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Susan M. Sheridan Dr. *University of Nebraska at Lincoln*, ssheridan2@unl.edu

Brandy L. Clarke *University of Nebraska-Lincoln*, brandy.clarke@unmc.edu

Kelly A. Ransom Wake County Public School System, Raleigh, North Carolina

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# The Past, Present, and Future of Conjoint Behavioral Consultation Research

Susan M. Sheridan, 1 Brandy L. Clarke, 1 and Kelly A. Ransom 2

- 1. University of Nebraska-Lincoln, Lincoln, Nebraska, USA
- 2. Wake County Public School System, Raleigh, North Carolina, USA

Children's developmental and educational outcomes are determined through a complex interplay of biological and eco-systemic variables. In order to best understand children's educational success, aspects of home and school contexts have been examined, for they are the two most directly influential settings in a child's life. Among ecological variables, key indicators of children's academic success include family engagement and family-school partnerships (Christenson, 2004). When parents engage in supportive practices for their child's learning, benefits for children, families, educators, classrooms, and schools are realized Oeynes, 2007). The relevance of families' educational influence has been widely recognized by educational institutions (e.g., Harvard Family Research Project; The Office of Head Start National Center on Parent, Family, and Community Engagement), and federal policies (No Child Left Behind Act of 2001, 2002; Individuals with Disabilities Education Act, 2004) enacted to expand the role of families in the education system and to enhance family-school partnerships.

Evidence-based models that promote family engagement and family-school partner-ships are needed. Such models are especially warranted for children who are at risk for academic and school failure due to disadvantage or lack of access to educational resources. One such model that brings families and educators together via a collaborative problem-solving process and joint decision-making consultation framework is Conjoint Behavioral Consultation (CBC; Sheridan & Kratochwill, 2008). As an indirect method of service delivery, CBC facilitates partnerships and working relationships among the key individuals in a child's life by establishing collaborative linkages between the home and school systems.

# Definition, Goals, and Objectives of CBC

CBC is defined as "a strength-based, cross-system problem-solving and decision-making model wherein parents, teachers, and other caregivers or service providers work as partners and share responsibility for promoting positive and consistent outcomes related to a child's academic, behavioral, and social-emotional development" (Sheridan & Kratochwill, 2008, p. 25). It is a conceptual and functional extension of a traditional approach to behavioral consultation (BC) that articulates several goals and objectives above and beyond conventional consultation practice. In CBC, a consultant facilitates a collaborative partnership through a problem-solving process designed to recognize the interconnections between the home and school settings (Sheridan & Kratochwill, 1992). As a collaborative process, the unique information, values, and goals of families and educators are recognized and appreciated as strengths. Emphasis is placed on the relationship between family members and educational staff, and this relationship is characterized by cooperation, trust, and clearly articulated rights and responsibilities. The process extends family-centered practices (Dunst & Trivette, 1987; McWilliam, Snyder, Harbin, Porter, & Munn, 2000) and fosters and capitalizes on the strengths and capacities of families and educators. An important role of the consultant is to empower parents and teachers by promoting their skills and capacities and to provide opportunities that enable these individuals to access their strengths and expertise. These principles are embedded within and embellish (rather than replace) the structured, evidence-based decision-making context of the CBC model.

The goals and objectives of CBC are summarized in table 9.1. The overarching goals include (a) promoting the academic, behavioral, and socioemotional outcomes for children through joint problem-solving; (b) encouraging parent engagement; (c) building participants' capacities; and (d) strengthening the relationship among systems on behalf of the child's learning and development (Sheridan & Kratochwill, 2008). The CBC model is predicated on the belief that the process by which outcomes are achieved for children is as important as the outcomes themselves. In other words, the family-school partnership that is developed and the capacities that are built for promoting future growth are essential in fostering children's overall well-being and development.

# Table 9.1. Overarching Goals and Objectives of Conjoint Behavioral Consultation

#### Goals

- Promote academic, socioemotional, and behavioral outcomes for children through joint, mutual, crosssystem planning.
- Promote parent engagement wherein parental roles, beliefs, and opportunities for meaningful participation are clear, within a developmental, culturally sensitive context.
- 3. *Build capacities* of participants (families and educators) to make data-based decisions, use evidence-based interventions, and strengthen relationships between home and school.
- 4. Establish and strengthen *home-school partnerships* on behalf of children's learning and development, immediately and over time.

# Outcome Objectives

- 1. Obtain comprehensive and functional data over extended temporal and contextual bases.
- 2. Establish consistent treatment programs across settings.

- Improve the skills, knowledge, or behaviors of all parties (i.e., family members, school personnel, and the child-client).
- 4. Monitor behavioral contrast and side effects systematically via cross-setting treatment agents.
- Enhance generalization and maintenance of treatment effects via consistent programming across sources and settings.
- Develop skills and competencies to promote further independent conjoint problem-solving between the family and school personnel.

#### Relational Objectives

- 1. Improve communication, knowledge, and understanding about family, child, and school.
- 2. Promote shared ownership and joint responsibility for problem solution.
- 3. Promote greater conceptualization of needs and concerns, and increase perspective taking.
- 4. Strengthen relationships within and across systems.
- 5. Maximize opportunities to address needs and concerns across, rather than within, settings.
- 6. Increase shared (parent and teacher) commitments to educational goals.
- 7. Increase the diversity of expertise and resources available.

Both relational and structural objectives contribute to positive outcomes for students. CBC's relational objectives are concerned with building and promoting positive, constructive *partnerships* among systems. Structural objectives are concerned with child-focused results that occur through a problem-solving sequence inclusive of the delivery of evidence-based interventions. Recent research on the effectiveness of CBC has confirmed that the strength of the relationship that is developed between parents and teachers through the CBC process mediates the outcomes for children (Sheridan, Bovaird, Glover, Garbacz, Witte, & Kwon, 2012). Thus, the relational and structural objectives of the CBC model are equally important to its effectiveness.

# Stages of CBC

The goals and objectives of CBC are achieved via four stages involving structured meetings and semi-structured, responsive contacts between the consultant, parent(s), and teacher(s). These stages include (a) conjoint needs identification, (b) conjoint needs analysis, (c) cross-setting plan implementation, and (d) conjoint plan evaluation (Sheridan, Kratochwill, & Bergan, 1996). Three of the four stages are initiated in the context of interviews with parents and teachers, which are described in the following sections. Although not necessarily a specified stage of consultation, preconsultation activities that may serve as an important antecedent to the process are also described. Despite CBC being formally operationalized via structured interviews, the process occurs in the context of ongoing reciprocal interactions, not simply a series of formal interviews. Many of the objectives for each stage occur outside the interviews (e.g., behavioral observations and feedback). Further, positive outcomes for all participants are achieved in the context of a collaborative relationship with ongoing communication and dialogue. For greater specificity of procedural details and a framework for developing effective partnerships, readers are referred to Sheridan and Kratochwill (2008).

#### Preconsultation Activities

Prior to engaging in consultation, preconsultation activities set the stage for participants to successfully engage in CBC. Expectations for the process are discussed, and background information on the child and the home-school relationship are gathered to prepare the consultant and consultees for working together to address the identified concerns for the child. These activities are especially important when families and schools have a history of adversarial interactions and relationships are strained. The preconsultation process provides an initial opportunity for parents and teachers to interact and communicate with one another through collaborative decision-making that they may not be typically accustomed to. Clarification of roles and expectations is important to ensure that consultees are prepared to fully engage in the process.

# Conjoint Needs Identification

The conjoint needs identification stage provides a framework for parents and teachers to develop a collaborative, working relationship. This stage is procedurally operationalized during the Conjoint Needs Identification Interview (CNII; also known as "Building on Strengths"). During the CNII, the consultant works with consultees to identify the child's most salient needs across home and school settings. Based on a number of potential factors (e.g., frequency, severity, importance), consultees select an agreed-upon target behavior and define it in concrete, operational, and measurable terms. Joint responsibility is encouraged to identify the specific setting(s) and goal(s) for consultation. Consultees collaboratively establish valid procedures for collecting baseline data across settings. Importantly, the goals of the CNII include facilitating a positive relationship between the parents and teacher. Throughout this stage, the consultant identifies the strengths and capabilities of the child, family, and school to promote competencies in all participants. The consultant also remains in close contact with consultees to assist with data collection, answer questions as they arise, and encourage a working relationship.

# Conjoint Needs Analysis

In the conjoint needs analysis stage of CBC, the consultant assists consultees in developing solutions across settings based on baseline behavioral data. The Conjoint Needs Analysis Interview (CNAI; also known as "Planning for Success") provides a context for the consultant and consultees jointly to (a) identify ecological variables across settings that influence the attainment of the behavioral goal; and (b) develop a meaningful, evidence-based, solution-focused plan to address the target behavior across home and school. Baseline data are explored to identify setting events (i.e., environmental conditions that are distal in time or place from the target behavior but influence its occurrence, such as events occurring at home that influence experiences at school and vice versa); ecological conditions (e.g., home or classroom variables such as seating arrangement, delivery of instructions, and distractions in the environment); and cross-setting variables (e.g., consistency in expectations or management of behavioral concerns) that may impact the target behavior. The discussion centers on environmental conditions, rather than internal causes, to effectively link assessment to intervention and to promote a solution-focused, strength-based approach to plan development, as well as unique circumstances within settings that differentially affect a

student's functioning. Efforts are made to identify the presence of common events that occur across settings and are responsible for the presentation or maintenance of the target behavior. Hypotheses are generated around environmental conditions that contribute to the target behavior, and a cross-setting plan is developed. Throughout this stage, the consultant continues to promote the working relationship between home and school by encouraging and validating parents' and teachers' perspectives and ideas about the target behavior and plan development. Equal participation of parents and teachers, as well as shared ownership of plan development and problem solution, are encouraged.

# Plan Implementation

In the third stage of CBC (cross-system plan implementation), parents and teachers implement interventions in their respective settings. During this stage, the consultant remains in close contact with the family and school (e.g., via phone calls, e-mails, and personal visits) to provide support, ensure understanding of intervention procedures, and reinforce parent and teacher efforts. An expanded (i.e., cross-setting) behavioral intervention base is advantageous to encourage consistency across environments (Kratochwill & Sheridan, 1990). The partnership between parents and teachers helps to ensure cross-setting consistency in treatment implementation and increases the potential for generalization and maintenance of positive outcomes.

