

The International Journal of Special Education
2005, Vol 20, No.2.

SUPPORTING THE INCLUSION OF STUDENTS WITH EMOTIONAL AND BEHAVIOURAL DISORDERS: EXAMPLES USING CONJOINT BEHAVIOURAL CONSULTATION AND SELF-MANAGEMENT

Lee A. Wilkinson

Palm Beach Atlantic University

Conjoint behavioural consultation (CBC) is an indirect form of service delivery in which parents and teachers are joined together in a collaborative effort to meet the academic, social, and behavioral needs of children. The purpose of this study was to illustrate the utility of CBC as a method of supporting the inclusion of 2 students with emotional and behavioral disorders (EBD) in mainstream classrooms. A case study design with replication across participants and a follow-up phase was employed to assess the effectiveness of an evidence-based intervention (self-management) delivered in the context of the CBC model. Results indicated a significant increase in teacher ratings of behavioural control (on-task and compliant behavior) from baseline to treatment. Positive treatment effects were maintained at a 4-week follow-up. Norm referenced measures produced statistically reliable and clinically meaningful changes in teachers' perceptions of disruptive behavior following treatment. Parents and teachers indicated satisfaction with consultation services and viewed CBC as an acceptable and effective model of home-school collaboration and shared problem-solving. The findings are discussed in relation to the limitations of the study, and to future research directions and implications for practice.

The integration of students with emotional and behavioural disorders (EBD) into mainstream environments presents a significant challenge to the educators and schools that serve them (Shapiro, Miller, Sawka, Gardill, & Handler, 1999; Evans & Lunt, 2002).

Disruptive behavior in the classroom requires inordinate amounts of educators' time and effort, reduces time available for instruction, and may result in a more restrictive educational setting. Moreover, well-established patterns of disruptive behaviour are predictive of poor academic engagement, lower grades, conduct problems, peer rejection, and high rates of school dropout (Algozzine, Serna, & Patton, 2001). Most general education teachers have received limited training in behavior management procedures and report a lack of preparedness in working with students with EBD (Heflin & Bullock, 1999; Scruggs & Mastropieri, 1996). Although psychologists and other support personnel are often called on to consult and recommend behavior intervention programs for these children, effective models of service delivery are scarce (DuPaul, McGoey, & Yugar, 1997; Roberts, Jacobs, Puddy, Nyre, & Vernberg, 2003). Research is needed to demonstrate effective methods of facilitating the integration and maintenance of students with EBD into mainstream educational environments (Mooney, Epstein, Reid, & Nelson, 2003; Shapiro et al., 1999).

Conjoint Behavioral Consultation

How can school personnel work with parents and teachers to support students with EBD in mainstream classrooms? Research suggests that Conjoint Behavioural Consultation (CBC) can be an effective vehicle for accomplishing this goal (Sheridan, Eagle, Cowan, & Mickelson, 2001). CBC is a relatively new model of consultation that provides a solution-oriented focus in which

parents and educators are linked in a collaborative problem-solving process to address the academic, social, or behavioural needs of a student for whom all parties assume some responsibility (Sheridan, 1997; Sheridan, Kratochwill, & Bergan, 1996). CBC incorporates the problem-solving stages and objectives of the traditional behavioural consultation approach (problem identification, problem analysis, treatment implementation, and treatment evaluation). Parents and teachers work cooperatively to target a specific problem, collect data, develop a treatment plan, and conjointly evaluate the success of the treatment plan. A detailed description of CBC theory, procedures, and objectives are found in Sheridan et al., 1996.

The early research on CBC is promising and suggests that the model can be an effective strategy for delivering evidence-based treatments to students with diverse learning and behavioural problems (Colton & Sheridan, 1998; Galloway & Sheridan, 1994; Sheridan et al., 2001; Sheridan, Kratochwill, & Elliott, 1990; Weiner, Sheridan, & Jenson, 1998). Although support for CBC has been accumulating, investigation of the model is a work in progress. Additional research is required to expand its empirical base and document CBC's acceptability and effectiveness as a model for delivering support to students with EBD in typical practice situations (Colton & Sheridan, 1998; Freer & Watson, 1999; Sheridan, 1997).

The purpose of this study was to illustrate the utility of CBC as method of providing behavioural support for 2 students identified with EBD in mainstream classrooms. CBC provided the framework for defining, intervening, and collaboratively addressing the students' challenging classroom behaviour. The aim was to demonstrate how a treatment protocol consisting of self-management, goal setting, and contingency reinforcement delivered in the context of CBC can lead to an improvement in the students' on-task and compliant behaviour.

Method

Participants and Setting

The participants were 2 male Caucasian fourth grade students identified with EBD, their parents and teachers selected from a suburban intermediate school (grades 3-5) in a large southeast Florida county school district. The school had a total enrollment of 944 students. Family socioeconomic status (SES) was considered middle to high, with approximately 16% of students' parents meeting income eligibility for participation in the free and reduced lunch program. Students with special needs were fully included in either classes co-taught with a special education teacher or in classes with a mainstream education teacher. Students requiring a more restrictive setting were provided special educational services at a separate school location within the same geographical area. Participants in the present study were fully included in their respective mainstream classrooms with one teacher and an average of 27 students. Neither received direct special educational services outside of their respective classroom settings. The students' mothers and teachers served as consultees during all phases of the consultation and intervention process. The consultant (author) was a school psychologist with experience in behavioral assessment and consultation practice.

