

Conjoint Behavioral Consultation: Intervention Outcomes and Mediation of Parent-Teacher Relationships

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Introduction

- Children with emotional/behavioral problems are at high risk of long-term, pervasive problems, including school dropout, juvenile delinquency, and restricted educational placements (Kauffman, 1997; Shinn, Ramsey, Walker, Stieber, & O'Neill, 1987). Specific behaviors interfering with school success include noncompliance, negative social interactions with adults and peers, off-task behaviors, work refusal, and poor academic achievement (Walker et al., 1995). Nearly 50% of kindergarten students with behavior problems demonstrate continued problems that result in special education placement by 4th grade.
- According to an ecological-systems theory (Bronfenbrenner, 1979, 1992), families and schools together serve as the primary systems responsible for children's socialization and education. Accordingly, positive relationships and effective connections between families and schools are essential in children's optimal development (Hobbs, 1966).
- Methods for enhancing relationships and building collaborative partnerships include increasing opportunities for frequent and meaningful dialogue, engaging in shared goal setting and decision making, and delivering coordinated and consistent messages related to learning across home and school (Christenson & Sheridan, 2001).
- Families of students with social-emotional and behavioral problems are often poorly connected with schools or other service-delivery systems (Dishion & Stromshak, 2006). Also, few evidence-based models have been specified and validated that bring families and schools together in joint problem-solving and decision-making.
- Conjoint Behavioral Consultation (CBC; Sheridan & Kratochwill, 2008; Sheridan et al., 1996) is an indirect intervention which involves collaborative problem solving by a behavioral consultant, parent, and teachers. CBC has several core components:
 - Use of *structured problem solving* by a behavioral consultant,
 - Delivery of *evidence-based interventions* by parents and teachers in natural settings to address behavioral problems exhibited by a student, and
 - Integration of *family-school partnership practices* to strengthen relationships and promote cross-system cooperation, continuity, and support.
- Significance of the study
 - Efficacy of CBC has been demonstrated via single subject designs or small scale quasi-experimental design (Sheridan & Kratochwill, 2008). This is the first large-scale randomized clinical trial to investigate the efficacy of CBC and the pathway through which CBC is effective.

Study Goals

1. To evaluate the efficacy of CBC on children's externalizing problem behaviors, adaptive skills, and social skills.
2. To examine the parent-teacher relationship as a mediator between the CBC intervention and child behavior outcomes.

Methods

Participants

- 207 Kindergarten through 3rd grade students and their parents (n = 207) and teachers (n = 82) from 21 schools in a moderately-sized Midwestern city and surrounding communities

- Participating children were identified by teachers as having concerns related to disruptive behaviors (e.g., aggression, non-compliance).
- Participants' demographic characteristics are described in Table 1.

Table 1. Demographic Characteristics

		CBC (N=113)	Control (N=94)	Total (N=207)
Student Gender				
	Male	78%	77%	77%
	Female	22%	23%	23%
Student Ethnicity				
	White, non-Hispanic	69%	82%	75%
	African-American	11%	6%	9%
	Other	20%	12%	16%
Student Age				
	Mean (SD)	6.45 (1.08)	6.61 (1.13)	6.52 (1.11)
Behavior Severity (1-9)				
	Mean (SD)	6.82 (1.36)	6.48 (1.39)	6.66 (1.38)

Study Design

- Randomized experimental design with assignment to:
 - *Conjoint Behavioral Consultation condition*: A structured, indirect service delivery system involving a behavioral consultant who works with groups of 2-3 family members and teachers
 - *Control condition*: School support as typically provided by school personnel, including school psychologists, counselors, and specialists

CBC Implementation

- Within each CBC-assigned classroom, a consultant met with the teacher and 2-3 parents or 2-3 students for approximately 4-5 conjoint consultation sessions over approximately 8 weeks via 3 stages:
 - *Needs Identification and Needs Analysis (Building on Strengths)* – reviewed student, family, and school strengths; prioritized 1-2 target behaviors per student; identified and defined needs, settings, and goals; conducted functional behavior assessment; discussed information gathering; and selected strategies for change
 - *Plan Development (Planning for Success)* – discussed information collected by parents and teachers about identified behavior(s); developed a plan to address student needs; collected plan materials; discussed ways to support the plan at home and school; and gathered information
 - A *CBC Behavioral Strategies Toolkit* was developed with strategies selected based on their empirical support (Stage & Quiroz, 1997). *Standardized intervention components* used in behavioral plans included:
 - 56% Positive Reinforcement
 - 29% Antecedent/Environmental Control
 - 12% Skill Building
 - 3% Reductive Consequences

- *Plan Evaluation (Checking and Reconnecting)* – discussed progress made toward goals; evaluated the plan(s); and determined needs for plan continuation and/or changes