The effectiveness with which treatment agents deliver an intervention as intended with sufficient precision, reliability, and distinction (Dane & Schneider, 1998) is expected to influence outcomes in consultation. For this reason, consultants use specific strategies to promote treatment integrity during the plan implementation phase. Shared decision-making in the development of intervention strategies ensuring match or "fit" within a context (Durlak & Dupre, 2008) and performance feedback consisting of monitoring treatment implementation and providing feedback to treatment agents (Noell et al., 2005) are effective methods for enhancing treatment implementation. Skills-based training with ongoing coaching support has also been found to support implementation fidelity (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). Other suggested methods for enhancing treatment integrity include (a) providing consultees with specific written information regarding the plan; (b) providing training or feedback in intervention components (e.g., modeling, rehearsing, and feedback); and (c) requesting that consultees self-monitor their adherence to the treatment plan (Noell & Gansle, this volume; Noell et al., 2005; Swanger-Gagné, Garbacz, & Sheridan, 2009).

#### Conjoint Plan Evaluation

Conjoint plan evaluation is the final stage of CBC. The aim of the Conjoint Plan Evaluation Interview (CPEI; also known as "Checking and Reconnecting") is to analyze the behavioral data to determine the achievement of consultation goals and the efficacy of treatment plans across settings. Throughout this stage, the behavioral data are used to focus the discussion around a future course of action (e.g., continuation, termination, planning for maintenance and follow-up). Additional interviews are scheduled as needed. Furthermore, the consultant explicitly discusses the relevance of the skills and capacities that were established for all parties (parents, teachers, and target child) throughout the process and how they can

be used to address future concerns and continue to enhance home-school relations. Resources, supports, and networks available to support the maintenance of consultation objectives and consultees' skill development are identified. Means for continued open communication are discussed (e.g., home-school notes, e-mail correspondence, regular phone contact, and meetings) to promote partnering and problem-solving in the future. Often, systematic methods of consultee and client follow-up are necessary to ensure maintenance of positive child outcomes and the parent-teacher relationship. If positive outcomes are not maintained, consultants conduct future problem analysis, plan development, or consultee training sessions.

# The Present: CBC's Empirical Base

Along with the articulation of the principles and practice guidelines related to CBC, empirical studies of the model have been accumulating since the early 1990s. Numerous studies have focused on outcomes, implementation, communication processes, and social validation of CBC. Findings generally have (a) lent support to the efficacy of the model, (b) reflected promising levels of treatment integrity, (c) gleaned insights into the nature of communication patterns and relational features of practice, and (d) supported the social validity of the model.

# Review of CBC Outcome Research

To date, a total of 21 published studies have investigated the effects of CBC using experimental (e.g., randomized control, multiple baseline) or case study designs and evaluating various behavioral, social-emotional, and academic concerns. Table 9.2 presents a listing of these studies summarized by authors, sample, target behavior, measures, outcomes, and methodological features (e.g., social validity assessment, fidelity information, and follow-up).

| <b>Table 9.2.</b> S            | Table 9.2. Summary of CBC Outcome Research   |   |   |   |  |  |  |  |
|--------------------------------|--|---|---|---|--|--|--|--|
| Authors                        | Sample and<br>Target<br>Behavior   | Measures  | Results   | Methodological<br>Features  | Limitations  |  |  |  |
| Colton &<br>Sheridan<br>(1998) | N = 3, ages 8–9,<br>with ADHD;<br>targeted coop-<br>erative peer in-<br>teractions | Direct observa-<br>tions; Social<br>Skills Rating<br>System; Social<br>validity | SSRS-P: Significant pre/post results for child 2 SSRS-T: Significant pre/post results for child 1 and 3 | Independent<br>and direct ob-<br>servations;<br>Treatment in-<br>tegrity; Multi-<br>ple probe<br>design; Social<br>validity | Participant<br>groups not<br>matched; Sub-<br>jectivity of ob-<br>servations; No<br>independent<br>observations at<br>home |  |  |  |

| Galloway & Sheridan (1994)   | N = 6, grades 1–3; targeted math completion and accuracy   | Math assignments (completion/accuracy);<br>Social validity;<br>Treatment integrity   | Math Accuracy: CBC group gains ranged from 50–144%; Home-note group gains ranged from 20–84% Math Comple- tion: CBC group gains ranged from 39–133%; Home-note group gains ranged from 14–99% | Permanent<br>product<br>measures; So-<br>cial comparison<br>across both<br>groups; Treat-<br>ment integrity;<br>Comparison<br>group; Social<br>validity | A–B design<br>with replica-<br>tions, not true<br>experiment; In-<br>creasing base-<br>line trend; Lack<br>of control over<br>math instruc-<br>tion; Generali-<br>zability |
|--|--|--|---|---|--|
| Gortmaker,<br>Warnes, &<br>Sheridan<br>(2004)                        | N = 1, age 5,<br>grade K, with<br>selective mut-<br>ism; targeted<br>increasing ver-<br>bal utterances<br>(case study) | Direct observa-<br>tions; Social<br>validity<br>measures;<br>Treatment in-<br>tegrity  | ES = 1.60   | Direct observa-<br>tions; Treat-<br>ment integrity;<br>Process integ-<br>rity   | No reliability<br>or objective<br>treatment<br>integrity data  |
| Illsley &<br>Sladeczek<br>(2001)                                     | <i>N</i> = 5; targeted conduct problem behavior and improving parent practices and skills                              | Direct observa-<br>tions; Parental<br>knowledge of<br>behavioral<br>principles;<br>Videotaped<br>parent-child<br>interactions                                    | Positive change<br>in child behav-<br>ior; 4/5 parents<br>had improve-<br>ments in par-<br>enting skills  | Direct observa-<br>tions; Manual-<br>ized approach;<br>Parental behav-<br>ior/knowledge<br>change<br>measures   | Significant<br>variation<br>among parents  |
| Kratochwill,<br>Elliott, Loitz,<br>Sladeczek, &<br>Carlson<br>(2003) | N = 125 Head<br>Start students;<br>targeted exter-<br>nalizing and in-<br>ternalizing<br>behavior prob-<br>lems        | Direct observa-<br>tions; Child<br>Behavior<br>Checklist;<br>Responding to<br>Children's<br>Behavior<br>Checklist;<br>Treatment<br>integrity; Social<br>validity | ES for man-<br>ual/video<br>group:<br>Aggression =<br>-0.41/0.15<br>Compliance =<br>-0.28/0.08<br>Other =<br>0.55/-0.05<br>Total =<br>-0.08/0.05  | Direct observa-<br>tions; Standard-<br>ized rating<br>scales; Treat-<br>ment integrity;<br>Random<br>assignment<br>with control<br>group                | Low power<br>(small sample/<br>high variance);<br>Not all groups<br>randomly as-<br>signed; High<br>attrition rate   |

| Lasecki,<br>Olympia,<br>Clark,<br>Jenson, &<br>Heathfield<br>(2008) | N = 4, ages 8–<br>12, with Type I diabetes; targeted increasing treatment compliance and managing blood glucose levels   | Direct observa-<br>tions; Self-<br>monitoring of<br>blood glucose<br>levels; Treat-<br>ment integrity;<br>Social validity<br>measures  | ES for CBC/BC<br>group:<br>Target concern<br>= 2.22<br>Blood glucose =<br>1.75<br>ES for BC<br>group:<br>Target concern<br>= 1.69<br>Blood glucose =<br>0.88            | Direct observa-<br>tions; Multiple<br>baseline design<br>with random<br>assignment;<br>Treatment in-<br>tegrity; Follow-<br>up data | Limited sample; Consultant not blind to condition; Short intervention period  |
|---|--|--|---|---|---|
| Murray,<br>Rabiner,<br>Schulte, &<br>Newitt<br>(2008)               | N = 24, grades<br>K-5, with<br>ADHD and<br>classroom im-<br>pairment;<br>targeted behav-<br>ioral and aca-<br>demic skills   | Daily Report<br>Cards; Con-<br>ners' Rating<br>Scales; SKAMP;<br>Academic Per-<br>formance Rat-<br>ing Scale<br>(APRS); Treat-<br>ment integrity;<br>Social validity<br>measures | ES on SKAMP: Attention = -0.16 Deportment = -0.24 Total = -0.31 ES on APRS: Academic skills = 0.67 Impulse control = -0.25 Academic productivity = 0.72 Total = 0.80    | Standardized<br>rating scales;<br>Treatment in-<br>tegrity; Ran-<br>dom<br>assignment<br>with control<br>group                      | Small sample<br>size; Use of ex-<br>pert consultant<br>limits generali-<br>zability; Possi-<br>bility of<br>response bias                       |
| Owens, Mur-<br>phy, Richer-<br>son, Girio, &<br>Himawan<br>(2008)   | N = 117, grades<br>K-6, in under-<br>served rural<br>community;<br>targeted im-<br>proving disrup-<br>tive behavior<br>patterns, social<br>functioning,<br>and academics | Disruptive Behavior Disorders Rating Scale; Impairment Rating Scale; Student grades; Treatment integrity; Social validity  | Significant improvement in 2/4 symptom domains (teacher); 3/6 indicators of functioning (teacher); all symptom domains (parent); 4/6 indicators of functioning (parent) | Comparison<br>group; Random<br>assignment of<br>schools; Treat-<br>ment integrity   | Services provided by graduate students rather than community providers; Strict inclusion criteria not used; Participants not blind to condition |

| Power et al. (2012)                                    | <i>N</i> = 199, grades 2–6; targeted homework performance for students with ADHD inattentive and combined types           | Parent as Educator Scale (PES); Parent-Teacher Involvement Questionnaire (PTIQ); Homework Problems Checklist (HPC); Parent-Child Relationship Questionnaire (PCRQ); Academic Performance Rating Scale (APRS) | Significant improvements post-intervention on PES (ES = 0.37); HPC (ES = 0.52); PCRQ (ES = 0.59) Maintenance at 3-month follow-up on PTIQ (ES = 0.28); PCRQ (ES = 0.33) | Randomized<br>trial; Random<br>assignment;<br>Treatment in-<br>tegrity; Follow-<br>up data                            | High motivation of participating families limits generalizability; Low baseline levels of ADHD and ODD symptoms; Medication could have influenced homework behavior; Study conducted in clinic setting; Experience of interventionists varied |
|--|---|--|---|---|---|
| Ray, Skinner,<br>& Watson<br>(1999)                    | N = 1, age 5,<br>with autism;<br>targeted in-<br>creasing com-<br>pliance with<br>low probability<br>commands             | Direct observa-<br>tions   | Increased rate<br>of compliance<br>from 15% to<br>95%   | Direct observa-<br>tions  | Generalizabil-<br>ity; Lack of<br>social validity<br>data   |
| Sheridan,<br>Bovaird, et<br>al. (2012)                 | N = 207, grades<br>K-3, with dis-<br>ruptive behav-<br>ior; targeted<br>behavioral, aca-<br>demic, and<br>social concerns | Behavior Assessment System for Children (BASC-2); Social Skills Rating System (SSRS); Parent- Teacher Rela- tionship Scale- II (PTRS-II); Treatment in- tegrity; Social validity                             | Significant<br>Teacher<br>Ratings:<br>BASC Adaptive<br>Skills:<br>d = 0.39<br>SSRS: $d = 0.47$<br>PTRS: $d = 0.47$<br>Significant Parent Ratings:<br>SSRS: $d = 0.42$   | Randomized<br>trial; Random<br>assignment by<br>classroom;<br>Multi-method<br>measures of<br>treatment in-<br>tegrity | No direct be-<br>havior observa-<br>tions; Teachers<br>not blind to<br>condition; No<br>information on<br>control group<br>parent-teacher<br>interactions   |
| Sheridan,<br>Clarke,<br>Knoche, &<br>Edwards<br>(2006) | N = 48, ages 6<br>and younger in<br>early childhood<br>settings; tar-<br>geted behav-<br>ioral concerns                   | Direct observa-<br>tions; PTRS-II;<br>Social validity  | Mean behavioral outcomes:<br>Home $ES = 1.01$ ( $SD = 1.78$ )<br>School $ES = 1.15$ ( $SD = 1.44$ )   | Direct<br>observations by<br>parents/teach-<br>ers  | No random assignment; No independent observations; Small sample size; No direct measure of treatment integrity  |

