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Preliminary Effects of Conjoint Behavioral Consultation in Rural Communities¹

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Introduction

- Parental engagement in educational interventions and family-school partnerships are related to several important academic and behavioral outcomes for students (Aeby, Manning, Thyer, & Carpenter-Aeby, 1999; Galloway & Sheridan, 1994; Grolnick & Slowiaczek, 1994; Ma, 1999; Masten & Coatsworth, 1998; Trusty, 1999). They are critical for students with or at risk of developing behavioral problems.
- Families in rural communities are often poorly connected to schools due to challenges associated with geographic isolation, poverty, inexperienced staff, inadequate resources, scheduling challenges, and low parental education (Brody, Stoneman, & Flor, 2005; Kushman & Barnhardt, 2001; Weiss & Correa, 1996). This creates problems with the access, availability, and acceptability of services (DeLeon, Wakefield, & Hagglund, 2003).
- Teachers in rural schools often have to extend their responsibilities to meet student's behavioral needs (Roeser & Midgley, 1997), and report feeling ill-equipped to provide focused services to students with learning and behavior concerns (Monk, 2007).
- Parents are essential partners for meeting the needs of students in rural schools; cross-system interventions in rural communities may be particularly beneficial for children, parents, and teachers (Semke & Sheridan, 2012).
- Rural schools may struggle to successfully connect with parents. Rural parents interact with their children and teachers about schooling less often than parents in other geographic regions (Prater, Bermudez, & Owens, 1997). Teachers in rural communities report that they lack the training to communicate productively with parents (Agbo, 2007).
- There is a lack of empirical research on family-school connections in rural settings (Prater et al., 1997), limiting our ability to understand the impact of family-school partnerships on rural schools with unique characteristics (Semke & Sheridan, 2012).
- *Conjoint behavioral consultation* (CBC; Sheridan & Kratochwill, 2008) may address barriers and create meaningful partnerships between rural parents and teachers. In CBC:
 - Parents and teachers serve as joint consultees.
 - Problems are identified, defined, analyzed, and treated through mutual and collaborative parent-teacher interactions with the assistance of a consultant.
 - Partnerships are formed, creating opportunities for families and schools to work together around a common interest and build upon strengths of family members and school personnel.
- Decades of CBC research has documented its positive effects for improving behavioral, academic, and social-emotional functioning across demographically diverse samples (Sheridan et al., 2012; Sheridan, Clarke & Burt, 2008; Sheridan, Eagle & Doll, 2006).

- The efficacy of CBC in settings where specialized consultation services are sparse (i.e., rural schools), and where students, families and schools are characteristically distinctive, has not been explored.

Purpose of Study and Research Questions

- To investigate the preliminary effects of CBC on decreasing problematic behaviors for rural students at home and school.
- To explore unique aspects of individual case studies and discern elements of the rural experience that may influence CBC implementation and uptake.

Research Question 1: What are the general effects of CBC in rural settings on behavioral outcomes of students with or at risk of developing emotional and behavioral disorders?

Research Question 2: What unique relational or structural variables in rural settings influence the implementation of CBC in these schools?

Method

Participants

- The present subsample is derived from the first two years of implementation of a four-year RCT. *Data are considered very preliminary.*
- Kindergarten through 3rd grade students (see Table 1) and their parents ($n=90$) and teachers from 20 schools in Midwestern rural areas participated.
 - Participating students were identified by teachers as having disruptive behavior concerns (e.g., aggression, non-compliance)
 - Screening for inclusion in the study was assessed using a multi-gate procedure:
 - *Systematic Screening for Behavior Disorders* measure (SSBD; Walker & Severson, 1990), and/or
 - A researcher-developed scale of problem behavior severity, frequency and need for intervention (Glover, Sheridan, Garbacz, & Witte, 2005)
 - Teachers ($n=54$) were randomly assigned to treatment and control groups; all students within a classroom were assigned accordingly.
- Two data-based case studies were also examined:
 - Case 1 (“Steven,” 6 years old, Grade 1):

- CBC services focused on improving the student’s ability to follow directions at both home and school.
 - Steven lived in a low-income single-parent household with his mother and received additional social support through Medicaid and free/reduced school lunches.
 - Two other sets of parents in the same school. All three sets of parents knew each other prior to CBC services because they attended the same rural Midwestern school as children. Due to this dynamic, initial discomfort was reported by some of the parents.
 - Intervention plan for Steven included praise for compliance, chunking work, issuing effective commands, providing rewards for meeting his daily goal and a home-school note.

