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# Conjoint Behavioral Consultation: A Review and Case Study

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Conjoint behavioral consultation (CBC) is an extension of traditional behavioral consultation in that parents and teachers, with the assistance of a consultant, are joined to identify and address child-related difficulties collaboratively. This article presents a background review of the conceptual and empirical grounds for CBC. A case study of the use of CBC with a young student manifesting an irrational fear of sleeping in his bedroom at home is presented. Specifically, procedures and outcomes of each stage of CBC are described. Considerations for interpreting and using case study results are also presented.

Consultation in school settings is becoming increasingly prominent as educators seek services that are functional, efficient, and effective. In the last 10 years, the conceptual and empirical bases for consultation and other alternative services have experienced tremendous growth. Researchers focus on issues such as relational communication and interactional processes in consultation (Erchul, 1987; Erchul & Chewning, 1990; Erchul, Hughes, Meyers, Hickman, & Braden, 1992), consultation as a prereferral intervention strategy (Graden, Casey, & Bonstrom, 1985), the use of technical jargon in consultation interviews (Rhoades & Kratochwill, 1992), and the contribution and practice of specific consultation stages (D. Fuchs & L. S. Fuchs, 1989; Tindal, Parker, & Hasbrouck, 1992). These advances in the literature are important because they empirically delineate important variables regarding the process of consultation. Although some researchers have investigated the effects of consultation on students (e.g., D. Fuchs, L. S. Fuchs, & Bahr, 1990; Jackson, Cleveland, & Merenda, 1975; Pray, Kramer, &

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Lindskog, 1986), they have not emphasized outcomes of consultation and consultation-related interventions. One line of research that has addressed efficacy of consultation services across different samples and studies is *conjoint behavioral consultation* (CBC).

## CONJOINT BEHAVIORAL CONSULTATION

CBC is defined as "a systematic, indirect form of service-delivery, in which parents and teachers are joined to work together to address the academic, social, or behavioral needs of an individual for whom both parties bear some responsibility" (Sheridan & Kratochwill, 1992, p. 122). It is designed to engage parents and teachers in a collaborative problem-solving process with the assistance of a consultant. In CBC, the interconnections between home and school systems are considered to be critically important. CBC extends earlier consultation models by providing services to parents and teachers simultaneously. The goals of CBC include (a) sharing the responsibility for problem solution; (b) improving communication and interaction among the child, family, and school personnel; (c) obtaining comprehensive and functional information related to the identified problem; and (d) improving the skills of all parties (i.e., family members, school personnel, and the child-client). Additional process and outcome goals of parent-teacher CBC are presented in Table 1.

In early conceptualizations of CBC, problems occurring across both home and school settings were prioritized. However, we now recognize that the model is also functional and beneficial when problems are setting specific (e.g., work completion). In other words, CBC can be utilized legitimately even when a problem is not occurring in both home and school settings, and the nature and scope of a target problem should not preclude the implementation of CBC services. Of central importance is the role of CBC in facilitating parent-teacher communication and invoking a philosophy of shared responsibility in educational decision making. Note that consultants will likely encounter cases in which CBC is contraindicated, such as those characterized by a significant degree of familial dysfunction, teacher resistance, or home-school conflict (Sheridan & Kratochwill, 1992). In these cases, other interventions will be necessary prior to the establishment of collaborative parent-teacher partnerships.

### Stages of CBC

CBC is implemented in a series of four interrelated stages that parallel in practice the stages of traditional behavioral consultation. The stages are

TABLE 1
Process and Outcome Goals of Conjoint Behavioral Consultation

**Process Goals**

1. Increase communication and knowledge about family (e.g., family history, medical information, prior treatments, etc.).
2. Improve relationship among the child, family (mother and father), and school personnel.
3. Establish home-school partnership.
4. Promote shared ownership for problem definition and solution.
5. Increase parent (mother and father) and teacher commitments to educational goals.
6. Recognize the need to address problems as occurring across, rather than within settings.
7. Promote greater conceptualization of a problem.
8. Increase the diversity of expertise and resources available.

