accuracy. The results revealed an immediate and dramatic improvement in homework productivity and accuracy for all participants. Follow-up data were mixed. Social validity data were gathered via survey and indicated consultee satisfaction with the acceptability of the CBC process and the helpfulness of the consultant. Student participants rated the homework intervention package as favorable and acceptable. The overall Goal Attainment Scale ratings averaged 4.2 (5.0 possible) indicating the consultees found the homework intervention package to be effective in attaining treatment goals. This study contributes to several areas of research: homework at the middle school level for ADHD students, self-management strategies, ADHD and CBC. Although the findings were positive and show promise for the homework intervention package established within the context of CBC, additional research is needed.

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CHAPTER 1

INTRODUCTION

This study investigated the effects of a homework intervention package on the homework performance of middle school students with Attention Deficit Hyperactivity Disorder (ADHD). The homework intervention package was implemented within the context of Conjoint Behavioral Consultation (CBC) (Sheridan, Kratochwill, & Bergan, 1996). ADHD is the most common disorder among children and has far reaching and long lasting implications for a child's academic and social life (Stubbe, 2000). The prevalence and pervasiveness of impairment associated with ADHD justify research attention. Enhancing the homework performance of ADHD youth is an area of need of research, as no efficacious strategies have been identified.

Children spend a significant portion of their lives in school. For children with ADHD, the school day presents numerous behavioral challenges. Schools value and expect certain behaviors (e.g., paying attention, organization, self-control, completing tasks, remaining seated). For students diagnosed with ADHD performing successfully at school may prove to be particularly difficult. The educational system has turned to homework as a strategy for all students to increase learning opportunities beyond the school day, via practice, completion, extension, and preparation (Roderique, Polloway, Cumblad, Epstein, & Bursuck, 1995). Although parent involvement in the education of children is important and recommended (Power, Karustis, & Habboushe, 2001), homework makes parent involvement nearly unavoidable. Not only may homework prove particularly challenging for students diagnosed with ADHD, it may compete with any number of more inviting/reinforcing activities for the student's time and attention. In

an effort to insure homework is completed and academic performance is not compromised, parents of ADHD students oftentimes become the gatekeepers of homework. They may provide more intense supervision and assistance to facilitate homework compatible behaviors (on task, attention, resisting distractions, avoiding careless mistakes). Thus, for many ADHD students homework is not a task they complete independently or autonomously.

To date, a paucity of research has been conducted to identify strategies that are efficacious in terms of ensuring homework success for students with ADHD. This study sought to add to the extant literature for ADHD, homework, and CBC. Given the nature of homework and the characteristics of ADHD, parent involvement was an integral component of this study. Implementing the CBC process, parents and teachers were brought together with the consultant to assess the homework problems exhibited by the students and to conduct a functional assessment of those problems. The four student participants joined the CBC process to facilitate their meaningful participation in problem assessment and treatment. Utilizing a multiple baseline design the intervention was introduced across students in a staggered fashion over time. The efficacy of the homework intervention package was assessed via its effects on the homework productivity and accuracy of each student participant. Parent and teacher perceptions were assessed to evaluate the social validity of CBC.

CHAPTER 2

LITERATURE REVIEW

Children and youth spend a significant amount of their time in school each year. One cost effective strategy for enhancing and extending the school day curriculum is homework. As students progress through school, homework typically becomes increasingly more demanding. As youth enter middle (or junior high) school they often find that they have more homework assigned by multiple teachers (Bryan & Nelson, 1995). In addition to managing the increased homework demands, students must also discern each of their teachers' expectations for homework completion. An already difficult situation may be further compromised when the middle school student has been diagnosed with Attention Deficit Hyperactivity Disorder (ADHD).