| Sheridan &<br>Colton (1994)                            | N = 1, male, age<br>6; targeted fear<br>of sleeping in<br>own room   | Direct observa-<br>tions   | Baseline at 0%;<br>Gradual increasing trend<br>with treatment;<br>No overlapping<br>data points<br>with baseline;<br>Follow-up at<br>100%  | Direct observa-<br>tions; Follow-<br>up data   | No control<br>group; Lack of<br>control over ex-<br>traneous varia-<br>bles; No social<br>validity data   |
|--|--|--|--|--|---|
| Sheridan,<br>Eagle,<br>Cowan, &<br>Mickelson<br>(2001) | N = 52, grades<br>K-9; targeted<br>academic, so-<br>cial, and behav-<br>ioral concerns   | Direct observa-<br>tions; Treat-<br>ment integrity;<br>Social validity<br>measures                   | ES for home = 1.08,<br>school = 1.11<br>Total ES = 1.10<br>(n = 66)  | Direct observa-<br>tions; Process<br>integrity; Treat-<br>ment integrity                                 | Reliability of<br>direct observa-<br>tions; Limited<br>treatment in-<br>tegrity data;<br>External valid-<br>ity   |
| Sheridan, Eagle, & Doll (2006)                         | N = 125<br>students with<br>one, more than<br>one, or no<br>forms of diver-<br>sity; targeted<br>academic, so-<br>cial, and behav-<br>ioral concerns<br>and tested effi-<br>cacy of CBC<br>with diverse<br>clients | Direct observa-<br>tions; Social<br>validity<br>measures;<br>Demographic<br>measures of<br>diversity | Mean ES for one form of diversity = 1.21 Mean ES for two or more forms of diversity = 1.51 Mean ES for no form of diversity = 1.35   | Direct observa-<br>tions; Process<br>integrity   | Lack of experimental control; Non-random selection or group assignment; Limited sample size within groups; Diversity indicators based on parent reports |
| Sheridan,<br>Kratochwill,<br>& Elliott<br>(1990)       | N = 4, ages 8–9;<br>targeted social<br>interactions<br>(withdrawn)   | Direct observa-<br>tions; Behav-<br>ioral rating<br>scales; Self-<br>report                          | Home: Social withdrawal decreased 1–2 <i>SD</i> ; 3 parents reported social initiation increased 1+ <i>SD</i> ; School: Social withdrawal and total internalizing problems decreased 1+ <i>SD</i> ; Social initiation increased 1+ <i>SD</i> | Independent<br>and direct<br>observations;<br>Treatment in-<br>tegrity; Multi-<br>ple baseline<br>design | Participant<br>groups not<br>matched;<br>Objectivity of<br>behavioral<br>observations;<br>Lack of inde-<br>pendent obser-<br>vations in<br>home         |

| Sheridan,   | N = 207, grades   | Parent Daily   | Increase in par-  | Randomized  | Self-report   |
|---|---|--|---|---|---|
| Ryoo,<br>Garbacz,<br>Kunz, &<br>Chumney<br>(2013)                     | K–3; targeted<br>disruptive<br>behaviors  | Report (PDR); Family Involvement Questionnaire– Elementary Version (FIQ-E); Parent Competence in Problem Solving Scale (PCPS); Treat- ment integrity | ent problem solving $(d = 0.697)$ Increase in home-school communication $(d = 0.519)$ Child home behaviors: Arguing $(d = -0.899)$ Defiance $(d = -1.337)$ Noncompliance $(d = -1.049)$ Tantrums $(d = -1.537)$ Family risk moderated parent and child outcomes | trial; Random<br>assignment by<br>classroom;<br>Multi-method<br>measures of<br>treatment in-<br>tegrity | data; Parents not blind to condition; Limited to disruptive behaviors; Fidelity of home-based interventions measured indirectly   |
| Sheridan,<br>Warnes,<br>Cowan,<br>Schemm, &<br>Clarke (2004)          | N = 1, age 4, in<br>Early Child-<br>hood Special<br>Education; tar-<br>geted tantrum-<br>ming (case<br>study)                                 | Direct observa-<br>tions; Social<br>validity<br>measures   | Length of<br>tantrums<br>decreased from<br>4 minutes to<br>1.6 minutes  | Social validity<br>measures   | No effect size<br>reported; Can-<br>not rule out<br>threats to inter-<br>nal validity;<br>Generalizabil-<br>ity   |
| Sheridan,<br>Warnes,<br>Woods,<br>Blevins,<br>Magee &<br>Ellis (2009) | N = 29, grades<br>K-9, receiving<br>services in a<br>pediatric set-<br>ting; targeted<br>behavioral,<br>social, and<br>academic con-<br>cerns | Direct observa-<br>tions; Social<br>validity<br>measures   | Mean behavioral outcomes:<br>Home $ES = 2.25$ ( $SD = 2.43$ )<br>School $ES = 0.57$ ( $SD = 0.96$ )   | Direct<br>observation   | Direct observations by parents/teach- ers; Lack of di- agnostic diversity of clients; No treatment in- tegrity data; Medications not recorded; Possible in- flated ES due to single-subject designs |

| Weiner,<br>Sheridan, &<br>Jenson (1998) | N = 5, grades<br>7–9, at risk for<br>academic fail-<br>ure; targeted<br>math home-<br>work comple-<br>tion and<br>accuracy                                | Permanent<br>products;<br>Treatment in-<br>tegrity; Social<br>validity<br>measures                               | Total ES for<br>Homework<br>Completion:<br>0.67<br>(completion in-<br>creased from<br>45% at baseline<br>to 69.6% at<br>treatment)                      | Permanent<br>products; Mul-<br>tiple baseline<br>design; Treat-<br>ment integrity;<br>Follow-up data  | Instability and variability in baseline; Treatment integrity data not available for all participants; Assignments not standardized; Unknown active ingredients of treatment |
|---|---|--|---|---|---|
| Wilkinson<br>(2005)                     | N = 2 males,<br>grades 4–5,<br>with disruptive<br>behavior dis-<br>orders; targeted<br>increasing on-<br>task and com-<br>pliant behavior<br>(case study) | Direct observa-<br>tions; Child<br>Behavior<br>Checklist<br>(CBCL); Treat-<br>ment integrity;<br>Social validity | Mean behavioral improvement of 64% from baseline to treatment CBCL: Significant improvement on Attention Problems, Aggression, and Externalizing scales | Direct observa-<br>tions; Standard-<br>ized rating<br>scales; Treat-<br>ment integrity;<br>Follow-up data;<br>Replication<br>across partici-<br>pants | Lack of rigor-<br>ous single-case<br>design; Small<br>sample size;<br>Direct observa-<br>tions by teach-<br>ers only  |

**Note:** Readers are referred to Guli (2005) for additional methodological information and findings related to CBC research.

Common methods used to assess outcomes across studies are direct observations and behavioral rating scales. Data on acceptability, perceived effectiveness, and satisfaction have also been reported using measures such as the Behavior Intervention Rating Scale (BIRS)–Acceptability and Effectiveness factors (Elliott & Von Brock Treuting, 1991) revised for CBC (e.g., Sheridan, Eagle, Cowan, & Mickelson, 2001), the Consultant Evaluation Form (CEF; Erchul, 1987), and Goal Attainment Scaling (Kiresuk, Smith, & Cardillo, 1994). Additionally, most reported on integrity of CBC implementation.

In this section, we summarize four large-scale data-based reviews of CBC research (Guli, 2005; Sheridan et al., 2001; Sheridan, Clarke, Knoche, & Edwards, 2006; Sheridan, Eagle, & Doll, 2006). A description of individual studies follows, organized as reviews of studies using (a) experimental designs and (b) case study methods. In addition to the published studies reviewed herein, a number of unpublished dissertation studies have been completed (e.g., Brown, 2004; Cagle, 2003; Colton, 1999; Finn, 2003; Illsley, 2003; Lepage, 1999; Morganstein, 2003; Moscovitz, 2004; Mulgia, 2001; Myers, 1997; Schnoes, 2003; Scope, 2003; Semke, 2011; Stephan, 1999). Due to space constraints, these will not be reviewed, but interested readers are referred to relevant Dissertation Abstracts International (DAI) sources for complete studies.

#### Reviews and Meta-analyses

An analysis of parent consultation models revealed that CBC holds promise as an evidence-based model. Guli (2005) conducted a comprehensive methodological review of 18 studies on parent consultation literature using rigorous criteria specified in the Procedural and Coding Manual of the Division 16 Task Force on Evidence-based Interventions in School Psychology (Kratochwill & Stoiber, 2002). Within the context of the Task Force criteria, CBC was found to hold promise as an evidence-based parent consultation model. Relative to other parent consultation models, CBC provided the strongest evidence for producing significant school-related outcomes. Furthermore, parent consultation studies receiving the highest ratings for key methodological features were those using a model of joint parent-teacher consultation, such as that used in CBC.

In a review of outcomes based on four years of federally funded CBC studies, the effectiveness of CBC interventions for 52 students with disabilities (such as behavior disorders, learning disabilities, and attention-deficit/hyperactivity disorder) or who were at risk for becoming eligible for special education services was analyzed (Sheridan et al., 2001). The average effect size for CBC case outcomes was 1.10 (SD = 1.07), with home- and school-based effect sizes averaging 1.08 (SD = 0.82) and 1.11 (SD = 1.24), respectively, with 95% confidence intervals of 0.83 and 1.36. A model fitting client age and symptom severity was found to predict school effect size relatively well ( $R^2 = .425$ , Adjusted  $R^2 = .343$ ; p = .008), such that older clients (11 years of age and older) with less severe symptoms and younger clients (ages 5–7) with higher severity ratings prior to CBC were predicted to experience higher effect sizes. Case complexity (i.e., number of target behaviors) was not significant in the models.