**Outcome Goals**

1. Obtain comprehensive and functional data over extended temporal and contextual bases.
2. Establish consistent treatment programs across settings.
3. Improve the skills, knowledge, or behaviors of all parties (i.e., family members, school personnel, and child-client).
4. Monitor behavioral contrast and side effects systematically via cross-setting treatment agents.
5. Enhance generalization and maintenance of treatment effects via consistent programming across sources and settings.
6. Develop skills and competencies to promote further independent conjoint problem-solving between the family and school personnel.

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*problem identification, problem analysis, treatment implementation,* and *treatment evaluation* (Bergan & Kratochwill, 1990; Kratochwill & Bergan, 1990; Sheridan, Kratochwill, & Bergan, in press). Structured interviews are associated with three of the four stages (i.e., problem identification, problem analysis, and treatment evaluation). The stages and respective interviews serve as guides to structure the problem-solving process, and they are not intended to dictate rigidly consultative interactions. Table 2 lists the specific objectives of each stage of CBC.

***Problem identification.*** In problem identification (the first stage of CBC), the consultant, parent(s), and teacher(s) work together to identify and clarify the most salient problem(s) to be targeted in consultation. As indicated earlier, the target problem can be exhibited across home and school settings, or it may be setting specific. This stage is critical because it not only predicts the outcome of consultation (Bergan & Tombari,

TABLE 2
Objectives of CBC Stages

1. Problem identification
   a. Define the problem(s) in behavioral terms.
   b. Identify important contextual, environmental, and cross-setting conditions that impact the behavior.
   c. Provide a tentative strength of the behavior across settings.
   d. Discuss and reach agreement on a goal for behavior change across settings.
   e. Establish a procedure for collection of baseline data across settings.
2. Problem analysis
   a. Evaluate and obtain agreement on the baseline data across settings.
   b. Conduct a functional and conditional analysis of the behavior across settings.
   c. Identify setting events (i.e., events that are functionally related but temporally or contextually distal to the target behavior), ecological conditions, and other cross-setting variables that may impact the target behavior.
   d. Design an intervention plan including specification of conditions to be changed and the practical guidelines regarding treatment implementation.
   e. Reaffirm record-keeping procedures.
3. Treatment implementation
   a. Monitor implementation of the intervention.
   b. Provide training to parents and teacher, if necessary.
   c. Assess behavioral side effects and contrast effects.
   d. Determine need for immediate revisions in plan.
   e. Continue data-collection procedures.
4. Treatment evaluation
   a. Evaluate treatment data, and determine if the goals of consultation have been obtained across settings.
   b. Evaluate the effectiveness of the treatment plan across settings.
   c. Discuss strategies and tactics regarding the continuation, modification, or termination of the treatment plan.
   d. Discuss strategies for maintenance and generalization of treatment gains.

1976), but also allows parents and teachers to identify behavioral priorities shared among themselves. Once a behavior is operationally defined, participants work together to determine a goal for consultation. A tentative analysis of the strength of the problem and the conditions surrounding its occurrence (across settings when appropriate) is conducted. The outcome of this stage is the delineation of clear and systematic data collection procedures for the purpose of baseline assessment. When the problem is identified as occurring at both home and school, data collection should involve both settings. Likewise, when a home-only or school-only target is prioritized, the majority of data collection will occur in the respective setting.

***Problem analysis.*** Problem analysis (the second stage of CBC) is undertaken when baseline data confirm the existence of a problem. This stage involves an analysis phase and a plan phase. In the analysis phase,

careful skills and/or condition analyses are undertaken to discern factors contributing to the occurrence of the target problem. When problems occur and data were collected across settings, several variables can be investigated (e.g., cross-setting antecedents and consequences, discriminative environmental stimuli across settings that elicit the behavior, situations when the behavior does not occur, attitudes and expectations of significant others within and between settings, and daily home and school routines). When the target problem is evidenced primarily only in one setting, critical information can be gleaned by including representatives from both home and school. *Setting events* are environmental events that are temporally or contextually removed from the target behavior, but they are nevertheless related to its occurrence (Wahler & Fox, 1981). For example, early morning events in the home setting (e.g., sibling arguments, child–parent conflicts, or an unhealthy breakfast) may serve as antecedent events to child behaviors manifested later at school. Although temporally and contextually removed from the school building, these events may be clearly related to the occurrence of a target behavior (e.g., distractibility) in the classroom. Likewise, occurrences at school (e.g., a playground fight or verbal reprimands by the teacher) may trigger behavioral patterns (e.g., noncompliance) at home. When only one individual from one setting is involved, such events and their generalized effects are not easily discernible. However, when parents and teachers are involved simultaneously throughout problem analysis, delineation of ecological conditions and setting events is particularly feasible (Sheridan & Kratochwill, 1992; Sheridan et al., in press). This is evident when target problems occur across settings and problem occurrence is setting specific.