ADHD has been described as a disorder that causes significant and far reaching impairment in many aspects of an individual's life (Pelham & Fabiano, 2000). In the life of a child the two primary contexts in which ADHD impairment is most prominent and problematic are home and school. In schools in the United States, over $3 billion annually are expended on children with ADHD (Stubbe, 2000). Impairments related to school are numerous and have long lasting implications. Research has indicated that students who have ADHD or exhibit subthreshold ADHD symptoms tend to earn lower grades, complete fewer assignments, struggle with homework, have difficulty attending in class, complete fewer years of education, and work in lower level jobs (Mannuzza, Klein, & Bessler, 1997; Weiss & Hechtman, 1993).

The ADHD student's difficulties with inattention, disorganization, hyperactivity, and impulsivity often interfere with the student's successful and effective participation in

school. These same behavioral characteristics affect the student's homework success as well. At one level, the student may miss hearing homework assignments because of distractibility. Or the student may not attend consistently enough during class to know how to complete the assigned homework. At another level, the process of completing homework is affected by the same impulsivity, hyperactivity, inattention, and disorganization that interfere with learning during the school day.

In addition to the student variables that are inherent to an ADHD middle school student's academic performance and success, it is necessary to consider the implications of the heritability of ADHD. ADHD has been shown to be in part heritable, with estimates as high as 75% (Goodman & Stevenson, 1989; International Consensus Statement on ADHD, 2002). This finding implies that one or both parents may have ADHD or ADHD tendencies. The implications of ADHD present in one or both parents, in addition to the child having ADHD, are numerous. Organization, structure, routine, sustained attention, and follow-through are areas of difficulty for individuals with ADHD and are often targeted in behavioral interventions. However, the ability of parents to provide structure, consistency, and organization may be seriously compromised if they too experience ADHD. Routines, organization, planning, and consistency are variables that are considered critical to homework success (Olympia, Jenson, & Hepworth-Neville, 1996; Power, 2001). Thus, for many ADHD students, intervention efforts may prove most successful if the parents are actively involved in providing a home environment that is conducive to learning. Research has suggested that environmental stressors (e.g., family and psychosocial risk factors) may serve to facilitate the expression of ADHD in children who have a physiological predisposition for ADHD (Biederman et al., 1995;

Epstein et al., 2000; Jensen, 2000). This finding suggests that parents of ADHD youth may benefit from assistance in creating an environment that serves to minimize ADHD symptomatology.

ADHD

Diagnosis

Attention deficit hyperactivity disorder (ADHD) is the most commonly diagnosed disorder among children and adolescents. ADHD symptoms are the primary reason children are referred for mental health services, accounting for as many as 30%-50% of all children referred (Stubbe, 2000). Characterized by inattention, hyperactivity and impulsivity, ADHD not only impacts the affected child but also his or her family, school, and society. Once considered a childhood disorder, ADHD has gained recognition and acceptance as a potentially life-long disorder that may persist into adolescence and adulthood. Today, ADHD is considered a significant public health problem (Stubbe, 2000).

ADHD, under various labels, has long been recognized as a problematic condition present among children. As the proposed etiology and hypothesized functions of the symptoms have changed over time, so too has the diagnostic label. Previous labels have included minimal brain damage, minimal brain dysfunction, and hyperkinetic syndrome of childhood. With the publication of the Diagnostic and Statistical Manual of Mental Disorders-Third Edition (DSM-III, American Psychological Association) in 1980, Attention Deficit Disorder with or without hyperactivity was recognized as a mental health disorder among children and standard diagnostic criteria were established. At the time the DSM-III-R was published in 1987, hyperactivity was the focus of clinical

concern. Diagnostic criteria were provided for identifying hyperactivity and hyperactivity with inattention, but not for inattention without hyperactivity.

The current Diagnostic and Statistical Manual, the DSM-IV, published in 1994, offers the most comprehensive set of diagnostic criteria to date. Today, three ADHD diagnoses are recognized as valid disorders: ADHD, Combined Type; ADHD, Predominantly Inattentive Type; and ADHD, Predominantly Hyperactive-Impulsive Type. The diagnostic criteria were also reformulated to include functional impairment in two or more settings. (See Table 1 for the DSM-IV ADHD diagnostic criteria.)