Measures

- *Behavior Assessment Scale for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004)* – Teacher Report
 - Externalizing problems composite (T-scores of $M = 50$, $SD = 10$)
 - Adaptive skills composite (T-scores of $M = 50$, $SD = 10$)
- *Social Skills Rating Scale (SSRS; Gresham & Elliott, 1990)* – Teacher Report
 - Total score (Standard scores of $M = 100$, $SD = 15$)
- *Parent-Teacher Relationship Scale II (PTRS-II; Vickers & Minke, 1995)* – Teacher Report
 - Total score (ranges: 1-5)
- Severity of behavior
 - Teacher rating of the severity of student's behavior concern prior to CBC (ranges: 1-9; Glover, Sheridan, Garbacz, & Witte, 2005)
 - Severed as a covariate

Analysis Plan

- Goal 1
 - A random coefficients regression model (i.e., multilevel model) that takes into account the nesting of time points within individuals and individuals within teachers was performed for each outcome variable.
 - The fixed effect of interest is a time by treatment group interaction. Significance of this coefficient indicates that the change over time is significantly different between the CBC and Control conditions.
- Goal 2
 - A path analysis was conducted using a bootstrap method (Shrout & Bolger, 2002).
 - Pre-test scores were added as covariates.

Results

Goal 1: CBC Effects on Child Behavior Outcomes and Parent-Teacher Relationships

- After controlling for pre-CBC behavior severity ratings, statistically significant differences in the change from pretest to posttest were found between the CBC and control groups for teacher-rated *Externalizing Behavior, Adaptive Skills, Social Skills, and Parent-Teacher Relationships* (See Table 2 and Figure 1).

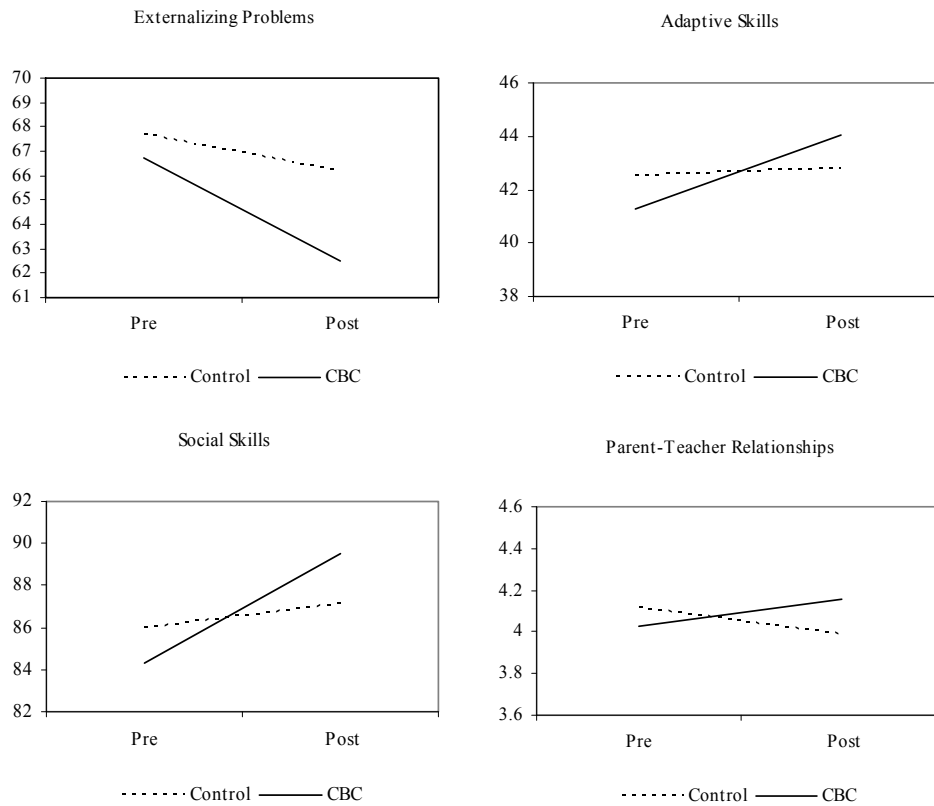
Table 2. Fixed Effect Solution for Multivariate Associative Growth Curve Models

Effect	Estimate	SE	Teacher Evaluations			Effect size
			DF	t	p	
<u>BASC Externalizing Behavior</u>						
Intercept (C)	67.65	1.14	43.8	59.58	0.00	
Severity	2.71	0.51	168.0	5.34	0.00	
Time (C)	-1.44	0.88	65.1	-1.63	0.11	
Group (ΔE-C)	-0.95	1.61	103.6	-0.59	0.56	
Time*Group (ΔE-C)	-2.78	1.29	154.6	-2.17	0.03	-0.34
<u>BASC – Adaptive Skills</u>						
Intercept (C)	42.52	0.88	40.4	48.08	0.00	
Severity	-1.18	0.35	159.6	-3.39	0.00	
Time (C)	0.24	0.53	61.9	0.45	0.66	
Group (ΔE-C)	-1.26	1.19	92.7	-1.05	0.29	
Time*Group (ΔE-C)	2.53	0.85	151.9	2.96	0.00	0.47
<u>SSRS – Social Skills Score</u>						
Intercept (C)	86.00	1.20	41.6	71.92	0.00	
Severity	-2.71	0.52	161.2	-5.23	0.00	
Time (C)	1.11	0.83	65.2	1.33	0.19	
Group (ΔE-C)	-1.70	1.89	102.0	-0.90	0.37	
Time*Group (ΔE-C)	4.15	1.42	156.8	2.92	0.00	0.44
<u>PTRS – Total Score</u>						
Intercept (C)	4.12	0.10	38.4	41.31	0.00	
Severity	-0.07	0.04	167.1	-1.85	0.07	
Time (C)	-0.13	0.05	66.2	-2.45	0.02	
Group (ΔE-C)	-0.09	0.13	81.9	-0.65	0.52	
Time*Group (ΔE-C)	0.26	0.07	151.3	3.55	0.00	0.55