Case hypotheses often follow careful and systematic problem analyses, and they suggest behavioral intervention strategies to be implemented within or across settings. Thus, the plan phase of problem analysis involves linking the outcomes of assessment and analysis with a meaningful behavioral program. Plan strategies should be defined clearly, and responsibilities of all parties should be articulated specifically. Because both parents and teachers using CBC are involved in the development of a behavioral program, important treatment considerations (e.g., perceptions regarding certain practices or tactics) can be uncovered. Likewise, all possible resources existing within the home and school settings that may contribute to an effective program can be identified.

***Treatment implementation.*** In treatment implementation (the third stage of CBC), the plan strategies and tactics agreed on during the previous stage are put into action. When behavioral difficulties are

manifested both at home and at school, a consistent program implemented across settings is warranted. The consistency with which a program is utilized may affect the degree to which cross-setting generalization is evidenced. Even when a behavioral program is not initiated both in the home and in school, continuation of the CBC relationship is desirable. In particular, such a partnership can help elucidate important intervention contrast effects (i.e., unintended effects of an intervention wherein the controls exerted in one setting serve to exacerbate the problem in other settings; Walker, Hops, & Johnson, 1975). It is important to continue data collection across settings, observe the implementation practices, and monitor the initial intervention effects during this stage. When undesirable or ineffective practices or effects are identified early in the program, plan modifications are appropriate.

***Treatment evaluation.*** In treatment evaluation (the final stage of CBC), the consultant and consultees examine the data collected during program implementation and compare it to baseline data to determine if the plan was effective and if consultation goals were attained. Outcomes across both home and school should be examined when the intervention was implemented by parents and teachers in their respective settings. Likewise, the establishment of procedures to enhance maintenance of treatment effects across settings is critical at this stage.

In this stage of CBC, it is also important to assess the degree to which consumers of services (i.e., parents and teachers) find the procedures and outcomes desirable. In other words, issues of consumer satisfaction and social validity are relevant. Scales such as the Consultant Evaluation Form (Erchul, 1987) and the Consultation Satisfaction Questionnaire (Zins, 1984) serve as tools to provide information regarding perceived effectiveness of the consultant and CBC services. Parents' and teachers' responses provide subjective information about CBC and the general effect of the child's behavior changes within and across settings.

## Research in CBC

To date, two studies have evaluated the effectiveness of CBC. The first and earliest study (Sheridan, Kratochwill, & Elliott, 1990) was concerned with increasing the social initiation behaviors of socially withdrawn children. Of particular interest was the demonstration of treatment generalization across settings.

The subjects in this study (Sheridan et al., 1990) included four socially withdrawn 8- to 12-year-old children from a rural town in the Midwest (three girls and one boy). Selection criteria included teacher referral, low scores on the Social Initiation subscale of a prepublication version of the

Social Skills Rating System (Gresham & Elliott, 1990), direct observational data indicating low levels of social initiations toward peers, and parent and teacher interview data. Two treatment conditions were used (i.e., CBC and consultation with teachers only). In both conditions, a systematic behavioral consultation procedure (Kratochwill & Bergan, 1990) was followed. In the CBC condition, teachers and parents worked together with the school psychologist consultant; in the teacher-only condition, parents were not included in consultation. In both experimental conditions, subjects were exposed to the same behavioral treatment (i.e., goal setting, self-monitoring, and positive reinforcement). In the CBC condition, these same procedures were implemented across home and school settings. In teacher-only consultation, the procedures were instituted only at school.