Participant selection was based on teacher referral concerns and perceptions of disruptive behavior. For both students, the primary reason for referral was disruptive behavior that interfered with ability to complete tasks and comply with classroom rules and expectations for social conduct appropriate to their age group. As a result, they were in danger of being excluded from their mainstream classrooms. Selection criteria included (a) teacher referral, (b) verified emotional and/or behavioral disorder through IDEA '97 and/or the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (*DSM-IV TR*, American Psychiatric Association, 2000) classification system, (c) general education placement, (d) informed written consent, and (e) clinically significant ratings on the broad based Externalizing scale of the Teacher's Report Form of the Child Behavior Checklist (CBCL-TRF; Achenbach & Rescorla, 2001).

Alan. Alan was a 9-year old student who met the diagnostic criteria for Asperger syndrome (AS) and attention-deficit/hyperactivity disorder (ADHD). He demonstrated longstanding problems in the areas of social interaction, attention and impulse control, and aggression across home and school settings. Problematic behaviors reported by his classroom teacher included frequent off-

task behavior, arguing with adults and peers, temper outbursts, and noncompliance with classroom rules. Cognitive ability and academic skills were considered normative. Alan's TRF profile included significant endorsements such as *Argues a lot*; *Doesn't get along with other students*; *Can't concentrate, pay attention*; *Disrupts class discipline*; *Defiant*, and *Impulsive; Acts without thinking*. Alan's mother agreed to serve as consultee, together with his teacher.

Carl. Carl was a 9-year old student with diagnoses of attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD). He was considered a highly impulsive student who was frequently off-task and noncompliant. Parent and teacher reported high levels of attention problems, interpersonal conflict, and oppositional behaviour that interfered with learning and adjustment. Teacher concerns included Carl's impulsivity, off-task, and acting-out behaviour. She was also concerned with his poor peer relationships and problems completing classroom assignments. Carl's cognitive and academic skills were considered to be within normal limits. His TRF profile indicated significant endorsements for *Argues a lot*; *Impulsive, acts without thinking*; *Not liked by other students*; *Can't sit still, restless*; *Disturbs other students*; and *Fails to carry out assigned tasks*. Carl's mother and teacher served as joint consultees.

Consultation Process

CBC followed the four-stage problem-solving process of the behavioral consultation model: problem identification (PI), problem analysis (PA), treatment implementation (TI), and treatment evaluation (TE) operationalized by 3 structured interviews (Kratochwill & Bergan, 1990; Sheridan et al., 1996). The stages of CBC were implemented via standardized protocols detailing specific objectives and procedures of the model (see Sheridan et al., 1996). The consultant developed and implemented a treatment monitoring (TM) stage to enhance fidelity to the intervention plan. Figure 1 depicts the conceptual framework of the CBC model used by the consultant to engage parents and teachers in the problem solving process. Consultation interviews were conducted in the school's conference room at mutually convenient times and ranged from 45 to 60 minutes in length.

Problem Identification Interview. Conjoint Problem Identification Interviews (CPII's) were conducted with consultees to (a) establish rapport and a climate of shared responsibility, (b) share information about the goals of CBC, and (c) establish agreement about roles and responsibilities, (d) operationally define target behaviors, and (e) discuss data collection procedures. Consistent with CBC, the consultation team reviewed the referral information and reached a consensus regarding the nature of the problem and the desired outcomes off consultation. The primary concern of consultees was the students' attention deficits, noncompliance, impulsivity, aggression, and social problems. The consultation team identified off-task behavior and noncompliance with teacher requests/classroom rules as the primary targets for classroom intervention. Off-task behavior was operationally defined as behaviors where the student, after initiating the appropriate task-relevant behavior, attends to stimuli other than the assigned work. Noncompliance was defined as failure on the part of the student to initiate appropriate behavior in response to a teacher request or classroom rule. These target behaviors were considered appropriate as they were rated as the most problematic across school and home settings. An observational ratings recording method was selected and agreed-upon by teachers as the most convenient and efficient method of documenting the students' challenging classroom behavior. Baseline data was collected to help define the discrepancy between the students' current levels of behavioral control and the desired level of behavior.

Problem Analysis Interview. Conjoint Problem Analysis Interviews (CPAI's) were conducted following establishment of a stable baseline. During this stage of consultation, the consultation team analyzed baseline data, explored alternative intervention strategies, agreed upon a goal for behavioral change, and discussed implementation of a behavior intervention plan. A review of the baseline data revealed a common pattern across students. Alan and Carl demonstrated consistently high ratings of target problem behavior (noncompliance and off-task behavior) during morning independent and small group classroom instruction. Following a discussion of intervention strategies with empirically validated acceptability and efficacy, and a closeness of

match with home and school ecosystems, the consultant recommended a self-management package consisting of self-monitoring, goal setting, and contingency reinforcement as the CBC-based treatment plan. The mutually agreed goal of the intervention was to reduce the students' challenging behavior by applying a self-management procedure in the classroom and concurrent reinforcement across home and school settings. The rewards/incentives for on-task and compliant behavior were considered a major component of the self-management intervention. Parents and teachers were asked to involve student participants in the selection of incentives and to develop a reinforcement menu of tangible and activity rewards to ensure that students received positive reinforcement in school and at home. Materials such as observational rating scales, self-monitoring forms, and treatment plan checklists were placed in a folder for each consultee dyad. Teachers continued to collect observational data during the treatment implementation phase of consultation.