- Case 2 (“Paul,” 5 years old, Grade 1):
 - Referred for CBC for noncompliant and disruptive behaviors.
 - Paul lived in a low-income household with his step-mother and received several social supports (i.e., Medicaid, free/reduced lunch).
 - CBC services were sought out because there was no other support available to the school. Typical and available school services were largely insufficient to address Paul’s problem behaviors given their frequency and intensity.
 - Parent participation was a significant concern given concern with the drug use occurring in the home. Low expectations for parental follow through with plan strategies and meeting attendance were evident.
 - Intervention plan for Paul included praise for compliance, chart moves, planned breaks, an afterschool routine checklist, providing rewards for meeting his daily goal and a home-school note.

Procedure

- Within each CBC-assigned classroom, a consultant met with a teacher and parents of 1 to 3 students for CBC meetings via 3 primary phases:
 - Needs Identification: Student, family, and school strengths and concerns were reviewed; priority behaviors were identified; antecedent, consequent, and sequential variables were discussed; shared goals were determined; and baseline data collection procedures were established.

- Needs Analysis/Plan Development: Baseline data were reviewed, an intervention plan was designed collaboratively for home and school, and a plan for continued progress monitoring was determined.
- Plan Evaluation: Progress monitoring data were examined and the attainment of shared goals determined; the need to continue, modify, or terminate the home and school intervention plans was discussed; arrangements were made for future meetings; and procedures to continue the partnership were determined.
- Control group participants received treatment as usual.

Measures

- *Behavior Assessment Scale for Children, 2nd Edition (BASC-2; Reynolds & Kamphaus, 2004)*. Parents and teachers completed the BASC-2 pre- and post- participation in the consultation process.
- *Parent Daily Report (PDR; Chamberlain & Reid, 1987)* of 34 possible behaviors (e.g., arguing, defiance, teasing). Independent observers and consultants made phone calls to parents approximately twice weekly for a total of 10 reports. Parents reported which of the specified behaviors their child exhibited within the last 24 hour period.
- *Performance Rating Scale (PRS; Steege, Davin, & Hathaway, 2001)*. Parents and teachers complete the PRS daily, rating the student's target behavior at home and school, respectively. Each target behavior is rated on a 5-point Likert-type scale with items being rated as: 1 = *Worst possible outcome*; 2 = *Worse than normal outcome*; 3 = *Typical outcome*; 4 = *Better than normal outcome*; 5 = *Best possible outcome*.

Analysis Plan

- To analyze the effects of CBC on student behavior at home and school:
 - Independent group *t*-tests assessed differences between treatment and control groups
 - Repeated measures *t*-tests evaluated change in scores from pre- to post-test.
 - Effect sizes are reported as *d* and r^2 , respectively.
- To analyze case study data, case features and case outcomes were reported:
 - Descriptive analyses of two cases explored individual features of students, families, and classrooms within rural settings and their influence on CBC practice and outcomes.
 - Mean changes in behavioral data were analyzed across baseline and treatment phases in both the home and school.

Results

Research Question 1: What are the general effects of CBC in rural settings on behavioral outcomes of students with or at risk of developing emotional and behavioral disorders?

- Preliminary Group Results
 - BASC – Teacher Report (see Tables 2 and 3)
 - Significant *group differences* in favor of CBC students on key constructs of internalizing problems and behavioral symptoms, as well as several subscales.
 - Significant *changes over time* on key constructs of adaptive skills, behavioral symptoms, externalizing problems, internalizing problems, and school problems, as well as several subscales.
 - Parent Daily Report (see Table 3)
 - Significant *changes over time* evident for treatment but not control students on total behavior problems at home, and individual items of arguing, defiance, noncompliance, and tantrums.

Research Question 2: What unique relational or structural variables in rural settings influence the implementation of CBC in these schools?

- Exemplar Case Studies Results
 - Unique rural issues identified across cases:
 - Lack of specialized supports or training to address significant behavioral challenges
 - Limited school-based resources
 - Difficulties with objectivity and confidentiality
 - Lack of trust between home and school that both parties are making efforts to improve child behavior
 - Family stress and the deleterious effects of poverty
 - Student Outcomes
 - Steven (see Figure 1)

- PRS-rated compliance behaviors improved from a rating of 2.33 at baseline (at home and school) to 3.45 and 3.75 in the final treatment phase at home and school, respectively.
- Mother and teacher continued to communicate through the home and school note designed through CBC.
- Steven's teacher and mother reported that the home-school notes were helpful in informing each other about what was occurring in the other setting.

Paul (see Figure 2)

- Home compliance behavior improved from a rating of 1.43 at baseline to 3.44 during CBC.
- School compliance behavior improved from a rating of 1.56 at baseline to 3.42 during CBC.
- Paul's teacher and principal reported they were surprised and impressed with his mother's willingness to contribute to the development of intervention procedures, and the fidelity with which she implemented the home plan.
- Paul's mother expressed appreciation for the school's efforts to support his behavioral and academic progress.