Notes:

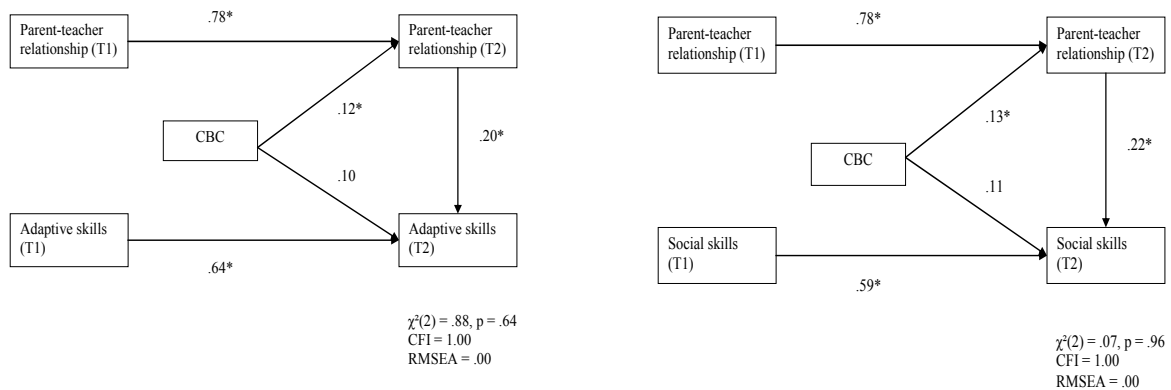
C = Control condition; E = CBC condition

Figure 1. Effects of CBC on Child Behaviors and Parent-Teacher Relationship: CBC and Control Conditions

**Goal 2: Parent-teacher Relationship as a Mediator of CBC on Child Outcomes**

- Significant indirect effects of CBC on child outcomes were found for adaptive skills (standardized indirect $\beta = .03$, $t = 2.12$, $p < .05$) and for social skills (standardized indirect $\beta = .03$, $t = 2.15$, $p < .05$). Mediation models are shown in Figure 2.
- Parent-teacher relationships partially mediated the effect of CBC on children's increased adaptive and social skills.

Figure 2. Mediation Models



Discussion

Summary

- Family-school partnerships are important in addressing behavioral concerns of students; however, interventions that build constructive partnerships have not been subject to extensive experimental research. The identification of evidence-based interventions for strengthening partnerships to address disruptive behaviors is essential. CBC is one such intervention that aims to build family-school partnerships to address children's behavioral concerns.
- Understanding *how* CBC operates to affect positive change in children, teachers, and parents is important; it will provide theoretical and practical implications regarding which components of the intervention should be promoted to produce positive outcomes.
- Study participants were referred by teachers as having behavioral concerns, and teachers reported significant changes in students' behaviors after implementing CBC. According to teacher report, compared to students in the control group, students in the CBC group demonstrated *greater decreases in externalizing problems* and *greater increases in adaptive behaviors and social skills* over time.
- Compared to teachers in the control group, teachers in the CBC group also reported *greater increases in relationships with parents* over time.
- Mediation analyses indicated that increase in parent-teacher relationships as a function of CBC, in turn, led to increase in children's adaptive skills and social skills. That is, positive child behavior changes as a function of CBC are partly contributed to increase in parent-teacher relationships.

Limitations

- Measures are based on teacher report only; making it difficult to disentangle method variance. Data collected via direct observations in classrooms are still being analyzed.
- Measures of parent-teacher relationships are based on self-report only. Actual behavioral indicators of teacher and parent engagement and communication would provide objective validation of the results.
- Limited information is available on the specific services provided to participants in the control condition.

Future Directions

- Methods for analyzing individual student observational data collected over repeated time points are being identified.
- Maintenance of outcomes after one year is currently being investigated.
- Variables that moderate the effects of CBC on student outcomes are in need of investigation to answer questions pertaining to person and context – that is, *for whom* and *under what conditions* CBC is effective.
- Sensitive, objective measures of specific constructs related to parent-teacher relationships and partnerships are necessary (e.g., parent/teacher engagement; cross-system continuity).
- The investigation of the efficacy of CBC in other educational contexts where specialized services are less available, accessible, and available (e.g., rural school settings) is necessary before taking CBC to scale.

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