Table 1

DSM-IV ADHD Diagnostic Criteria

A (1)	Inattention 6 or more symptoms	A (2)	Hyperactivity –Impulsivity 6 or more symptoms
a. *(Often...)*	fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities		fidgets with hands or feet or squirms in seat
b.	has difficulty sustaining attention in tasks or play activities		leaves seat in classroom or in other situations in which remaining seated is expected
c.	does not seem to listen to when spoken to directly		runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness
d.	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)		has difficulty playing or engaging in leisure activities quietly
e.	Has difficulty organizing tasks and activities		"on the go" or often acts as if "driven by a motor"

A (1)	Inattention 6 or more symptoms	A (2)	Hyperactivity –Impulsivity 6 or more symptoms
f.	avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)	talks excessively	
g.	loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)	blurts out answers before questions have been completed	
h.	easily distracted by extraneous stimuli	has difficulty awaiting turn	
i.	forgetful in daily activities	Interrupts or intrudes on others (e.g., butts into conversations or games)	
B.	Some symptoms that caused impairment were present before age 7 years.		
C.	Some impairment from the symptoms is present in two or more settings (e.g., school, work, home)		
D.	Clear evidence of clinically significant impairment in social, academic, or occupational functioning.		

E. Symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

(APA, 1994)

Prevalence

The diagnostic criteria defined by the DSM-IV are the most inclusive in the history of ADHD. The DSM-IV diagnostic criteria have resulted in a 24% increase in the number of children diagnosed with ADHD (Lahey, Applegate, & McBurnett, 1994). Reported prevalence rates of ADHD among children vary by as much as 17%. Scahill and Schwab-Stone (2000) report a "best estimate" prevalence of 5%-10%. In a technical review of 87 ADHD prevalence studies, Brown et al. (2001) found prevalence rates ranged from 4% to 26%, with the majority of studies reporting a range of 4 % to 12 %. This is substantially higher than the frequently reported prevalence of 3%-5%. In a critical review of the 13 epidemiologic studies and 6 community surveys conducted since 1980, the authors analyzed the variability in the reported prevalence figures. Specifically, Scahill and Schwab-Stone identified and discussed three factors that impact estimates of prevalence: diagnostic criteria, informants, and the age of the population studied. Brown et al. (2001) add setting and gender to the list of factors that affect prevalence rates.

The DSM-IV criteria were utilized by the community surveys and tended to result in higher reported prevalence in comparison to the epidemiologic studies that used the

DSM-III criteria. Brown et al. (2001) reported on prevalence studies using the DSM-IV criterion found an overall prevalence of 6.8%. When the functional impairment criterion of the DSM-IV was disregarded the rate increased to 16%. The shift in criteria from the DSM-III to the DSM-III-R resulted in a narrower diagnostic set for ADHD and subsequently varying estimates of prevalence across the epidemiologic studies. Thus, estimates of prevalence appear to be affected by the diagnostic criteria utilized.

Diagnostic methodology (i.e., behavioral checklists, personal interviews) also affects estimates of prevalence (Brown et al., 2001; Scahill & Schwab-Stone, 2000). There are three approaches to diagnosis with respect to multiple informants (i.e., child, parent, and teacher). One strategy is to count each symptom identified, regardless of the informant. A second alternative is to count only those symptoms identified by two or more informants. Given that research has shown little consistency between teacher and parent symptom ratings for ADHD (Szatmari, Offord, & Boyle, 1989), the former strategy tends to result in higher estimates of prevalence while the latter leads to lower estimates. The third approach combines the use of behavioral checklists with personal interviews. The reporting of symptoms by an informant is not equivalent to impairment. Thus, diagnoses based on a symptom count taken from a behavioral checklist completed by a parent or teacher have resulted in higher estimates in comparison to a symptom count combined with a personal interview to assess impairment of functioning. The American Academy of Pediatrics, Clinical Practice Guidelines for the Diagnosis and Evaluation of ADHD in Children (2000) strongly recommends obtaining evidence from parents and teachers directly regarding the core symptoms of ADHD, duration of

symptoms, and functional impairment. It is recommended the evidence be gathered via personal interview and/or ADHD specific rating scales.