Discussion

- CBC appears promising in producing positive effects for students with behavioral challenges in rural schools.
 - *Significant differences between groups* are indicated at school across several behavioral concerns.
 - *Significant changes over time* are suggested at home and school for CBC but not control participants.
- Results were corroborated through individual case study data demonstrating positive trends on performance ratings of target behaviors made by parents and teachers.
- CBC appears feasible and effective within rural school contexts. Structural and relational challenges associated with living in small rural communities with few resources and limited opportunities appear to be partly addressed through CBC:
 - Services that support student goal attainment, teacher implementation of effective programs, and parent skills and practices are not commonly available in rural

schools/community settings, and are seemingly important aspects of CBC's benefits in rural contexts.

- Relationship variables unique to rural settings (small communities, perceptions and attitudes of participants based on generational histories) were effectively addressed through the partnership-building strategies used by consultants.
- Frequent contact, constructive problem solving, mutual input toward solutions, individual roles and responsibilities, and home-school communication may be important to increase trust and alter negative attitudes.
- Limitations of the current study require caution in interpreting results:
 - Data represent two years of a four-year randomized clinical trial. Full interpretation of results is not possible until the full trial is complete and appropriate analytic methods employed.
 - Case study data reflect simple AB series, which do not provide adequate controls for several threats to internal validity. They should be interpreted as illustrative exemplars of case implementation only, used to corroborate group data on an individual case basis.
 - No information is available at this time on parent and teacher practices (e.g., classroom practices, parenting strategies).
 - Integrity of CBC and behavior plan implementation were not analyzed for current purposes.
- Future research is necessary to:
 - Further establish the efficacy of CBC in rural settings.
 - Better understand the process through which relational and structural components of CBC impact student outcomes and parent and teacher practices, beliefs, attitudes, and relationships in rural communities.
 - Continue to discern unique and specific characteristics of rural settings that impact the implementation of CBC and the mechanisms of CBC that address these characteristics.
 - Determine the factors in rural communities that influence the fidelity of CBC and intervention plan implementation.

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Table 1

Demographic Characteristics of Students

	Total (n=90)	CBC (n=58)	Control (n=32)
Mean (SD) Age	6.90(1.19)	6.90(1.20)	6.69(1.18)
Gender			
Male	82%	83%	81%
Female	18%	17%	19%
Ethnicity			
White, non-Hispanic	91%	89%	94%
African American	2%	2%	3%
Hispanic/Latino	6%	7%	3%
Other	1%	2%	0%
Grade Level			
K	28%	28%	28%
1	21%	19%	25%
2	30%	31%	28%
3	21%	22%	19%
Risk Factors			
Non-English Language at Home	1%	0%	3%
< Two Adults in the Home	23%	24%	22%
Maternal Education < High School	10%	9%	13%
Low Income	46%	41%	53%
Student Level of Risk			
0 risk factors	43%	47%	38%
1 risk factor	37%	36%	38%
2 risk factors	17%	14%	22%
3 risk factors	3%	3%	3%
Disability Status			
Clinical Diagnosis/Receives Special Education Services	64%	66%	63%

Table 2

Significant Group Differences at Post-Test

Measures	<i>n</i>	<u>Treatment</u>		<i>n</i>	<u>Control</u>		<i>t</i>	<i>d</i>
		<i>M</i>	<i>SD</i>		<i>M</i>	<i>SD</i>		
BASC-Teacher Report								
Anxiety	35	45.89	6.30	22	53.86	13.69	2.99**	0.75
Depression	35	53.97	9.97	21	62.33	16.23	2.39*	0.62
Atypicality	35	57.06	11.37	22	64.82	17.84	2.01*	0.52
Internalizing Problems	35	50.83	9.31	22	58.41	17.41	2.14*	0.54
Behavioral Symptoms Index	35	60.43	9.14	22	69.95	15.86	2.88**	0.74

* $p < .05$ ** $p < .01$

Table 3

Significant Gains for Treatment Group from Pre-Test to Post-Test

Measure	<i>n</i>	<i>M</i>	Pre		Post		<i>t</i>	<i>r</i> ²
			<i>SD</i>	<i>M</i>	<i>SD</i>			
Parent Daily Report								
Total	61	8.91	4.46	6.53	4.41	6.39**	0.41	
Arguing	61	0.71	0.29	0.55	0.34	3.98**	0.21	
Defiance	61	0.39	0.36	0.29	0.32	2.50*	0.10	
Noncompliance	61	0.56	0.37	0.38	0.36	3.97**	0.21	
Tantrums	61	0.28	0.34	0.14	0.23	3.50**	0.17	
BASC-Teacher Report								
Hyperactivity	34	68.53	8.05	62.18	7.62	5.07**	0.44	
Anxiety	34	48.94	8.66	45.97	6.38	2.86**	0.30	
Depression	34	57.91	9.67	54.00	10.14	3.57**	0.46	
Attention Problems	34	64.44	5.32	59.15	6.16	5.32**	0.16	
Learning Problems	29	57.17	9.94	55.10	9.66	2.30*	0.17	
Withdrawal	34	59.85	11.98	56.03	9.74	2.59*	0.12	
Adaptability	34	40.88	7.80	43.29	8.62	2.06*	0.34	
Social Skills	34	39.91	6.23	44.53	6.77	4.14**	0.26	
Externalizing Problems	34	65.91	7.46	62.03	8.99	3.38**	0.26	
Internalizing Problems	34	53.86	9.36	50.82	9.45	3.32**	0.24	
School Problems	29	61.52	7.38	57.83	7.10	4.43**	0.41	
Behavioral Symptoms Index	34	65.56	8.15	60.35	9.26	4.51**	0.38	
Adaptive Skills	33	38.91	6.52	41.88	6.37	2.73*	0.19	