Treatment Implementation. The agreed-upon self-management intervention plan was delivered to Alan and Carl during the treatment implementation stage of CBC. Two primary components were involved in the procedure: (a) self-assessment and (b) self-recording. Self-assessment involved the covert questioning of behavior (e.g., Was I paying attention?) and self-recording the overt documentation of the response to the self-assessment question on a recording form. Students were told that *self-management means accepting responsibility for managing and controlling your own behavior so that you can accomplish the things you want in school and at home.* Students were also given a definition and example of the target behaviors to be self-monitored. On-task behavior was defined as following classroom rules by (a) seated at own desk, (b) eyes on the teacher, board, or seatwork, (c) work materials on desk, and (d) reading or working on an assignment. Compliant was defined as following classroom rules by (a) asking relevant questions of teacher and neighbor, (b) raising hand and waiting turn before responding, (c) interacting appropriately with other students, and (d) complying with teacher instructions/directives. Teachers modeled the on-task behaviors and described classroom scenarios indicative of appropriate behavior.

Following 2 days of practice, the students self-monitored their behavior on a daily basis. A self-recording sheet was taped to the upper right hand corner of each student's desk. Because they were the only students who were self-monitoring in their classrooms and other students might be disturbed by an auditory cue, the teachers physically cued the students to self-monitor by tapping the corner of their desks, on average, every 10 minutes during approximately 50 minutes of independent and small-group classroom instruction. (Cole, Marder, & McCann, 2000; Shapiro, Durnan, Post, & Skibitsky Levinson, 2002). When cued, the students asked themselves *Was I on task?* and *Was I following directions/classroom rules?* Students then marked the self-recording sheet with a *plus* or *minus*, indicating their response to the self-assessment questions. Daily goals were set at equal to or greater than 80 % positive responses for on-task and compliant behavior. Teachers held a brief meeting with students each afternoon to review ratings, determine whether behavioral goals were met, and sign the self-recording sheet. When their daily goals were met, the students could make a selection from a group of incentives such as additional computer time, access to a preferred game or activity, extra recess time, etc. The self-recording sheet was then sent home each day for parent signature so parents could review their child's behavior and provide rewards contingent on meeting behavioral goals. The self-management intervention continued for approximately 15 school days after which the procedure was faded by increasing the intervals between self-monitoring cues. The goal was to have the students self-monitor their behavior independently.

Treatment Monitoring Interview. Conjoint Treatment Monitoring Interviews (CTMI's) were completed during the treatment implementation stage of consultation to enhance fidelity to the behavioral intervention plan (treatment integrity). The consultant met with consultees to (a) review students' behavioral progress, (b) provide performance feedback, (c) determine whether the self-monitoring steps were completed, (d) examine permanent products such as self-monitoring forms and home-school notes, and (e) offer encouragement and praise for accurate implementation of the intervention (Noell, Duhon, Gatti, & Connell, 2002).

Treatment Evaluation Interview. The final interview for both cases was the conjoint treatment evaluation interview (CTEI). The purpose of the CTEI was to discuss progress towards consultation goals, modifications to the treatment plan, and to determine whether the intervention plan was effective. A judgment of the congruence between consultation objectives and performance was based on the comparison of the data collected during baseline and treatment phases of CBC. Parents and teachers were asked whether consultation services should be kept in place, modified or terminated. Following the final interview, students and consultees completed ratings of treatment acceptability. Consultees also completed the TRF and CEF. Observational ratings were completed approximately 4 weeks later to determine maintenance of treatment effects.

Outcome Measures

Observational Rating Scale. An observational ratings recording method was used to provide a repeated measure of disruptive classroom behavior. The highly complex, time consuming and intensive nature of traditional observational methods such as interval recording made their use impractical in the present study. Ratings recording provide a solution to the dilemma of balancing the need for an accurate and reliable measure of behavior with the demands of time, resources, and expertise available to the classroom teacher (Abidin & Robinson, 2002; Steege, Davin, & Hathaway, 2001).

The teachers rated their overall impression of Alan and Carl's disruptive behavior two or three times weekly following 50-minute instructional periods which included both independent and small-group instructional activities. The target behaviors of off-task behavior and noncompliant behavior were aggregated under the global category of *disruptive off-task behavior*. Ratings were made on a 9-point Likert-type scale with 1 indicating a high rate of problem behavior occurrence and 9 indicating a low rate of problem behavior occurrence (1 to 3 = poor; 4 to 6 = needs improvement; 7 to 9 = good). Prior to data collection, teachers were trained didactically by the consultant to (a) observe the student and identify target behaviors, (b) review the Likert scale, and (c) practice observing and recording the corresponding numerical rating. During the practice sessions, the consultant served as a secondary observer/rater and independently rated the students' behavior during the training sessions until interobserver agreement reached 80%. Behavioral ratings data were collected throughout all phases of consultation (baseline, treatment implementation, and follow-up) to assess the effectiveness of the intervention plan.