In another review, Sheridan, Eagle, and Doll (2006) reported the behavioral and social validity outcomes of CBC with a sample of 125 students representing varying levels of diversity (i.e., experiencing none, one, or more than one form of diversity, such as racial, economic, or linguistic). CBC interventions yielded generally high effect sizes regardless of the presence of diversity or the number of diverse characteristics exhibited. Average effect sizes were 1.21, 1.51, and 1.35 for students experiencing one, two or more, and no forms of diversity, respectively. Social validity measures (i.e., perceptions of goal attainment, effectiveness, acceptability, and satisfaction) also yielded very favorable results.

To assess CBC as a form of early intervention, Sheridan, Clarke, Knoche, and Edwards (2006) tested the efficacy of the model in early childhood settings (e.g., public school kindergarten classrooms, private preschools, Head Start classrooms) with 48 children aged six and younger. Behavioral outcomes suggested generally positive effects, with a mean effect size of 1.01~(SD=1.78) at home and 1.15~(SD=1.44) at school. Various measures of social validity revealed positive ratings of goal attainment and the perceived effectiveness and acceptability of CBC, with parents tending to view CBC as slightly more effective than teachers. In addition, parents' ratings on the Communication to Others factor and the Total Relationship score of the Parent-Teacher Relationship Scale (PTRS; Vickers & Minke, 1995) improved significantly following CBC.

#### Review of Experimental Studies

CBC research has utilized a range of experimental methods, from experimental single-subject designs (e.g., multiple baseline designs) to large-scale randomized trials. Studies examining the effects of CBC on social-behavioral as well as academic outcomes have been conducted.

#### Experimental studies of social-behavioral outcomes

A series of related studies using rigorous randomized controlled trial methodology examined the efficacy of CBC on social-behavioral outcomes for elementary-aged students (grades K-3) with behavioral and social concerns, as well as mediating and moderating factors (Sheridan, Bovaird, et al., 2012; Sheridan, Ryoo, Garbacz, Kunz, & Chumney, 2013). Two hundred and seven students participated in a four-cohort cluster randomized experimental design, with classrooms assigned to treatment (i.e., CBC) or control (i.e., "business as usual") conditions. Findings demonstrated that CBC had significant effects on child outcomes, parent outcomes, and the parent-teacher relationship. Specifically, Sheridan, Bovaird, et al. (2012) found that relative to controls, the CBC group showed statistically significant positive changes on the teacher-rated outcome variables of interest, after controlling for the severity of behavior problems at baseline. Significant effects were seen on the teacher-rated Adaptive Skills factor of the Behavior Assessment System for Children-2 (BASC-2; Reynolds & Kamphaus, 2004) for CBC participants compared to controls (effect size of  $d_{RM}$  = 0.39). In addition, CBC participants displayed greater increases on the teacherand parent-rated Social Skills Rating System (SSRS; Gresham & Elliott, 1990), with an effect size of  $d_{RM} = 0.47$  and 0.42, respectively. In terms of the parent-teacher relationship, teachers in the CBC group reported greater increases in their relationships with parents (effect size of  $d_{RM} = 0.47$ ). However, there was no statistically significant difference between the CBC or control groups on parents' reports of their relationship with teachers. Importantly, multilevel path analysis revealed that improvements in teacher-reported relationships with parents partially mediated the effects of CBC on positive changes in children's behav-

Testing student behavioral outcomes in the home setting with the same sample, Sheridan et al. (2013) reported that compared to children in the control group, those in the CBC group showed significantly greater decreases in arguing, defiance, noncompliance, and tantrums. Likewise, parents participating in CBC reported significantly different increases in home-school communication and parent competence in problem solving relative to control-group parents. The accumulation of family risk (i.e., low parental education, low income status, fewer than two adults in the household) moderated the effects of CBC on both parent and child outcomes. That is, greater treatment gains were observed in situations of greater degrees of family risk; as the level of family risk increased so did the effects of CBC, suggesting that CBC was most effective for families who experienced the greatest degree of demographic disadvantage.

In an investigation of consultee intervention support, Kratochwill, Elliott, Loitz, Sladeczek, and Carlson (2003) conducted a study of the differential effects of CBC on behavioral concerns using manual- and video-based support. Using a pretest-posttest repeated-

measures experimental design, outcomes of CBC-manual, CBC-video, and control conditions were evaluated with a sample comprising 125 Head Start children, parents, and teachers. Parents' goal attainment scores revealed that 75% of parents in the manual group and 95.5% of parents in the video group reported progress toward goal attainment. For teachers, 60% in the manual group and 73.1% in the video group reported similar progress. Across the standardized outcome measures of behaviors, an average of 46.08% and 31.37% of reliable change indices (Gresham & Noell, 1993) were deemed statistically significant in the manual and video conditions, respectively, compared to 25.42% in the control condition. Parents and teachers reported high rates of treatment acceptability and satisfaction with the manual and videotape treatment programs.

CBC has also been shown to be an effective means for improving social skills for socially withdrawn children and children with ADHD. Using CBC and teacher-consultation conditions, CBC was found to produce greater social initiations for students across both home and school settings, as opposed to teacher-consultation, which increased children's initiations at school only (Sheridan, Kratochwill, & Elliott, 1990). Generalization and maintenance of treatment effects also appeared stronger when conjoint consultation procedures were employed. Children with ADHD have also been shown to increase positive play behaviors with peers to a level that approached that of "normal" comparison peers via CBC interventions (Colton & Sheridan, 1998).

# Experimental studies of academic outcomes

Studies investigating the effectiveness of CBC for improving academic outcomes have also yielded positive findings. In a randomized trial involving CBC, Power et al. (2012) evaluated the effectiveness of a family-school intervention designed to improve student academic engagement, parenting skills, family involvement in education, and family-school collaboration. The intervention, Family-School Success (FSS), was comprised of CBC, daily report cards, and a behavioral homework intervention. One hundred and ninety-nine students (grades 2–6) who met criteria for attention-deficit/hyperactivity disorder (ADHD) combined and inattentive types were randomly assigned to FSS or a comparison group intended to control for nonspecific treatment effects. FSS was found to have significant effects on children's homework performance, family involvement in education, the quality of the family-school relationship, and parenting behavior.

Following intervention, children in the FSS showed significantly greater decreases in homework inattention and task avoidance than did children in the comparison group (ES = 0.52), according to parent ratings on the Homework Problems Checklist (HPC; Anesko, Schoiock, Ramirez, & Levine, 1987). A significant Group × Time interaction effect was found on the Parent as Educator Scale (PES), ES = 0.37, indicating that parents in the FSS group perceived themselves as significantly more effective than the comparison group in assisting in their child's education. In addition, though no significant effect on the family-school relationship was found immediately following intervention, a significant effect was found at three-month follow-up on the Parent-Teacher Involvement Questionnaire (PTIQ; Kohl, Lengua, McMahon, & Conduct Problems Prevention Research Group, 2000), ES = 0.28. Finally, compared to controls, parents in the FSS group reported significantly greater

decreases in their use of negative/ineffective discipline as assessed by the Parent-Child Relationship Questionnaire (PCRQ).

Murray, Rabiner, Schulte, and Newitt (2008) also studied a CBC-mediated daily report card (DRC) intervention with a sample of 24 elementary students (grades K–5) with attention-deficit/hyperactivity disorder (ADHD) and academic impairment. Compared to the control group, intervention participants demonstrated greater academic productivity, with a moderately large effect size of 0.72. Moderately large and significant effects were also found on the improvement of academic skills (d = 0.67) and overall functioning as measured by the Academic Performance Rating Scale (APRS; Dupal & Rapport, 1991) (d = 0.80). Average implementation of the DRC was 77.5% for teachers and 59% for parents. Acceptability ratings showed that the DRC intervention through CBC was highly acceptable to parents, teachers, and children. Similarly, Weiner, Sheridan, and Jenson (1998) implemented consultation services in a group format with five junior high school students (grades 7–8) with homework concerns. Using a multiple baseline across participants design moderate effect sizes were yielded for both homework completion (ES = 0.60) and accuracy (ES = 0.67). Parents and teachers reported satisfaction, acceptability, and perceived effectiveness of the intervention.

# Experimental studies in unique practice contexts

Pediatric applications of CBC represent a new direction of research. Lasecki, Olympia, Clark, Jenson, and Heathfield (2008) compared the effectiveness of traditional behavioral consultation (BC) and CBC in reducing blood glucose levels in four medically at-risk children with Type I diabetes. A reward procedure was used to reinforce treatment compliance with the medical regimen. Children were randomly assigned to a reward + BC or reward + CBC condition. Data were collected for changes in blood glucose levels and regimen compliance from baseline to treatment. All participants showed positive changes during treatment. CBC showed average effect sizes of 1.75 in changes in blood glucose levels and 2.22 for regimen compliance, whereas ~C yielded lower average effect sizes of 0.88 for changes in blood glucose levels and 1.69 for regimen compliance. Though these data are limited to four participants, results reveal greater gains for participants in the CBC condition. Across both conditions, follow-up data for three of the four participants showed improved compliance and mental health status.

Sheridan, Warnes, et al. (2009) also explored outcomes of the CBC model when used in pediatric settings. Twenty-nine children (grades K–9) who were receiving primary pediatric services through a major Midwestern university medical center were referred by their pediatricians because of the presence of behavioral or social-emotional difficulties that interfered with their functioning at home and/or school and learning in the classroom. Client target behaviors were varied and included academic (e.g., language skills, work completion, reading fluency), social (e.g., appropriate interactions), and behavioral (e.g., compliance, blurting) concerns. The average effect size for behavioral outcomes was 1.42 (SD = 2.0), with median effect sizes of 0.55 (school) and 1.61 (home) In addition, parent and teacher ratings of goal attainment, acceptability, and satisfaction with CBC services reflected positive results.

Influenced by the methods and theories behind CBC, Owens, Murphy, Richerson, Girio, and Himawan (2008) demonstrated the adaptation of the model's principles in an underserved geographical (i.e., rural) area. The authors studied the effectiveness of parent-teacher consultation practices for 117 children (grades K–6) with disruptive behavior problems in a rural community in the Appalachian region. Treatment was comprised of a Daily Report Card (DRC) intervention, biweekly consultation sessions, and behavioral parenting sessions. At school, children in the treatment group were rated by teachers as showing significant improvement in hyperactivity/impulsivity and conduct disorder symptoms, and the trajectories of improvement were significantly different than control-group children. The treatment group also showed significant improvements in classroom functioning, their relationship with the teacher, and overall functioning. At home, significant improvement in the treatment group was observed in relationships with peers and parents, family functioning, and overall functioning.