Sheridan et al. (1990) used multiple baseline across-subjects designs to evaluate the effectiveness of the consultation interventions. When consultation was undertaken with parents and teachers simultaneously, initiations increased in both home and school settings. Baseline performance for each subject was approximately 1 initiation per week at school; during the last phase of treatment, performances increased to between 30 and 40 initiations per week. At home, baseline levels ranged from approximately 1 initiation per week to approximately 7 per week during the last phase of treatment. However, when teacher-only consultation was undertaken, subjects' initiations increased only at school. Baseline performance for each subject was 0 to 1 initiation per week at school, with weekly rates of between 6 and 26 during the last phase of treatment. At home, baseline rates were between 0 and 1.5 per week, increasing only to between 1 and 4 per week during the last phase of treatment. Treatment gains at school were maintained for all subjects in both conditions, but gains were most notable for subjects in the CBC condition.

In summary, this study was the first to investigate the efficacy of CBC. In general, the traditional use of behavioral consultation with teachers only was found to be effective in increasing the social initiation behaviors of socially withdrawn children at school. However, generalization of treatment effects across home and school settings was demonstrated only when parents were actively involved in consultation and treatment. Also, maintenance of treatment gains appeared to be stronger when more intensive consultation procedures were utilized.

A second study investigated the effectiveness of CBC with academically underachieving children (Galloway & Sheridan, 1992, in press). Subjects in this study included six Grade 1 through 3 students who often failed to complete math assignments on time and/or with acceptable levels of accuracy. The subjects in this study all demonstrated

performance deficits; they had the skills to complete assignments with accuracy but often failed to do so. Likewise, the target subjects demonstrated variable performance that was resistant to previous documented intervention attempts.

In two separate experiments, Galloway and Sheridan (1992, in press) evaluated the effectiveness of a standard intervention with and without the inclusion of CBC. Both experiments involved the use of a home note on which teachers recorded subjects' daily performances in math and process behaviors intended to help them complete work (e.g., pencil ready and papers out). The home note also included a checklist to help remind parents of what to do at home, and it served as a measure of treatment integrity.

Galloway and Sheridan (1992, in press) developed a manual that instructed parents in the use of the home note, including potential reinforcers and ways to handle problems. In Experiment 1, the manual and home note served as the only interventions. In Experiment 2, the home note and manual were used, but they were instituted in the context of consultation with parents and teachers. Students were also involved in the latter part of consultation (plan implementation and treatment evaluation).

The investigators (Galloway & Sheridan, 1992, in press) used AB with replication designs to investigate the effectiveness of the intervention with and without CBC. All three subjects in the home note-only study showed improvements in math completion and accuracy. Baseline accuracy scores ranged from 43% to 69%, with posttreatment scores ranging from 67% to 83% (between 20% and 84% gains over baseline). Consistent with the selection criteria, baseline data paths were unstable (i.e., fewer than 80% of the data points were within 15% of the mean level; Tawney & Gast, 1984). Furthermore, the data remained variable during treatment. Baseline completion levels were variable and ranged from 43% to 74%, with posttreatment completion rates ranging from 86% to 88%. Completion data for two of the three subjects in the first experiment continued to be variable after treatment.

As in Experiment 1, all subjects in Experiment 2 (home note with CBC) demonstrated improvements in math completion and accuracy, but the gains were greater and more stable. Specifically, baseline accuracy means ranged from 35% to 57%, with treatment means ranging from 86% to 89% (representing up to a 149% gain over baseline). Although baseline performance was variable, the improved performance during treatment was considered stable for all three subjects. Regarding work completion, baseline means ranged from 41% to 69%, with treatment means ranging from 95% to 100%. As with the accuracy

data, completion data were considered stable. Findings in the CBC experiment also suggested enhanced treatment integrity, maintenance of treatment gains at follow-up, and consumer acceptability. Furthermore, parents in the CBC experiment adhered more faithfully to the treatment regimen than did parents in the home note-only experiment, which may be one reason for the greater treatment effects. Parents in the CBC study also used home reinforcers more effectively than did parents in the home note-only experiment. Teachers reported greater satisfaction in the CBC experiment; however, there was no difference in the degree of treatment integrity demonstrated by teachers.

In sum, for students with a history of social and academic performance problems who have not responded to traditional intervention strategies, the addition of consultation with parents and teachers appears to enhance treatment outcomes. Maintenance and generalization of treatment gains appear to be stronger when more intensive consultation procedures are utilized (i.e., when parents are actively involved in consultation and treatment). Based on Galloway and Sheridan's (1992) findings, this does not appear to be due simply to the provision of information. It is more likely that the improvement factors are embedded in the nature of the relationship that develops among participants in the CBC process.