Behavioral Checklist. The Teacher's Report Form of the Child Behavior Checklist (CBCL-TRF; Achenbach & Rescorla, 2001) is among the most frequently used instrument for quantifying children's internalizing and externalizing problem behavior. The reliability and validity of the TRF are well established (see Achenbach & Rescorla, 2001). Research indicates that students with EBD typically score highest on the Externalizing and the Aggressive Behavior scales of the TRF (Nelson, Babyak, Gonzalez, & Benner, 2003).

Teachers completed the TRF at baseline and at the time of consultation termination. Raw scores and normalized *T*-scores were obtained for the Social Problems, Attention Problems, Aggressive Behavior syndrome scales and the broad-based Externalizing scale. Students were classified as *clinically significant* versus *normal* according to the borderline clinical cutpoint that begins at the 93rd percentile ($T = 65$) for the syndrome scales and the 84th percentile ($T = 60$) for the Externalizing scale (Achenbach & Rescorla, 2001). Alan and Carl's TRF scale scores were all within the borderline clinical range prior to intervention, indicating significantly more behavior problems than typically reported by teachers of students of a comparable age and gender.

Treatment Acceptability. An adaptation of the Behavior Intervention Rating Scale (BIRS; Von Brock & Elliott, 1987) was used to assess the consultees' perceptions of the acceptability and effectiveness of CBC and the self-management intervention. This instrument has been used to document social validity outcomes in CBC studies (Finn & Sladeczek, 2001; Cowan & Sheridan, 2003). The BIRS Acceptability factor is comprised of 15 items scored on a 6-choice Likert scale ranging from *strongly disagree* to *strongly agree*. The higher the rating, the more acceptable the consultation process and intervention plan. The BIRS Effectiveness factor is comprised of 7

items and provides a measure of perceived consultation effectiveness. Parents and teachers completed the BIRS following the final consultation interview.

The Children's Intervention Rating Profile (CIRP; Witt & Elliott, 1985) was used to quantify student ratings of treatment acceptability. The scale has been used in clinical settings and field-based consultation research, and is recommended for collecting data on students' perception of intervention acceptability (Cowan & Sheridan, 2003; Wilkinson, 2003). Students were asked to respond to seven items on a 6-choice Likert scale ranging from 1 (*disagree*) to 6 (*agree*) pertaining to the fairness and acceptability of the intervention plan.

Consultant Effectiveness. The Consultation Evaluation Form (CEF; Erchul, 1987) was used to assess consultees' perception of consultant effectiveness and consumer satisfaction. The CEF is a 12 item, 7-choice Likert scale that requires the consultee to rate statements describing the consultant on a scale ranging from *strongly disagree* to *strongly agree*. The CEF has been used in school based behavioral consultation research to assess the degree to which consultees found the consultant helpful (Sheridan et al., 2001; Wilkinson, 2003). Parents and teachers completed the CEF following the treatment evaluation interview.

Design and Data Analysis

A case study design with replication across participants and a follow-up phase was used to evaluate the effects of CBC and self-management on the students' disruptive classroom behavior (Harris & Jenson, 1985). The identical consultation and intervention procedures were implemented nonconcurrently for Alan and Carl during the same academic semester. This nonconcurrent multiple baseline (or natural multiple baseline) design has been shown to be a valid and useful approach in dealing with the complexities of research in actual practice settings (Galloway & Sheridan, 1994; Gresham & Noell, 1993; Jones, Wickstrom, & Friman, 1997; Noel et al., 2002; Wilkinson, 1997). A visual (graphic) presentation of the data and the percentage of nonoverlapping data points (PND) were employed to compare changes in ratings of challenging behavior across baseline, treatment, and follow-up phases for each student. Scores on the TRF were examined to determine whether there was a statistically significant reduction in syndrome scale ratings from pre to posttreatment and whether perceived changes in students' behavior moved from the clinical to the normative range of functioning. The results of the BIRS, CIRP, and CEF were analyzed descriptively to determine levels of perceived acceptability, effectiveness, and consumer satisfaction.