# Review of Case Studies

In addition to empirical studies, systematic CBC case studies have been conducted and have proven useful in understanding the effectiveness and acceptability of CBC with various target concerns, settings, and populations. The majority of these case studies have reported on behavioral outcomes. Sheridan and Colton (1994) used CBC to implement an intervention to increase a six-year-old boy's ability to sleep in his own room at night. Through a fading of environment and positive reinforcement procedure, the child demonstrated immediate positive effects and no regression at one-month follow-up. Ray, Skinner, and Watson (1999) reported outcomes of CBC in improving aggressive and noncompliant behaviors of a five-year-old boy with autism. The student's compliance increased significantly from baseline to treatment and generalization phases. In a paper describing CBC within a context of "family-centered" services, Sheridan, Warnes, Cowan, Schemm, and Clarke (2004) reported the use of CBC to decrease the duration of tantrums of a four-yearold male attending Early Childhood Special Education (ECSE). Behavioral data indicated that the goal was met quickly upon intervention implementation. The child's parent and teacher both reported that their goals were completely met, as indicated via Goal Attainment Scaling. Wilkinson (2005) presented the positive treatment and maintenance findings of teacher ratings of behavioral control (i.e., on-task and compliant behavior) of males (grades 4–5) diagnosed with ADHD and oppositional defiant disorder. Both studies found positive perceptions of acceptability, effectiveness, and satisfaction with consultation services by parents and teachers.

Furthermore, Illsley and Sladeczek (2001) reported the outcomes of five case studies of children with significant conduct problems, including aggression, noncompliance, and socially inappropriate behaviors. In addition to studying behavioral outcomes, this series of case studies sought to identify changes in parent knowledge and skill related to effective parenting practices. All children made significant progress on behaviors targeted for intervention, with decreases in aggressive behavior and increases in compliance and socially appropriate behaviors. Following CBC, parent consultees tended to demonstrate improvements in their knowledge of child management strategies, increased their use of praise,

and were less critical of their children. However, much variability in parent outcomes was observed.

In the area of academics, Galloway and Sheridan (1994) found greater and more stable gains in six elementary (grades 1–3) students' math completion and accuracy for students in a CBC condition versus a home-note only condition. In the social-emotional realm, Gortmaker, Warnes, and Sheridan (2004) illustrated the positive effects of a CBC-mediated intervention on the speaking behaviors of a five-year-old with selective mutism. Auster, Feeney-Kettler, and Kratochwill (2006) used this case study to call for the application of CBC to the treatment of anxiety disorders in school. Both Galloway and Sheridan (1994) and Gortmaker et al. (2004) revealed high levels of acceptability.

# Review of Implementation Research

As a model for addressing student target concerns, CBC proves promising. Recently, research analyzing the various elements of treatment integrity within the consultation process has become a topic of interest. Within CBC, two important constructs of treatment integrity exist: intervention implementation integrity and CBC process integrity. A brief review of such research follows, and table 9.3 presents a summary of this treatment integrity research.

| Table 9.3. Su  | Table 9.3. Summary of CBC Treatment Integrity Research                          |  |  |   |  |  |  |
|--|---|--|--|---|--|--|--|
| Authors  | Sample  | Dependent<br>Variable  | Measures/<br>Method  | Results   | Limitations  |  |  |
| Garbacz,<br>Woods,<br>Swanger-<br>Gagné, Tay-<br>lor, Black, &<br>Sheridan<br>(2008) | N = 19 consult-<br>ants<br>N = 20 parents<br>N = 19 teachers<br>N = 20 children | Case outcomes<br>(behavioral/<br>social validity);<br>CBC imple-<br>mentation<br>integrity | Partnership<br>Orientation<br>Measure<br>(POM); Direct<br>Observation;<br>CBC Objectives<br>Checklists; So-<br>cial validity<br>measures | Significant relationships between partnership orientation and teacher acceptability and teacher satisfaction; Integrity of CBC was maintained while using a partnership orientation | Consultant sample may be restricted; Small sample size; Lack of experimental manipulation; Lack of variability in social validity data; Intervention components not controlled |  |  |

| Sheridan,<br>Swanger-<br>Gagné,<br>Welch,<br>Kwon, &<br>Garbacz<br>(2009) | N = 41 teachers N = 101 parents N = 101 children N = 7 consultants | Reliability of treatment integrity measures; reliability of CBC adherence ratings | Exact agreement by two raters coding adherence of fidelity criteria as indicated by permanent products; Standard deviations for all measures were computed to indicate stability of measures over time; CBC process integrity assessed by computing agreement of objectives met between two coders | Mean % School/Home Integrity Self- Report: 91.24 (SD) = 16.82)/ 81.05 (SD = 27.42) Direct Observation: 87.06 (SD = 20.16)/ NA Permanent Products: 98.57 (SD = 11.95)/ 87.82 (SD = 29.52) CBC Process Integrity: A mean of 96% of objectives delivered; raters had exact agreement with total number of objectives met for 84% of in- | Interventions were individualized to address within- participant concerns, disallows computation of Cronbach's alpha; Sample size too small to compute Cronbach's alpha; No guidelines for "acceptable" levels of stability exist; Few measures completed at the same time, making point- to-point convergence measures im- possible |
|---|--|---|--|--|--|
| Swanger-<br>Gagné, Gar-<br>bacz, & Sher-<br>idan (2009)                   | N = 62 parents<br>N = 62 children                                  | Treatment integrity of intervention implementation                                | Parent self-report of implementation integrity; consultant rating of implementation integrity by permanent products  | Strategies for maximizing home implementation integrity include following partnership model in intervention development, provide rationale for collecting integrity data, script, and package intervention integrity forms, and train family on intervention delivery  | Generalizability questionable due to intensive treatment supports; Case study methodology; No standardized measures of treatment integrity were used   |

Sheridan, Swanger-Gagné, Welch, Kwon, and Garbacz (2009) conducted an exploratory study of the reliability of fidelity assessment measures within a randomized trial of CBC. Specifically, the authors investigated the psychometric properties of fidelity measures reported or collected by consultees (i.e., self-report, permanent products, direct observation)

and consultation procedures used by consultants (i.e., direct observation). Interrater agreement on permanent products revealed median exact agreement of 88.68% at home and 98.57% at school. Median standard deviations were computed across time points to provide a metric of the stability of measurement in self-reports, permanent product ratings, and direct observations. Findings suggested that across all measures and time points, one could expect fidelity scores to vary approximately  $\pm 15$  percentage points. CBC process integrity was assessed using two trained coders who rated consultants on their adherence to the specific objectives of each structured interview. Across coders, an average of 96% of CBC objectives were met (range = 80%–100%; SD = 0.08). Raters had exact agreement on the total percentage of objectives met across 84% of the coded interviews. These preliminary results revealed that high levels of intervention integrity exist across multiple methods and sources, and these high levels of integrity were demonstrated regardless of the methods and sources of data.

Swanger-Gagné et al. (2009) presented descriptive findings from a large-scale consultation study that introduced unique strategies to promote intervention implementation integrity in CBC for children with behavioral concerns. Participants were separated into two groups, a general, mainstream group and a diverse, at-risk group (i.e., participants who were of low-income status, racially diverse, linguistically diverse, living in a single parent home, or who had less than a high school diploma). Strategies used with both groups included training and education, with additional strategies implemented to support families with various life challenges. Integrity was assessed through a daily parent self-report format and a consultant rating of intervention implementation integrity as represented on permanent intervention products (e.g., sticker charts, home-school notes). Results from both measurement methods indicated that families in both the general and at-risk group had high intervention implementation integrity when participating in CBC.

In an exploratory study, Garbacz, Woods, Swanger-Gagné, Taylor, and Black (2008) investigated the extent to which a partnership orientation in CBC predicted case outcomes and process integrity. For 20 case studies, partnership orientation scores on the Partnership Orientation Measure (POM; Sheridan et al., 2005) were compared to measures of acceptability, satisfaction, perceptions of effectiveness, and child performance across home and school settings. Elements of a partnership orientation include focusing on strengths, collaborating, employing sensitivity and responsiveness, communicating effectively, and sharing information. Findings revealed that consultants were able to successfully implement the CBC model with integrity while still adhering to a partnership orientation. In addition, a partnership orientation was a significant predictor of teachers' (but not parents') acceptability and consumer satisfaction.

#### Review of CBC Process Research

In addition to improving child outcomes, another primary objective of CBC is to engage parents and teachers in collaborative problem-solving. The manner in which the verbal processes and social context of CBC cultivate this collaborative relationship has been examined. In the following paragraphs, we discuss the research on specific relational communication patterns of the CBC process. A summary of this research is in table 9.4.

| Authors   | Sample  | Dependent<br>Variable             | Measures  | Results   | Limitations  |
|---|---|-----------------------------------|---|---|--|
| Erchul, Sheridan, Ryan,<br>Grissom,<br>Killough, &<br>Mettler<br>(1999) | 4 CBC cases<br>9,696 individ-<br>ual messages                                       | Domineering-<br>ness<br>Dominance | Family Relational Communication Control Coding System (FRCCCS); CBC process integrity | Consultants showed higher domineeringness levels than parents and teachers; Consultants displayed less dominance than consultees, who displayed equal levels  | Small sample size; Low generalizability; No established sense for high or low levels of domineeringness or dominance; Altered standardized measures; No CBC research for "optimal" relationship dynamics |
| Grissom,<br>Erchul, &<br>Sheridan<br>(2003)                             | N = 20 CBC cases N = 16 consult- ants N = 23 teachers N = 20 parents N = 20 clients | Domineering-<br>ness<br>Dominance | Family Relational Communication Control Coding System (FRCCCS) Social validity        | All participants shared in influence over the process; No significant correlations for domineeringness and outcomes; Teachers reported lower acceptability when parents were more dominant; Parents reported lower perceived effectiveness when they were more dominant | Small sample<br>size; Low statistical power;<br>Only CPIIs<br>were coded;<br>Self-report out-<br>come measures<br>Limited exter-<br>nal validity of<br>CBC cases   |

| Sheridan,<br>Meegan, &<br>Eagle (2002) | N = 13 consultants N = 19 parents & teachers N = 16 students 8,848 speech acts 4,986 speech exchanges | Influence<br>Involvement | Psychosocial<br>Processes Cod-<br>ing Scheme<br>(PPCS); Direct<br>observations;<br>Social validity | Participants displayed higher levels of collaboration followed by obliging state- ments with minimal con- trolling or withdrawing comments; No significant rela- tionship be- tween speech act exchanges and behavioral outcomes | No control of relationship or differences among participants; No study of intermediary variables; Small sample size; All consultants trained by same researcher; Lack of reliability data for direct behavioral outcomes; Only CPIIs were coded; Selection bias |
|--|---|--------------------------|--|--|---|
|--|---|--------------------------|--|--|---|