Research on CBC to date has focused solely on problems manifesting themselves in school settings or across both home and school. One of the stated benefits of the model is its potential for identifying and addressing setting events (i.e., events that are temporally or contextually removed from the target behavior yet maintain a functional relationship). There is a need to investigate the efficacy of the model with behaviors that may not be demonstrated in school settings but that affect school performance. Likewise, the nature of problems addressed by CBC remains limited to social withdrawal and academic underachievement.

The following case study reports the use of CBC with a parent and teacher of a child with irrational fears associated with his evening bedtime routine. Although a fear of sleeping alone can be considered developmentally normal at age 6 (Morris & Kratochwill, 1991), the child described in the case demonstrated exaggerated setting-specific responses with no recognizable antecedent events precipitating problem onset. Furthermore, his behavior may have been considered phobic given that it (a) was out of proportion to the demands of the situation, (b) could not be explained or reasoned away, (c) appeared to be beyond voluntary control, (d) led to avoidance of the feared situation, (e) persisted over an extended period of time, and (f) was unadaptive

(Marks, 1969; Miller, Barrett, & Hampe, 1974; Morris & Kratochwill, 1991). We believed that consultation services were appropriate because the behavior necessitated treatment in the natural environment.

Only one known consultation study addressed behavioral concerns related to fears and phobias. Specifically, Gresham and Nagle (1981) used behavioral consultation as a means of addressing the behavioral problems associated with school phobia. An elementary school student exhibited a baseline average of 8 min of crying and whining behaviors daily upon entering the classroom setting. These behaviors were deemed disruptive and inappropriate to her teacher, who requested consultation services from the school psychologist. A mild timeout and differential reinforcement (DRO) procedure was implemented and resulted in a significant decrease in the child's behaviors. In fact, her crying and whining behaviors were completely eliminated by the 6th day of intervention. Although the authors recommended caution when interpreting the results due to the quasi-experimental nature of the AB with follow-up design, they demonstrated clearly that behavioral consultation can be an effective service for treating difficult, fear-related problems.

## CASE STUDY

### Background Information

The subject in this case study was a 6-year-old boy (Mark) who was referred for consultation by his kindergarten teacher for repeated exaggerated and highly emotional reports of monsters and spiders in his room. Mark's teacher discussed his apparent overactive imagination with his mother who reported that, because he actually believed that such creatures were physically present in his bedroom, he slept on the floor of his parents' bedroom each night. Together, the teacher and parent agreed to discuss the situation with a school psychologist–consultant.

The case study was conducted in a suburban city in a western state. Consultation was initiated at the end of the school year. The Problem Identification Interview (PII; Kratochwill & Bergan, 1990) was conducted at Mark's private school. Because the school year concluded prior to completion of consultation, the Problem Analysis Interview (PAI; Kratochwill & Bergan, 1990) and the Treatment Evaluation Interview (TEI; Kratochwill & Bergan, 1990) were conducted at the teacher's home.

### Problem Identification

The problem identification stage of CBC was initiated to (a) review general characteristics that may be related to Mark's fears of sleeping in

his own room at night, (b) rule out possible interfering medical problems, (c) identify the specific concern of Mark's mother and teacher, (d) generate a consultation/intervention goal, and (e) develop baseline data collection procedures. Problem identification entailed completion of parent and teacher rating scales (i.e., Child Behavior Checklist [CBCL], Achenbach, 1991a; Teacher Report Form [TRF], Achenbach, 1992b) and a PII (Kratochwill & Bergan, 1990).

Mark's mother and teacher completed the CBCL and TRF, respectively. All *T*-scores were within the average range (Internalizing scores were 52 and 59; Externalizing scores were 41 and 49 for the parent and teacher forms, respectively). Factor scores also revealed no significant concerns, with *T*-scores ranging from 55 to 68 on the CBCL and from 55 to 63 on the TRF. Items rated by Mark's mother as very true included "can't get his mind off certain thoughts [monsters]," "fears certain situations [going to bed alone at night, nightmares]," and "other problems [has had night terrors]." Items rated by Mark's teacher as very true were "fears certain situations [sleeping in his own bedroom]," "worries," and "talks out of turn."