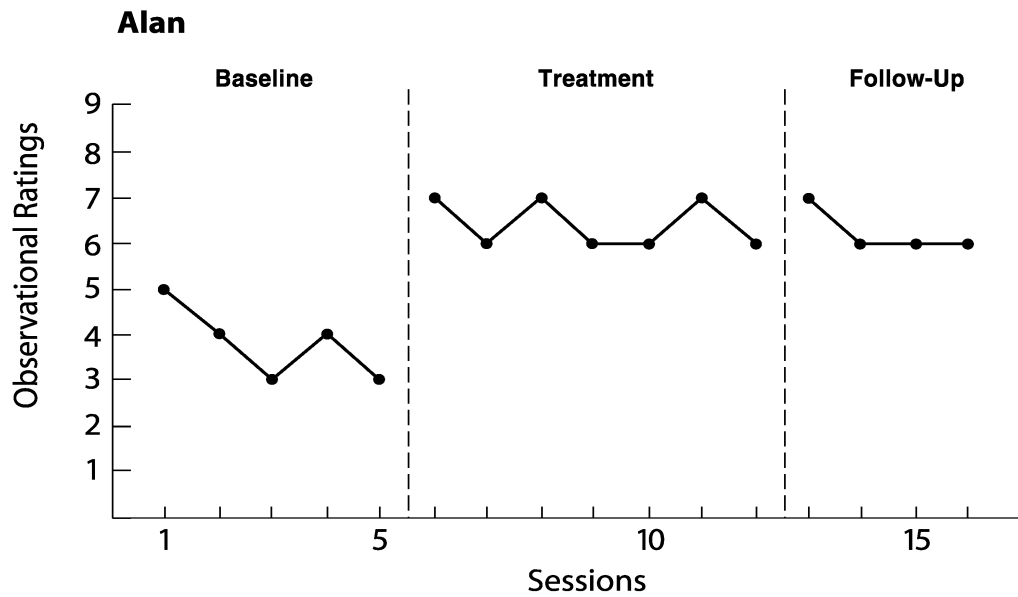
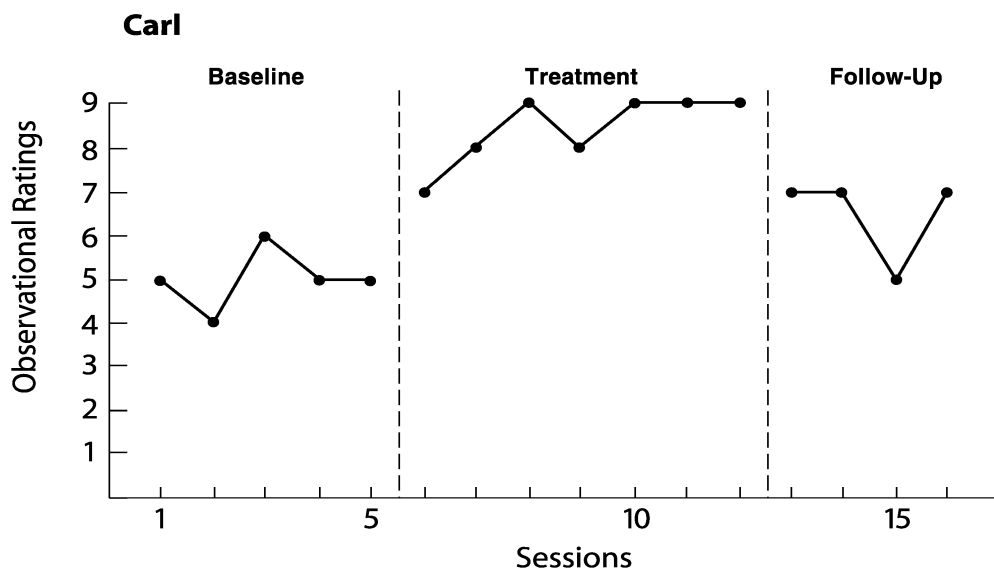
Results

Observational Ratings

Figures 1 and 2 (next page) graphically display the observational ratings scale data for Alan and Carl across consultation phases. Visual analysis indicates stable baselines and an immediate effect on the students' challenging behavior with the introduction of the treatment plan. A large effect size and positive behavioral trend was evident with 100 % nonoverlapping data points from baseline to treatment. Alan and Carl demonstrated increases in behavioral control (on-task behavior and compliance) of 69 % and 68 %, respectively. Mean teacher ratings were 4.40 ($SD = 0.96$) during baseline and improved to 7.42 ($SD = 1.22$) with implementation of the self-monitoring intervention. This represents an average improvement in behavior of 68 % from the baseline to treatment phases of consultation. Observational rating data collected at a 4-week follow-up reflects maintenance of positive treatment effects, average behavior control remaining 45 % above baseline conditions.

Behavioral Checklist

The TRF (Achenbach & Rescorla, 2001) was administered at baseline and following consultation to determine perceived changes in students' challenging behavior. The reliable change index (RC) was used to determine whether students' TRF syndrome scale scores were significantly reduced following treatment (Gresham & Noell, 1993; Jacobson, Follette, & Revenstorf, 1984; Nunally & Kotsche, 1983). This index is each student's difference score (post - pre) divided by the standard error of measurement. An RC of larger than ± 1.96 indicates that treatment Figure

Figure 1 Observational ratings for Alan across consultation phases.**Figure 2** Observational ratings for Carl across consultation phases.

produced a significant ($p < .05$) change in behavior. TRF raw scores were used for analyses rather than T -scores in order to maximize statistical power and take in account the full range of variation in the scales (Achenbach & Rescorla, 2001). As indicated in Table 1, there was a statistically reliable change in behavior from pre- to posttreatment ($p < .05$) on the Attention

Table 1
TRF Pretreatment (Pre) and Posttreatment (Post) Scale Scores for Students

Student		<u>Raw Score</u>		<u>T - Score</u>	
		Pre	Post	Pre	Post
Alan	Soc	5	2 *	65	56 **
	Attn	31	18 *	65	57 **
	Agg	16	6 *	66	59 **
	Ext	18	8 *	64	58 **
Carl	Soc	6	6	67	67
	Attn	31	18 *	65	57 **
	Agg	16	8 *	66	60 **
	Ext	18	8 *	64	58 **

Note. Soc = Social Problems; Attn = Attention Problems; Agg = Aggressive Behavior; Ext = Externalizing behavior.

* Denotes a statistically reliable change between pre and posttreatment ($p < .05$).

** Denotes a clinically meaningful change between pre- and posttreatment.

Problems, Aggressive Behavior, and Externalizing scales for both students. Normative comparisons of TRF data were used to determine whether changes in students' *T*-scores moved from the clinical to the normal range of functioning following consultation. According to Table 1, the students' *T*-scores fell below the borderline clinical cut point to the normative range of functioning for the Attention Problems and Aggressive Behavior syndrome scales ($T = < 65$) and the broad based Externalizing behavior scale ($T = < 60$). Alan also demonstrated a statistically reliable and clinically meaningful reduction in Social Problems following the intervention.