Through an investigation of relational control, Erchul et al. (1999) sought to explain the relational communication patterns that occur within CBC. Analyses conducted with the use of relational coding systems emphasize the connectedness of individuals within a conversation, along with the pragmatic (i.e., control-related) aspects of messages, using the constructs of "domineeringness" and "dominance." Erchul and colleagues defined domineeringness as an index of an individual's directiveness or attempt to define relationships throughout consultation, while dominance was considered an index of an individual's demonstrated influence or *success* in defining the relationship (see Erchul, Grissom, Getty, & Bennett, this volume). Four CBC cases consisting of 12 interviews were coded for domineeringness and dominance using the Family Relational Communication Control Coding System (FRCCCS; Heatherington & Friedlander, 1987), and results were compared to the relational communication patterns of BC in earlier work conducted by Erchul (1987). The analysis revealed that consultants and teachers participating in CBC displayed similar levels of domineeringness as their BC counterparts; however, CBC consultants appeared to be far less dominant than BC consultants. These findings suggest that within the CBC process, no single individual attempts to direct or influence the other members at disproportionate levels; rather, communication patterns tend to be more bidirectional and reciprocal. Such evidence supports the notion that CBC is a collaborative process involving symmetrical and reciprocal (i.e., co-equal) relationships with shared influence among participants.

In a similar study, Grissom, Erchul, and Sheridan (2003) investigated aspects of interpersonal control in CBC in relation to case outcomes. Measures of dominance and domineeringness were assessed using the FRCCCS and compared to outcome measures of acceptability/effectiveness of CBC, consultant effectiveness, and attainment of consultation goals. Correlational analyses involving the relational communication variables of domineeringness and dominance and the three outcome measures failed to produce any significant relationships between consultant and teacher relational control and parent/teacher

CBC outcome ratings. However, parent dominance was significantly related to two outcome measures. Specifically, as parents influenced the parent-consultant dyadic relationship, the acceptability/effectiveness ratings given by teachers were lower. In addition, parent dominance within the parent-consultant and parent-teacher dyads was associated with less favorable parental goal attainment ratings. Thus, as parents demonstrated more influence, they reported less positive behavioral outcomes for their child. Such findings illustrate that control within the consultee-to-consultee and consultee-to-consultant relationships may be an important factor influencing perceptions of case outcomes.

Sheridan, Meegan, and Eagle (2002) examined the nature of the social context in CBC and its relationship to case outcomes (i.e., effect sizes, perceived effectiveness/acceptability of consultation procedures, and satisfaction with the consultant). The Psychosocial Processes Coding Scheme (PPCS; Leaper, 1991) was used to assess two dimensions of communication function within CBC: influence and involvement. Influence referred to the degree to which a speech act (i.e., a phrase or utterance bound by intonation, pauses, or grammar, which conveyed a single message) attempts to control the task in consultation, or the extent to which a statement directly or indirectly influences the process. Involvement referred to the degree to which a speech act facilitates or hinders the social relationship. Direct and indirect levels of these two dimensions then create four main categories of speech acts: (a) collaborative speech is high in both influence and involvement, (b) controlling speech is high on influence and low on involvement, (c) obliging speech is low on influence and high on involvement, and (d) withdrawing speech is low on both influence and involvement.

Descriptive analysis of speech acts in 16 CPIIs revealed that individual speech acts among participants were highly collaborative, followed by obliging, with negligible amounts of controlling or withdrawing messages. More specifically, when consultants were not making collaborative statements, they were obliging rather than controlling. In addition, effect sizes were found to be meaningful and positive. Such results indicate that not only is the social context of CBC conducive to the development of collaborative partnerships across home and school settings, but these collaborative relationships are also effective in addressing concerns on behalf of the child.

#### Review of Social Validity Research

Social validity has been identified as an important research topic in consultation (Elliott, Witt, & Kratochwill, 1991). The aims of social validity research are to determine the degree to which: (a) treatment goals are socially significant, (b) treatment procedures are considered socially appropriate, and (c) treatment effects are clinically meaningful. In the section that follows, a selection of research examining the acceptability and perceived effectiveness of CBC in both hypothetical and naturalistic contexts is summarized. For a complete review of social validity CBC research, readers are referred to table 9.5.

|                               | ımmary of CBC S                                | Dependent  |  |  |   |
|-------------------------------|--|--|--|--|---|
| Authors                       | Sample   | Variable   | Measures   | Results  | Limitations   |
| Cowan &<br>Sheridan<br>(2003) | N = 67 parents N = 67 teachers N = 67 children | Acceptability ratings by parents, teachers, and children                         | Pre-treatment problem severity rating; Behavior Intervention Rating Scale-Acceptability factor (BIRS-A); Children's Intervention Rating Profile (CIRP) | Parents: No significant relationship between problem severity or intervention complexity and acceptability Teachers: Significant positive relationship between problem severity and acceptability; model fitting intervention complexity and problem severity ratings found to predict treatment acceptability ratings at modest level | Data not available for all participants across all variables; Not enough power to detect significance in parent data; Not child problem severity rating data for analysis; Acceptability data obtained post-intervention only |
| Freer & Wat-<br>son (1999)    | N = 111 parents<br>N = 61 teachers             | Acceptability ratings between teacher-only consult, parent-only consult, and CBC | Problem questionnaire (list of academic, social/emotional, behavioral problems); Intervention Rating Profile-15 (IRP-15)                               | CBC rated as most preferred approach for all problem types by parents and teachers; CBC rated as most acceptable form of consultation by parents and teachers  | Low return rate of surveys; Lack of variability in characteristics of sample; Bias of previous experience with consultation; Differences may be explained by other variables, Analogue data lacks ecological validity         |

| Sheridan, Erchul, et al. (2004) | N = 137 parents N = 122 teachers N = 118 children               | Perceptions of<br>helpfulness  | Consultant Evaluation Form; Behavior Intervention Rating Scale – Effectiveness and Acceptability factors; Goal Attainment Scaling; Direct observations; Congruence between parent and teacher ratings | Nonsignificant relationship between parent and teacher helpfulness ratings; Nonsignificant relationship between parent and teacher agreement and effect sizes; Significant relationships between difference scores and parent acceptability, teacher acceptability, and parent effectiveness ratings | Reliability of<br>observational<br>data; Select<br>consultant sam-<br>ple  |
|---------------------------------|---|--|---|--|--|
| Sheridan &<br>Steck (1995)      | N = 409 school<br>psychologists                                 | Perceptions of<br>CBC<br>(procedural acceptability, sit-<br>uational<br>acceptability) | Consultation<br>Questionnaire   | Procedural acceptability ratings were "highly acceptable" CBC acceptability was greater than other modes of service delivery for all problem types   | Only nationally certified school psychologists sampled; Situational acceptability and process acceptability measures may assess different constructs; Selfreport of attitudes may differ from behavior |
| Sladeczek et<br>al. (2001)      | N = 1; male, age<br>5, with conduct<br>problems (case<br>study) | Perceptions of goal attainment   | Goal Attain-<br>ment Scaling;<br>Direct observa-<br>tion  | T score = 64.18, a score above 50 indicating performance above baseline expectations   | Generalizabil-<br>ity; Cannot rule<br>out threats to<br>internal valid-<br>ity   |

| Sladeczek,<br>Madden,<br>Illsley, Finn,<br>& August<br>(2006) | N= 118 Canadian school psychologists N = 12 parents | Perceptions of acceptability | Consultation Questionnaire; Behavior Intervention Rating Scale; Survey on situational acceptability of CBC compared to other modes of service delivery | School psychologists' ratings indicate positive perceptions of procedural acceptability: $M = 5.33$ , $SD = 0.58$ (with 6 being very acceptable) Parents' ratings of procedural acceptability: $M = 4.99$ , $SD = 0.50$ (with 6 being very acceptable) School psychologists rated CBC as most acceptable mode of service delivery across all problem types | Ratings reflect<br>hypothetical<br>perceptions of<br>acceptability;<br>Small sample<br>size of parents;<br>Results based<br>on voluntary<br>responses to<br>survey |
|---|---|------------------------------|--|--|--|
|---|---|------------------------------|--|--|--|

# Acceptability Research

Hypothetical measures were the first to demonstrate consultee perceptions of the acceptability of the CBC model. An early study by Sheridan and Steck (1995) surveyed a national sample of school psychologists to examine their perceptions of CBC as an acceptable model of service delivery. In a similar study, Sladeczek, Madden, Illsley, Finn, and August (2006) used surveys to compare the perceptions of CBC acceptability by American and Canadian school psychologists. Freer and Watson (1999) compared parent and teacher ratings of acceptability of teacher-only consultation, parent-only consultation, and conjoint behavioral consultation. In all of these studies, CBC was found to be a highly acceptable model of service delivery across all problem types (i.e., academic, behavioral, social-emotional) and was the preferred method for addressing these problems when compared to other modes of service delivery.

Other outcome studies have extended the CBC social validity research to measures of acceptability from field-based case work. A four-year study examining 52 CBC cases demonstrated that parents and teachers found the CBC process to be highly acceptable (Sheridan et al., 2001) as measured by the acceptability factor of the BIRS-R. Likewise, Cowan and Sheridan (2003) found that parents, teachers, and children rated interventions created through CBC as "very" to "highly" acceptable. Parents rated interventions with a reductive component as more acceptable than interventions with both positive and negative components; however, no significant differences were found on the acceptability of intervention components for teachers and children. For teachers, a positive relationship

existed between (a) intervention complexity and treatment acceptability ratings and (b) problem severity ratings and treatment acceptability ratings. Regression analyses indicated that for teachers, the interaction of complexity and problem severity significantly predicted treatment acceptability ratings. These results are not unique to these outcome studies, as multiple CBC studies have investigated the acceptability of CBC and have found it to be rated as highly acceptable by parents and teachers alike.