Reported prevalence rates may also be a function of the settings in which the studies were conducted. Brown et al. (2001) found higher prevalence rates among community samples compared to school samples. ADHD was equally prevalent in primary care settings and the general population.

Scahill and Schwab-Stone also examined the effect of the ages of the children studied. They highlighted three studies that investigated the effects of age on ADHD prevalence. Each of the studies reported a decline in the prevalence of ADHD with increasing age by as much as 50% between the ages of 6 and 16. Although these findings support the premise that ADHD may persist into adolescence, they do not explain the decrease in prevalence. Some potential explanations may include: remittance of ADHD by adolescence, improved management or masking of symptoms by adolescence, and insensitivity of the DSM criteria to unique adolescent symptom manifestation of ADHD. What these findings suggest is the need for additional research to investigate ADHD in adolescents.

Treatment

Combined Treatments

Behavioral interventions in combination with pharmacologic treatment are oftentimes implemented simultaneously. Experts agree that a multimodal approach is most promising approach to treating the complexity of problems exhibited by children with ADHD is a (Abikoff & Hechtman, 1996; American Academy of Child and Adolescent Psychiatry, 1991; American Academy of Pediatrics, 2001). Although both

pharamocologic and behavioral interventions have demonstrated efficacy in treating ADHD, each has limitations. There is mounting evidence for the increased efficacy of each intervention when they are implemented simultaneously (Pelham & Fabiano, 2000; Stubbe & Weiss, 2000).

The MTA Study

An extensive amount of research has been conducted with respect to the etiology, course, and treatment of ADHD. The most recent comprehensive longitudinal (14 months) treatment study designed to investigate the efficacy of various treatment approaches to ADHD was conducted by the MTA Study Group (The MTA Cooperative Group, 1999). Using a randomized design, this study examined the effects of medication management, intensive behavioral treatment, medication and behavioral treatment combined, and community-based care in 7 to 9 year old children diagnosed with ADHD, combined type. The medication management treatment consisted of systematic individualized titration of MPH for best dose (or other drugs if MPH was ineffective) and monthly maintenance visits with dose adjustments as needed. Readings and advice were also offered. The behavioral treatment was an intense, multi-component psychosocial intervention. It included individual and group parent training sessions over the course of 14 months, biweekly teacher consultation, a full time eight week summer treatment program, a half time behavioral interventionist classroom aide for 12 weeks and a daily behavior report card. The combined treatment consisted of concurrent implementation of the medication and behavioral interventions. Community-based care consisted of whatever treatment parents chose to utilize within the community.

Outcomes of interest in this study are related to parent and teacher ratings of ADHD symptoms, oppositional/aggressive behaviors, internalizing symptoms, social skills, and parent-child relations, and an objective measure of academic achievement. Academic achievement was assessed with three subscales of the Wechsler Individual Achievement Test (WIAT) (Wechsler, 1992): reading, math, and spelling. The findings of the MTA study revealed that all four interventions produced sizeable reductions in ADHD symptoms. However, there were significant differences between the interventions and the outcome variables assessed. Medication management and combined treatment both resulted in positive significant effects on ADHD symptom reduction. These interventions were clinically and statistically superior to intensive behavioral treatment and community-based care in reducing ADHD symptoms.

Five non-ADHD domains were investigated in the study. The non-ADHD domains included: oppositional/aggressive behavior; internalizing symptoms; reading achievement; teacher-rated social skills; and parent-child relations. The combined treatment intervention was significantly more effective than community care on all five non-ADHD domains. Medication management and intensive behavioral treatment proved superior to community care on the variables of teacher-rated social skills and parent-child relations. Few significant differences were found between the medication management, combined, and intensive behavioral treatment interventions. Compared to the intensive behavioral treatment, the combined treatment produced significant positive effects for oppositional/aggressive behaviors and internalizing symptoms as rated by parents. WIAT results obtained at the end of the 14-month study revealed the combined treatment was superior to the behavioral treatment for reading achievement.