Treatment Acceptability

Consultees' acceptability of CBC and self-management was assessed on the Acceptability factor of the BIRS (VonBrock & Elliott, 1987). On a 6-point Likert scale, parents and teachers reported average item ratings of 5.80 and 5.33, respectively. This translates to a high level of perceived acceptability. Among the items that consultees endorsed as highly acceptable were *Consultation was an acceptable intervention for the problem*, *The problem was severe enough to warrant the use of consultation*, *Most parents and teachers will find consultation appropriate for other behavior problems*, and *I would be willing to use consultation again*.

The consultees' subjective perception of the effectiveness of CBC and self-management was measured on the Effectiveness factor of the BIRS (VonBrock & Elliott, 1987). Parent and teachers reported average item ratings of 5.08 and 5.22, respectively. This suggests that consultees viewed CBC as a highly effective process. Items rated as most effective included *Consultation should produce a lasting improvement*, *The child's behavior should remain at an improved level*, and *consultation should not only improved the child's behavior in the classroom and at home, but in other situations as well*.

Students' acceptability of the self-monitoring intervention was assessed with the CIRP (Witt & Elliott, 1985). Alan and Carl provided an average score of 3.63 on a 6-point Likert scale, reflecting a generally acceptable rating of the behavioral intervention plan. The students agreed that *"The plan was fair*, *The plan would be good for use with other students*, and *I liked the plan used for my behavior problem*.

Consultant Effectiveness

The CEF (Erchul, 1997) was administered to consultees following the final consultation interview to assess their perceptions of consultant effectiveness and consumer satisfaction with

CBC services. Out of a possible score of 7, the average item score for parents and teachers was 6.92 and 6.67, respectively. This indicates a high level of perceived effectiveness and satisfaction with the consultant and the consultation experience. Parents and teachers strongly agreed to items such as *The consultant was helpful*, *The consultant was a good listener*, *The consultant viewed his role as a collaborator*, and *I would request services from this consultant again*.

Treatment Integrity

In order to enhance the treatment integrity of the consultation process the consultant used detailed protocols to ensure that each interview included the goals and objectives for CBC (see Sheridan et al., 1996). To verify fidelity to the self-management procedure, teachers were asked to complete a treatment plan checklist by indicating whether each component (e.g., cued student to self-monitor, gave incentive when earned, sent self-recording checklist home for signature) was fully or partially implemented. The checklists and self-recording sheets were reviewed during treatment implementation and at the conclusion of consultation to determine whether the intervention plan was implemented as planned. An evaluation of permanent products indicated 90% adherence to the treatment plan.

Discussion

This study provides important data documenting the effectiveness of ecological systems theory in consultation and contributes to a growing body of research in a relatively new area of consultation by extending the CBC model to inclusive educational practices. The intervention package consisting of CBC and self-management was associated with an immediate and distinguishable improvement in behavioral control (on-task and compliant behavior) for both students. The positive behavioral changes demonstrated during CBC were also maintained over time. Further evidence of positive treatment effects was found in the statistically reliable and clinically significant changes in teachers' perception of challenging behavior from pre- to posttreatment. Parents and teachers expressed considerable satisfaction with the process (acceptability) and outcomes (effectiveness) of consultation. They consistently agreed that CBC was an acceptable and effective process to use for the students' behavior problems and that most parents and teachers would find the model appropriate for other behavior problems. Likewise, consultees indicated a strong willingness to use CBC again and recommended the use of consultation to other parents and teachers.

Limitations and Directions for Future Research

Although the present findings provide encouraging evidence of CBC's acceptability and effectiveness, research limitations are evident. For example, a more rigorous single-subject design is required to rule out historical threats to internal validity. As a result, it is not possible to state with complete certainty that behavioral improvement was a function of the intervention plan. A related methodological limitation involves the small sample size. Given that the intervention package was initiated with only 2 students, generalization to other students with EBD requires replication. Moreover, nontreatment control participants were not included in the study's research design. Another limitation involves the reliability and validity of observational ratings by classroom teachers. Although interobserver data were collected prior to consultation, objective behavioral observations and interrater agreement (reliability measures) indices were not completed during the consultation process. Independent observations or direct observational methods may have produced a more precise measure of student behavior. Lastly, practical constraints associated with school-based research such as student and teacher absences, scheduling problems, and time limitations limited the number of observation rating sessions that could be completed during baseline and treatment conditions.

Further research is needed to document the effectiveness of CBC as a service delivery model for students with EBD in inclusive classroom settings. Importantly, the aforementioned methodological limitations require attention. Strategies to address practical issues such as the reliability of observational ratings, systematic assessment of treatment integrity, and longer-term follow-up are required. The potential of CBC and self-management to promote generalization is one of its attractive benefits. More research is needed on the generalization of treatment effects

across settings, students, and behaviors. The conjoint treatment monitoring stage (TM) implemented in this study represents a significant modification to the CBC model. Further examination is required to determine its effectiveness in enhancing treatment integrity. In CBC, intervention plans are developed on the basis of consultees' observations of student behavior. This approach is more congruent with problem analysis than functional behavioral analysis and assessment. Likewise, self-monitoring interventions are most often implemented independent of information pertaining to behavioral function. Future research might link CBC and self-management strategies to functional behavior analysis to identify specific behaviors for treatment (Smith & Sugai 2000). The independent variable in this study was conceptualized as treatment package comprised of CBC and self-management. Neither can be identified in isolation as producing the behavioral change. A component analysis should be completed to determine the differential effects of CBC and self-monitoring on treatment outcomes.