#### Goal Attainment

As a common measure of perceived effectiveness in CBC, Goal Attainment Scaling (GAS; Kiresuk et al., 1994) provides a subjective account of how consultation goals have been achieved. Sheridan et al. (2001) examined the effectiveness of 52 CBC cases. GAS reports indicated that across all cases, 100% of parents and 94% of teachers rated goals as partially or fully met. In addition: Sladeczek, Elliott, Kratochwill, Robertson-Mjaanes, & Stoiber (2001) employed GAS as a treatment evaluation procedure within the context of a CBC case with a five-year-old with conduct problems. The goal of consultation was to decrease the child's inappropriate behaviors (i.e., decrease screaming behavior at school and decrease clinging behavior at home). The GAS worksheet was used to identify clear goals for the target behaviors: Baseline data were anchored to the "0" position (i.e., "no progress"), the best possible scenario for the target behavior was "+2" (i.e., "goal fully met") and the worst possible scenario was "-2" (i.e., "situation significantly worse"). During the final weeks of intervention, the child's parents and teacher both consistently rated his progress toward the intervention goals at +2 ("goal fully met").

# **Continued Evolution of CBC**

The trajectory of CBC research has evolved from outcome studies using single case designs to randomized trials, from studies exploring communication processes to mediational pathways, and several questions in between. Recent developments in CBC research are identifying methods to integrate the model methodically and strategically into an array of educational settings and contexts. Efforts are under way to understand issues of relevance, salience, acceptability, practicality, and efficacy in authentic and unique practice contexts.

Perhaps one of the most important research directions for CBC is identifying effective methods for infusing the model into the natural and authentic practices of educational settings. The vast majority of CBC research has been conducted with consultants who are external to systems responsible for service delivery. This approach allows for controlled analyses but often juxtaposes the model onto existing educational and mental health services without meaningful and sustainable integration. Efforts at full dissemination in field-based practice contexts will only be possible if integration is identified as a goal (rather than implementation that is disjointed from other educational services).

For CBC to become a consistent element of school practice, methods for sustaining it as an intervention within schools and related service settings are necessary. This may be possible through the specification of CBC within the ongoing structure inherent in Student Assistance Teams (SATs; see Dowd-Eagle & Eagle, this volume) or Response-to-Intervention (RTI) models. The orientation of most SATs is highly congruent with the structured

and organized problem-solving process characteristic of CBC. In fact, most SAT processes can benefit from the added resources and accountability available within a CBC framework. Similarly, the intensive, individualized process associated with the third tier of an RTI model requires problem-solving consultation and individualized programming to address concerns of students who were otherwise unresponsive to previous intervention attempts. CBC is uniquely positioned to intensify services by imparting evidence-based interventions at home and school, and is receiving preliminary validation as an intensive individualized (Tier 3) component of RTI models for students at greatest need (Clarke & Sheridan, 2012). Full integration of CBC into these natural school structures and processes is fertile ground for research.

Early childhood consultation is an emerging area of interest within the practice community. Much of the consultation research in early childhood stems from a mental health orientation, deeming the practice important for "building the capacity of staff, families, programs and systems to prevent, identify, treat, and reduce the impact of mental health problems among children from birth to age 6 and their families" (Cohen & Kaufmann, 2005, p. 4). Furthermore, many early childhood intervention studies identify continuity and positive relationships among caregiving systems (Early, Pianta, Taylor, & Cox, 2001) and a family-centered approach (Dunst & Trivette, 1987) as important in attaining efficacious outcomes. Indeed, these characteristics represent some of the foundational principles of CBC, suggesting its potential usefulness within early intervention contexts (Sheridan, Clarke, & Ihlo, 2012). Important directions for early childhood CBC include investigating its efficacy for promoting young children's academic development, self-management, and social skills; exploring its effects at engaging families in Head Start or Part C services; and specifying methods for integrating the structured, collaborative CBC process into home visits and other early childhood service delivery contexts (Sheridan, Marvin, Knoche, & Edwards, 2008). LoCasale-Crouch and colleagues (this volume) provide detailed attention to the topic of research in early childhood consultation.

CBC has been offered as a means to integrate systems and services for children with medical and educational needs. For example, Power, DuPaul, Shapiro, and Kazak (2003) suggested that CBC "provides a framework for (a) aligning the family, school, and health systems to facilitate the integration of children with health problems into school, and (b) integrating systems of care into the problem solving process" (p. 89). They went on to indicate that the model "may be highly useful in designing strategies to prevent further health risk and promote resilience in the school context" (p. 90). Similarly, Sheridan and Ellis (2006) offered specific procedures for the inclusion of CBC within the framework of pediatric psychological services, linking family, school, and medical systems in addressing concerns of a child. Preliminary outcome data of this application of CBC are encouraging (Sheridan, Warnes, et al., 2009); however, much more research is needed to understand the effects of the model within the interdisciplinary medical environment, the inherent challenges linking very diverse systems of care, and methods that support schools in dealing with service needs that emanate from external sources or settings.

Additional context variables are also being explored as research in CBC evolves. The geographic setting or locale within which CBC is practiced is yet another factor that deserves research attention. The isolation of rural schools creates challenges, such as lack of

availability of and access to specialized services, teacher professional development, and onsite support, with a high percentage of teachers who are inexperienced or poorly prepared to deal with significant learning or behavioral challenges (Monk, 2007; Roeser & Midgley, 1997). Furthermore, supportive relationships with families/communities have been identified as one of the most important factors for rural school success (Barley & Beesley, 2007). CBC services can be instrumental in addressing unmet behavioral and social-emotional needs of students in rural settings (Owens et al., 2008), and new research is exploring interesting and important practice dimensions prevalent in rural settings.

# The Future: A CBC Research Agenda

Despite the increasing empirical support for the efficacy and social validity of CBC, clear and important research challenges remain. In light of increasing demands for accountability and evidence of empirical support for interventions implemented in school and other practice settings, the demand for broad and rigorous research is greater than ever. In this section, we address new and expanding research questions in need of investigation, as well as methodological requirements necessary to advance CBC research.

As can be expected, although the surge of research in CBC provides promising evidence of its effects and utility in applied settings, it also opens the door for more empirical investigation covering a broad and expansive scope. A current agenda for research in CBC includes the (a) delineation of new constructs inherent in or important to the model, (b) determination of active model ingredients that predict or influence outcomes, (c) specification and exploration of CBC's theory of change (including variables that mediate and moderate its effects), (d) evolution of broadened outcomes, and (e) increased use of rigorous research designs to test outcomes and explore related processes.

#### Operationalizing New Constructs in CBC Engagement

Within the mental health field, engagement is defined as a process through which families and providers connect and communicate information, needs, attitudes, and values (Mc-Ginty, Diamond, Brown, & McCammon, 2003). Family engagement in services for children has been linked to improved retention, satisfaction, and levels of participation (Hoagwood, 2005); reduced barriers to services (McKay & Bannon, 2004); increased access to interventions for children (Angold et al., 1998); improvements in parenting skills, knowledge, and parent-child interactions (Chadop-Christy & Carpenter, 2000); and positive outcomes for children (Kazdin & Whitley, 2003). Engagement is often conceptualized as consisting of a behavioral component (performance on specific tasks necessary for treatment) and an attitudinal component (emotional investment and commitment to treatment; Staudt, 2006). Parent and teacher engagement extends beyond involvement and includes behavioral and psychological indicators that demonstrate an active, long-term commitment to the student's learning and development. Within the CBC context, the construct of engagement may be indicated by parents' and teachers' specific actions that demonstrate commitment to children's behavioral change and to the consultation process, such as sharing relevant information, participating actively throughout consultation, and using positive parenting and instructional strategies. Psychological indicators of engagement may involve attitudes and perceptions that parents and teachers reflect toward the child's learning (e.g., expectations for learning) and during consultation (e.g., communicating respect, expressing an understanding of the perspectives of others).

In CBC, parent and teacher engagement has been operationalized through roles and responsibilities such as active participation in problem-solving and decision-making, communication and collaboration with co-consultees, and follow-through on methods to support learning outside of the consultation meetings. However, the lack of research on the influence of engagement within and around the CBC process has precluded its development as a viable target or component of treatment efforts or effects. It is possible that linking engagement strategies to the delivery of interventions may amplify the potential long-term impact of CBC for children, families, and teachers. This and related research directions are necessary to understand the influence of engagement as a potential predictor, mediator, or outcome of CBC effects. Furthermore, methods for the measurement of the construct with precision are necessary.

#### Continuity

Continuity across home and school environments is vital to promote children's learning and development and to enhance home-school partnerships (Pianta & Walsh, 1996). Early research found that children who experienced discontinuity across their home and school environments had difficulty making transitions and were at risk for poor school performance and mental health concerns (Phelan, Davidson, & Yu, 1998). Conversely, children at risk can experience behavior improvements when they receive congruent messages, expectations, goals, values, priorities, and supports from families, schools, and communities (Christenson & Sheridan, 2001).

Within CBC, continuity can be operationalized in several ways. Structural (contextual) continuity concerns the coordination and consistency among home and school systems in the way parents and teachers support children's learning (including communication and behavioral intervention implementation). Relational continuity is the degree to which parents and teachers feel connected to and in sync with one another, and the relationship they share on behalf of the child (including joining together to meet children's needs). Temporal continuity concerns the degree to which the effects of CBC maintain over time, including effects related to child behavior change and the parent-teacher relationship. There is a need to further operationalize, measure, and validate the continuity construct within CBC. Additional research can then explore the various forms of continuity as a dependent variable in CBC intervention research, the effects of continuity and discontinuity on CBC outcomes as a potential moderator of treatment effects, and whether certain types of continuity (e.g., structural, relational continuity) predict or mediate child behavior at home and at school.

# **Active Ingredients**

Many CBC studies (e.g., Galloway & Sheridan, 1994; Lasecki et al., 2008; Sheridan et al., 2001; Wilkinson, 2005) have explored the effects of CBC as a global intervention on desired student outcomes (i.e., behavioral, academic, social-emotional, health outcomes). Much more research using sophisticated designs is necessary to "unpack" elements of the inter-

vention that produce observed effects. Specifically, there is a need to identify "active ingredients" of CBC (Sheridan, Rispoli, & Holmes, in press). CBC active ingredients reflect the fundamental elements that operate to produce positive effects and are necessary to operationalize CBC as an independent variable in experimental research. To date, discussions of CBC have presumed the identified objectives or components of CBC have treatment utility, however, these presumptions have not been tested empirically and require systematic investigation to determine their functional role in producing desired effects. A list of potential active ingredients is presented in table 9.6; interested readers are referred to Sheridan et al. (in press) for more information.