The consultant met with Mark's mother and teacher for approximately 1 hr for a PII. Both mother and teacher indicated that Mark seemed to demonstrate a genuine fear of monsters and spiders in his room. Behavioral manifestations of this fear included setting elaborate traps to "catch" the monsters, crying to the point of physical illness when forced to sleep in his room, reporting detailed stories at school of something grabbing his ankle from under the bed, and sleeping on the floor of his parents' bedroom. During this interview, the goal target behavior was operationalized as "going to bed and sleeping in his bed the entire night." The problem was reported to be only in the setting of his own house. He slept appropriately at his grandparents' house and in his own bedroom in his family's previous house. He also took naps without incident during the daytime hours in his own bedroom. Previous attempts to resolve the problem included allowing Mark to sleep in his brother's bedroom, using a star chart, and reading to Mark until he fell asleep. These programs met with partial success but were followed inconsistently by his parents. It was reported that Mark had prior sleeping difficulties that had subsided, including enuresis until he was 5½ years old and periodic night terrors that lasted for approximately 4 years.

A data collection procedure was developed for Mark's mother to document conditions surrounding his nighttime and sleep routines. Specifically, a sleep log was developed on which Mark's mother recorded his assigned and actual bedtimes, length of time in bed, emotional state when going to bed, activities from dinner to bedtime,

topics of discussion at bedtime, activities once in bed, and occurrence of sleep problems and means of resolution. Mark's mother was asked to keep this record for 2 weeks, at which time the consultant would reconvene with her and the teacher for a PAI (Kratochwill & Bergan, 1990).

**Problem Analysis**

The second stage of CBC (problem analysis) was initiated with the PAI. This interview lasted approximately 1½ hr and involved two phases (analysis and plan). The analysis phase involved inspecting baseline data and conducting strength and conditions analyses. During the 2-week baseline condition, Mark failed to sleep in his own bedroom on all nights. On all 14 nights, he slept on the floor of his parents' bedroom. A conditions analysis revealed no significant antecedents immediately preceding bedtime or the bedtime routine. The hours between the end of school and dinner were generally uneventful (e.g., Mark often played baseball, watched television, and played outdoors). Between dinner and bedtime, the routine often included homework, showers, stories, or television. Although no significant antecedents were identified that immediately preceded Mark's bedtime, his cognitive beliefs of monsters and spiders residing in his room were considered significant setting events that contributed to the occurrence of his bedtime difficulties.

Events occurring while Mark was in bed, including conversations and behaviors, were analyzed as part of a situational analysis. The content of discussions in which Mark engaged at bedtime included "Teenage Mutant Ninja Turtles," baseball, classmates, murderers on one occasion, and difficulties falling asleep. Some nights Mark watched television or read magazines at bedtime. On one occasion, he asked to sleep in his parents' bed. This request was declined, and Mark was instructed to sleep in his own bed. Mark failed to comply with this instruction with no apparent consequences. On all other nights, Mark was allowed to sleep on the floor of his parents' bedroom with no conflict.

During the plan phase, a behavioral program was developed to increase Mark's behavior of sleeping in his own bedroom. It was believed that Mark's difficulty sleeping in his own bedroom stemmed from a cognitively based setting event (irrational fear) which was reinforced by his parents who allowed him to sleep in their bedroom. Because his fears appeared to be very pervasive, a gradual fading of environment procedure was deemed necessary. Likewise, because previous efforts were only partially successful, firm and consistent contingencies were established and identified as central to the potential success of the program.

## Treatment Implementation

The intervention was implemented by Mark's parents. In the fading technique, Mark was gradually moved to his own bed in small graded steps. Specifically, five equidistant steps were identified which represented small progressions from Mark's parents' bedroom to his own bed. During the implementation of the program, Mark added two additional steps to ease the transition further. The actual steps used in the fading procedure are presented in Table 3.

The intervention was implemented for 15 consecutive nights. Mark's mother designed a game-like chart depicting a ladder with "bases" representing each step. Two rungs separated each base to represent the criterion of two successful nights at each step. "Home plate" was depicted at the top of the ladder, representing a "home run" when he reached his own bed. Successful performance each night (i.e., sleeping all night in the defined physical space) was reinforced by coloring a ladder rung on the chart. "Mastery" (defined as two consecutive successful nights) at each step was required before moving to the next designated step. When two rungs were colored in (representing successful performance for two nights at the same step), a reinforcer of Mark's choice (e.g., a folder, playing with dad, and baseball cards) was provided. A long-term secondary reinforcer (i.e., a life-size poster of Michael Jordan) was provided for sleeping an entire night in his own bed.