Implications for Practice

The results of this study have important implications for educational practice. Research clearly indicates that students benefit from home-school partnerships with educators and that active parent involvement is related to positive outcomes for students, families, and teachers (Christenson, 2004; Christenson & Sheridan 2001). CBC offers a structured approach for intervening and engaging educators and families in mutual shared decision-making, which, in turn, has the potential for enhancing children's behavioral competency. Importantly, the model provides a framework within which professionals can bridge the research-to-practice gap, foster a collaborative process with parents and teachers, and deliver high quality consultative services to all stakeholders in real world settings.

Another implication of this study involves the effectiveness and acceptability of self-management as a tool for providing behavioral support to students with EBD. To date, there is a paucity of empirical research documenting the use of self-management as an inclusive technique with special needs children in mainstream classrooms (Hoff & DuPaul, 1998; McDougall, 1998). Self-management procedures are ecologically less intrusive and more cost effective than other behavior management strategies. Moreover, they promote self-reliance and provide students with an opportunity to participate in the development and implementation of their behavior management programs. The findings in this study suggest that self-management interventions can be a viable alternative to traditional contingency management approaches for students with EBD in mainstream settings.

In conclusion, the present study provides an application of research in practice and extends the literature on CBC and self-management to students with EBD. The findings suggest that CBC can be a useful tool for practitioners to establish partnerships between home and school systems and that applying empirically supported interventions within the model can result in acceptable and effective treatment outcomes for students with EBD. If the inclusion of students with EBD in mainstream settings is to succeed; teachers and parents must be provided with significant consultative support, evidence-based interventions with high levels of acceptability, and ongoing collaborative efforts between home and school (Shapiro et al., 1999).

References

- Abidin, R. R., & Robinson, L. L. (2002). Stress, biases, or professionalism: What drives teachers' referral judgments of students with challenging behaviors? *Journal of Emotional and Behavioral Disorders, 10*, 204-212.
- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA School-Age Form & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, and families.
- Algozzine, R., Serna, L., & Patton, J. R. (2001). *Childhood behavior disorders: Applied research and educational practices* (2nd ed.). Austin, TX: Pro-Ed.
- American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition, Text Revision. Washington, DC: American Psychiatric Association, 2000.

- Christenson, S. L. (2004). The family-school partnership: An opportunity to promote the learning competence of all students. *School Psychology Review, 33*, 83-104.
- Christenson, S. L., & Sheridan, S. M. (2001). *School and families: Creating essential connections for learning*. New York: Guilford Press.
- Cole, C. L., Marder, T., & McCann, L. (2000). Self-monitoring. In E.S. Shapiro & T. R. Kratochwill (Eds.), *Conducting school-based assessments of child and adolescent behavior* (pp. 121-149). New York: Guilford.
- Colton, D. L., & Sheridan, S. M. (1998). Conjoint behavioral consultation and social skills training: Enhancing the play behaviors of boys with attention deficit hyperactivity disorder. *Journal of Educational and Psychological Consultation, 9*, 3-28.
- Cowan, R. J., & Sheridan, S. M. (2003). Investigating the acceptability of behavioral interventions in applied conjoint behavioral consultation: Moving from analog conditions to naturalistic conditions. *School Psychology Quarterly, 18*, 1-21.
- DuPaul, G. J., McGoey, K. E., & Yugar, J. M. (1997). Mainstreaming students with Behavior disorders: The use of peers as facilitators of generalization. *School Psychology Review, 26*, 634-650.
- Erchul, W. P. (1987). Relational communication analysis of control in school consultation. *School Psychology Review, 4*, 621-632.
- Evans, J., & Lunt, I. (2002). Inclusive education: Are there limits? *European Journal of Special Needs Education, 17*, 1-14.
- Finn, C. A., & Sladeczek, I. E. (2001). Assessing social validity of behavioral interventions: A review of treatment acceptability measures. *School Psychology Quarterly, 16*, 176-206.
- Freer, P., & Watson, T. S. (1999). A comparison of parent and teacher acceptability ratings of behavioral and conjoint behavioral consultation. *School Psychology Review, 28*, 672-684.
- Galloway, J., & Sheridan, S. M. (1994). Implementing scientific practices through case studies: Examples using home-school intervention and consultation. *Journal of School Psychology, 32*, 385-413.
- Gresham, F. M., & Noell, G. H. (1993). Documenting the effectiveness of consultation outcomes. In J. E. Zins, T. R. Kratochwill, & S. N. Elliott (Eds.), *Handbook of consultation services for children: Applications in educational and clinical settings* (pp. 249-273). San Francisco, CA: Jossey-Bass.
- Harris, F. N., & Jenson, W. R. (1985). Comparison of multiple-baseline across persons designs and AB designs with replication: Issues and confusion. *Behavioral Assessment, 7*, 121-127.
- Heflin, L. J., & Bullock, L. M. (1999). Inclusion of students with emotional/behavioral disorders: A survey of teachers in general and special education. *Preventing School Failure, 43*, 103-112.
- Hoff, K. E., & DuPaul, G. J. (1998). Reducing disruptive behavior in general education classrooms: The use of self-management strategies. *School Psychology Review, 27*, 290-303.
- Jacobson, N. S., Follette, W. C., & Revenstorf, D. (1984). Psychotherapy outcome research: Methods for reporting variability and evaluating clinical significance. *Behavior Therapy, 15*, 336-352.
- Jones, K. M., Wickstrom, K. F., & Friman, P. C. (1997). The effects of observational feedback on treatment integrity in school-based behavioral consultation. *School Psychology Quarterly, 12*, 316-326.
- Kratochwill, T. R., & Bergan, J. R. (1990). *Behavioral consultation in applied settings: An individual guide*. New York: Plenum.
- McDougall, D. (1998). Research on self-management techniques used by students with disabilities in general education settings. *Remedial and Special Education, 19*, 310-321.
- Mooney, P., Epstein, M. H., Reid, R., & Nelson, R. J. (2003). Status and trends in academic research for students with emotional disturbance. *Remedial and Special Education, 24*, 273-287.
- Nelson, J. R., Babyak, A., Gonzalez, J., & Benner, G. J. (2003). An investigation of the types of problem behaviors exhibited by K-12 students with emotional and behavioral disorders in public school settings. *Behavioral Disorders, 28*, 348-359.