#### Table 9.6. Proposed Active Ingredients of CBC

Relational Ingredients<sup>a</sup>

Encourage active participation and cooperation/collaboration among participants

Demonstrate sensitivity and responsiveness to participants

Reinforce participants' skills and competencies

Establish effective communication channels; engage in multidirectional communication

Share information that is pertinent to the child's development and facilitates the consultation process

Establish joint responsibility among participants

Make joint decisions throughout the consultation process

Structural Ingredients<sup>b</sup>

Identify strengths and needs of the child

Select and define a target behavior based on family and teacher priorities

Establish and agree upon data collection procedures

Ensure that data are collected, shared, and reviewed

Identify/confirm the function of the behavior through use of baseline or related data

Agree upon a goal for behavior change

Develop an intervention plan with specific procedures regarding implementation (who, when, where, how)

Verify that research evidence exists supporting use of the intervention at addressing the target behavior for students at a similar developmental level

Determine match between the function of the behavior and intervention selection

Support implementation of intervention plan across settings

Determine if the goal for behavior change was met across settings

Evaluate the effectiveness of the plan at producing change in the target behavior

Determine the need to continue, change, or remove the plan

- a. Objectives or elements of CBC intended to strengthen relationships between home and school; proposed direct outcome is a positive relationship/partnership between parents and teachers.
- b. Objectives or elements of CBC intended to structure effective problem solving among parents and teachers; proposed direct outcome is improvement in child performance.

# Testing Theories of Change

CBC research has focused primarily on its outcomes in controlled settings, with much less attention to variables responsible for or influential in its efficacy in practice. By definition, CBC is comprised of problem-solving practices led by a consultant to produce desired changes in a client. Thus, as an indirect model, it is implied that CBC operates through other mechanisms to produce direct outcomes on children's behaviors. To date, little research has been conducted exploring the pathways (i.e., mediators) by which these goals are achieved. (One notable exception is Sheridan et al. [2012a], who identified the teacher-

parent relationship as partially responsible for mediating the effects of CBC on social outcomes for students with behavioral concerns.) Figure 9.1 is presented as a theoretical model specifying the primary independent and dependent variables, potential mediators and moderators, and their hypothesized relationships within the CBC intervention. Below we define the research variables requiring specification to advance an empirical understanding of the efficacy of CBC.

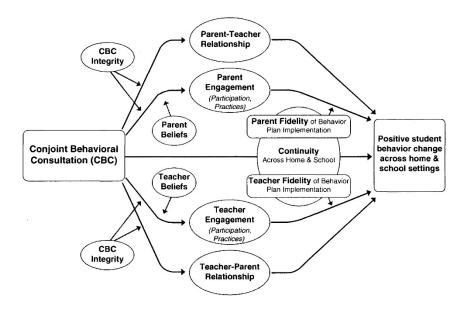


Figure 9.1. CBC's proposed theory of change.

#### Mediators

Developing and testing theories in the social and educational sciences requires speculation and exploration of mechanisms of change. To date, the pathways by which relevant variables operate to produce observed change have not been clarified completely. Exploration of pathways of influence allows us to identify mechanisms or mediators and how they work to effect change. Some proposed pathways or possible explanations for CBC's impact on desired outcomes are specified in figure 9.1.

Recent research has found that the parent-teacher relationship partially mediates the effects of CBC on the social and adaptive behaviors of students with externalizing concerns (Sheridan et al., 20l2a); however, the specific role of parent and teacher practices has not been investigated. It is possible that CBC directly influences parent and/or teacher practices, which leads to desired child outcomes (e.g., behavioral change). For example, improvements in teachers' and parents' engagement in CBC (e.g., active participation in the problem-solving sequence), changes in teachers' skills (including improvements in instruction or classroom climate), or enhanced parenting practices (such as effective use of praise, contingent reinforcement, or precision commands) may mediate the effects of CBC on student outcomes. Likewise, increased continuity in values, orientation, response style, and

strategy use between home and school might be at least partly responsible for (i.e., mediate) the observed effects.

#### **Moderators**

Just as the identification of mediators or mechanisms of change are important to identify in theory development, conditions under which the model operates effectively are key in determining its ultimate utility in broad and authentic practice settings. Moderators are variables that either amplify or buffer an intervention's effects. For example, integrity of the problem-solving process (i.e., a consultant's use of certain active ingredients that focus on problem solving, such as selecting and defining a target behavior based on family and teacher priorities, or supporting implementation of intervention plans across settings) may moderate parent and teacher skills and practices (Sheridan et al., in press). That is, improvements in teachers' and parents' practices may depend on CBC consultants' adherence to or quality of the use of these and other active ingredients addressing the problem-solving objectives of CBC. In like fashion, the integrity with which parents and teachers implement behavioral strategies may moderate observed changes in student behavior across the home and school settings (i.e., effects may be amplified under conditions wherein parents and teachers deliver intervention strategies with fidelity).

Similarly, the fidelity with which a consultant's use of certain active ingredients, such as encouraging cooperation among parents and teachers or reinforcing participants' skills and competencies, may moderate the development of a positive parent-teacher relationship. In other words, the development of a positive parent-teacher relationship may occur under conditions when consultants engage in certain behaviors (i.e., demonstrate certain active ingredients) intended to strengthen home-school partnerships (e.g., shared decision making and mutual goal setting). In this case, it is possible to explore whether the goal of strengthening parent-teacher relationships is achieved under conditions wherein consultants adhere to the relationship building ingredients of CBC, and do so with quality. At present, little to no research has explored these significant research questions within CBC. Given their presumed importance, such investigation is necessary.

Currently little is known about the influence of parents' and teachers' psychological variables on their propensity to engage in active and collaborative home-school decision-making efforts. Hoover-Dempsey and Sandler (1997) offered a model articulating the importance of parents' beliefs about their own role and ability to perform that role as precursors to active and meaningful involvement. Their model also addresses the relationship between teachers' beliefs about working with parents and the importance of parent involvement in learning. Future CBC research could investigate the degree to which these variables moderate consultee practices and CBC outcomes. Similarly, an investigation of the degree to which CBC affects these consultee variables (e.g., alters parent or teacher roles or enhances self-efficacy vis-à-vis cross-system partnerships and parental engagement in education) is in need of research attention.

# **Broadened Outcomes**

One of the stated goals of all forms of behavioral consultation, including CBC, is enhancing the skills and competencies of consultees. The basis for this goal lies in the assumption that

involvement in the CBC process instills new skills in parents and teachers, which can be transferred to their work with other children, in other settings, and with other behavioral concerns. These goals and assumptions have not been tested heretofore. A clear research gap exists related to what consultees learn as a function of their involvement, and how this learning generalizes beyond an immediate CBC case.

The effects of CBC on relationships between parents and teachers have been studied recently with encouraging findings. Additional research on relationships is necessary, including testing the effect of CBC on relationships between students and parents, and parents and their children. It is possible that features within CBC may enhance adult-child relationships. For example, the strength-based approach of CBC, a focus on solutions rather than problems, active participation in a child's education, and opportunities to learn about children's experiences across settings may influence adult-child relationships in very positive ways. These are important outcomes in need of research attention.

Given the promising immediate effects found in several CBC outcome studies, it is necessary to understand the long-term effects of the model. Whereas some studies have investigated short-term follow-up of CBC (e.g., Galloway & Sheridan, 1994; Sheridan et al., 1990), no research has extended the investigation of maintenance beyond a few weeks. Research is needed to determine the enduring effects of CBC interventions and procedures by which to ensure long-term outcomes. In addition, there is a need to examine the long-term effects of CBC on parent, teacher, and relational variables. Some of the identified consultee variables are worthy of long-term assessment, including the effects on parents' ongoing participation in their children's educational programs, and teachers' contin-ued use of home-school partnership practices.

#### Design Features in Future Research

As is evident from the discussion on scope and depth of research needs, the emerging needs and complex issues facing CBC researchers present significant challenges related to the design and analysis of empirical studies. It is no longer sufficient to ask questions such as "Does CBC work?" using traditional univariate or single-participant designs. To further advance the field, researchers must address the very daunting issues facing consultation (and CBC) services and attempt to understand a host of methodological issues.

Randomized trials have been regarded as the hallmark of intervention science. Such designs allow researchers to randomly assign participants to experimental and control conditions to test systematically the effects of interventions. Such designs increasingly are becoming the criterion for federally funded research and require serious consideration among consultation researchers. Within such designs, interactions between variables and the identification of significant predictors of meaningful outcomes are possible. Indeed, recent large-scale research using randomized trials has confirmed the efficacy of CBC (Sheridan et al., 2012a), with additional trials currently under way. Beyond these investigations, there is a need for effectiveness studies to identify factors necessary to bring models "to scale."

The inherent interactions among systems and participants need to be studied to understand the complex realities of consultation, including reciprocal and dynamic influences

and outcomes. Furthermore, longitudinal models that address growth over time, and particularly those that attend to the nested nature of research being conducted within classrooms and schools, are necessary to move the consultation field forward.

In addition to the increased use of rigorous quantitative methods in CBC research, qualitative features of the consultation process and relationships therein are worthy of investigation. Likewise, mixed methods (e.g., qualitative/quantitative; quantitative/single case design) can elucidate important aspects of CBC processes and outcomes in interesting and innovative ways. Such designs will allow more depth in understanding processes underscoring the intervention and its relationship to desired outcomes. Researchers are encouraged to embrace such complex designs with high levels of sophistication based on recommendations in sources such as Creswell (2002); Nastasi, Moore, and Varjas (2003); and Meyers and colleagues (this volume).

#### Conclusions

CBC is a structured, indirect model of service delivery wherein parents, educators, and consultants work collaboratively to meet children's developmental and learning needs, address concerns, and achieve positive outcomes by promoting the competencies of all participants (Sheridan & Kratochwill, 2008). It is operationalized via four stages aimed at: (a) identifying and prioritizing a child's target behavior, (b) setting goals and selecting intervention strategies that can be used cooperatively at home and school, (c) implementing a joint plan across home and school settings, and (d) evaluating the plan and monitoring the child's progress toward goals. CBC holds promise as an evidence-based parent consultation model (Guli, 2005; Sheridan et al., 2012a). Outcome research has demonstrated CBC to be an effective model for addressing the needs of children who are at-risk for academic, behavioral, and/or social difficulties. Furthermore, research indicates the CBC process establishes a collaborative context for joint problem-solving and planning. Parents, teachers, and school psychologists have identified CBC to be an acceptable model of service delivery in both hypothetical and naturalistic settings.

The continued evolution and empirical research activity related to CBC has yielded interesting and important findings, as well as the need for further investigation of processes and operative mechanisms of the CBC intervention. To advance the field, researchers should investigate new and complex issues using sophisticated research designs such as randomized trials, multilevel modeling, and mixed method approaches.

By its very design, CBC is positioned to address the growing demands on schools to be accountable for student outcomes and to form and sustain home-school partnerships. There is a clear need to establish and disseminate valid training guidelines to encourage school psychology programs and inservice agencies to embrace the CBC model. Research on such models or approaches will help us identify and understand ways to infuse the model into natural and authentic school and other practice settings.

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