* $p < .05$ ** $p < .01$

Figure 1. Steven home and school PRS-rated target behavior data.

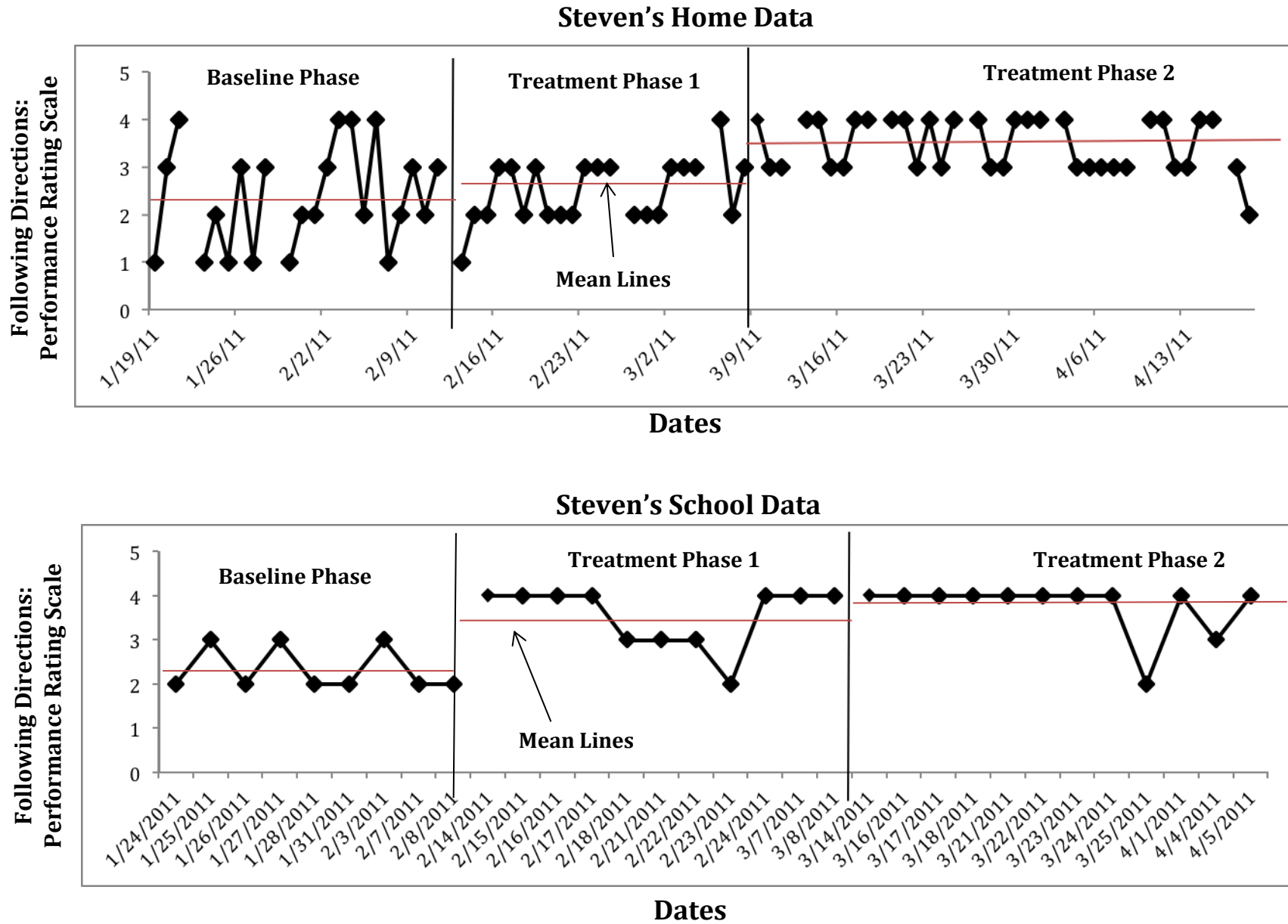


Figure 2. Paul's home and school PRS-rated target behavior data.