- Noell, G. H., Duhon, G. J., Gatti, S. L., & Connell, J. E. (2002). Consultation, follow-up, and implementation of behavior management interventions in general education. *School Psychology Review, 31*, 217-234.
- Nunnally, J., & Kotsche, W. (1983). Studies of individual subjects: Logic and methods of analysis. *British Journal of Clinical Psychology, 22*, 83-93.
- Roberts, M. C., Jacobs, A. K., Puddy, R. W., Nyre, J. E., & Vernberg, E. M. (2003). Treating children with serious emotional disturbances in schools and community: The intensive mental health program. *Professional Psychology: Research and Practice, 34*, 519-526.
- Scruggs, T. E., & Mastropieri, M. A. (1996). Teacher perceptions of mainstreaming/inclusion, 1958-1995: A research synthesis. *Exceptional Children, 63*, 59-74.
- Shapiro, E. S., Durnan, S. L., Post, E. E., & Skibitsky Levinson, T. (2002). Self-monitoring procedures with children and adolescents. In M. A. Shinn, H. M. Walker, & G. Stoner (Eds.), *Interventions for academic and behavior problems II: Preventive and remedial approaches* (pp. 43-454). Bethesda, MD: National Association of School Psychologists.
- Shapiro, E. S., Miller, D. N., Sawka, K., Gardill, M. C., & Handler, M. W. (1999). Facilitating the inclusion of students with EBD into general education classrooms. *Journal of Emotional and Behavioral Disorders, 7*, 83-93.
- Sheridan, S. N. (1997). Conceptual and empirical bases of conjoint behavioral consultation. *School Psychology Quarterly, 12*, 119-133.
- Sheridan, S. M., Eagle, J. W., Cowan, R. J., & Mickelson, W. (2001). The effects of conjoint behavioral consultation: Results of a 4-year investigation. *Journal of School Psychology, 39*, 361-385.
- Sheridan, S. M., Kratochwill, T. R., & Bergan, J. R. (1996). *Conjoint behavioral consultation: A procedural manual*. New York: Plenum.
- Sheridan, S. M., Kratochwill, T. R., & Elliott, S. N. (1990). Behavioral consultation with parents and teachers: Delivering treatment for socially withdrawn children at home and school. *School Psychology Review, 19*, 33-52.
- Smith, B. W., & Sugai, G. (2000). A self-management functional assessment based behavior support plan for a middle school student with EBD. *Journal of Positive Behavior Interventions, 2*, 208-217.
- Steege, M. W., Davin, T., & Hathaway, M. (2001). Reliability and accuracy of a performance based behavioral recording procedure. *School Psychology Review, 30*, 252-262.
- Von Brock, M. B., & Elliott, S. N. (1987). The influence of treatment effectiveness information on the acceptability of classroom interventions. *Journal of School Psychology, 25*, 131-144.
- Wagner, P. (2000). Consultation: Developing a comprehensive approach to service delivery. *Educational Psychology in Practice, 16*, 9-18.
- Weiner, R. K., Sheridan, S. M., & Jenson, W. R. (1998). The effects of conjoint behavioral consultation and a structured homework program on math completion and accuracy in junior high students. *School Psychology Quarterly, 13*, 281-309.
- Wilkinson, L. A. (1997). School-based behavioral consultation: Delivering treatment for children's externalizing behavior in the classroom. *Journal of Educational and Psychological Consultation, 8*, 255-276.
- Wilkinson, L. A. (2003). Using behavioral consultation to reduce challenging behavior in the classroom. *Preventing School Failure, 47*, 100-105.
- Witt, J. C., & Elliott, S. N. (1985). Acceptability of classroom management strategies. T. R. Kratochwill (Ed.), *Advances in school psychology* (Vol. 4, pp. 251-288). Hillsdale, NJ: Erlbaum.