When his parents attempted to present the program to Mark, he initially resisted (i.e., he refused to discuss the program with his parents). With some prompting, he reviewed the program with his parents and assisted in the establishment of a reinforcement menu. Likewise, each night Mark asked to return to a prior step. However, Mark's mother reported that she remained very firm and consistent and did not allow such regression to occur.

TABLE 3
Steps in Fading of Environment Procedure

| |
|---|
| 1. Foot of bed: Parents' bedroom |
| 2. Doorway: Parents' bedroom |
| 3. Hallway: Near parents' bedroom |
| 4. Hallway: Near own bedroom |
| 5. Doorway: Own bedroom |
| 6. Side of bed: Own bedroom |
| 7. Own bed |

## Treatment Evaluation

The final stage of CBC, treatment evaluation, was implemented via the TEI (Kratochwill & Bergan, 1990). Specifically, the interview with the consultant and Mark's mother and teacher was conducted in the home of Mark's teacher 15 days after the initiation of the intervention. An AB with follow-up design was used to evaluate the treatment effects in this case study. The results of treatment are presented in Figure 1. Two weeks of baseline data collection by Mark's mother showed no occasions of sleeping in own room and 14 occasions of sleeping on the floor of his parents' bedroom. As shown in Figure 1, Mark demonstrated an immediate response to treatment, with perfect performance at each criterion level. During the 2 weeks of intervention, he slept each night in the location predefined in consultation. Given that the goal of consultation had been met (i.e., sleeping in his own bed all night), procedures for maintenance and generalization were established. Specifically, it was decided that nightly reinforcers would continue for 1 week, with gradual fading of reinforcers after that time. The reinforcement schedule was modified from continuous to twice weekly, to once weekly; finally, it faded completely.

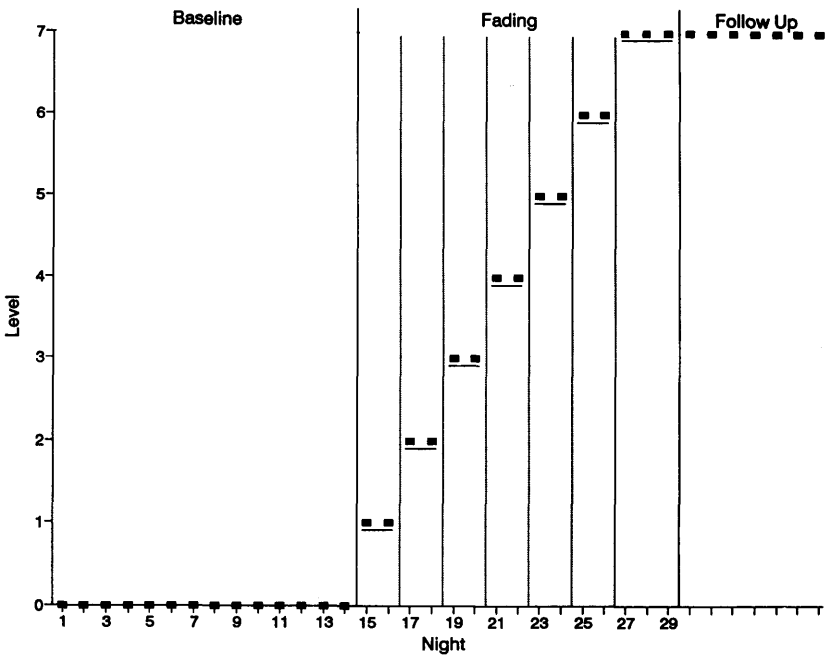


FIGURE 1 Behavioral data for Mark: Successful sleeping performance over seven criterion levels of increasing difficulty.

The consultant contacted Mark's mother 1 month after the termination of consultation for a follow-up assessment. Mark's mother reported that he continued to sleep in his own bed and demonstrated no regression at any time. Likewise, 3 months later, his first-grade teacher indicated that Mark failed to report exaggerated stories regarding monsters and spiders in his bedroom or other problems associated with bedtime. A long-term (18 month) follow-up interview was also conducted with Mark's mother to assess maintenance of the treatment effects. She reported that, although Mark asked on some occasions to sleep in his parents' bedroom, the request was consistently denied. She further indicated that there were no subsequent behavioral problems when his request was denied and that his questioning was soon extinguished. Mark's mother also reported being highly satisfied with both the consultation process and the intervention results. She further reported that she gained feelings of greater confidence for addressing child behavior problems in the future.

## SUMMARY AND CONCLUSIONS

CBC is an indirect form of service delivery intended to improve services to students and enhance the problem-solving relationship between parents and teachers. It has been evaluated empirically with socially withdrawn and academically underachieving children. However, its utility with problems manifested only in the home setting has not been determined. Yet, there is ample theoretical support and research evidence suggesting that events occurring at home can effect a child's performance and behavior at school.

Mark's case study illustrates the use of CBC with a kindergarten student experiencing irrational fears of monsters and spiders in his bedroom. Although Mark's academic productivity is not believed to have been affected deleteriously, he often provided exaggerated and highly emotional accounts of monsters and spiders in his bedroom while at school. His teacher discussed his apparent overactive imagination with his mother who reported that, because he actually believed that such creatures were physically present in his bedroom, he slept on the floor of his parents' room nightly. Within the context of CBC, a gradual fading procedure was implemented at home with immediate and lasting effects.

Although the problem behavior was treated with a home-based intervention, the CBC process provided the consultant, teacher, and parent with opportunities to discuss the effects of Mark's fears in the classroom setting. It also allowed Mark's parent and teacher to establish

a productive working relationship. Furthermore, according to Mark's teacher, the collaborative problem-solving approach used by the consultant was adopted by both herself and Mark's mother in school conferences the following year.

Empirically, there are some problems with case study methodology that limits the strength and generalizability of results. First, there are numerous threats to internal and external validity that cannot be ruled out by using a case study. For example, no control group was used, and there was no control over extraneous variables. Thus, it is impossible to state unequivocally that the intervention itself was responsible for the outcomes. Second, given that the study involved only one subject, the degree to which one can generalize the results to other similar cases is questionable.

In addition to general shortcomings of case study designs, certain procedures within the study warrant discussion. First, recall that, although the problem manifested itself primarily at home, the kindergarten teacher approached Mark's mother and requested permission to refer the case to consultation due to elaborate and somewhat troubling stories being told at school. However, because CBC was initiated at the end of the academic year, data on his behavior at school (e.g., storytelling and side effects of the intervention) were unavailable. However, these problems were not reported the following year by his first-grade teacher. Likewise, self-perceptions of fearful experiences were not collected prior to or following consultation. These self-perceptions may have been helpful in determining the extent to which Mark believed that monsters and spiders actually existed and the effect of these cognitions on his behaviors. Finally, rating scales used at the beginning of CBC (i.e., CBCL and TRF) were not readministered following treatment. Although parent and teacher perceptions regarding the social validity of treatment were not formally investigated, Mark's mother reported being very satisfied with the process and outcome of CBC.

Although case study methodology is fraught with empirical shortcomings, case studies play an important role in clinical and applied research (Kazdin, 1992). Through the use of case studies, childhood disorders and respective interventions can be investigated carefully. Likewise, some disorders (e.g., irrational fears of monsters and spiders in one's bedroom) occur infrequently, making large-group treatment studies impractical. There are also several characteristics of this particular case that make the results compelling. In essence, Mark's case is a "case study with repeated assessment and marked changes" that can be considered a "quasi-experiment with a single case" (Kazdin, 1992, pp. 180, 184). In this type of study, numerous threats to internal validity are ruled out.

Specifically, because continuous assessment (including baseline) procedures were used, effects as a function of testing and regression toward the mean are not probable. Given the long-standing nature of the problem (over 1.5 years) and the immediate and large treatment effects, the possibility that history or maturation explain the results is reduced even further (Kazdin, 1992; Kratochwill, 1985).

It is through the careful and systematic investigation of single cases that educators and researchers can begin to identify promising models and interventions for childhood problems. This case study suggests that CBC may be an effective model of service delivery with specific child problems manifested at home, and it is supportive of the expansion of school-based services to empower parents and teachers in educational collaboration and problem solving.

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