



National Center for **Research** on  
**Rural** Education (R<sup>2</sup>Ed)

---

R<sup>2</sup>Ed Working Paper 2013-4

## **The Impact of Teacher Motivation for Intervention on Rural Student Behavioral Outcomes <sup>1</sup>**

Amanda L. Witte, Michael J. Coutts, Shannon R. Holmes, & Susan M. Sheridan

**November, 2013**

<sup>1</sup>Development of this working paper was completed at the National Center for Research on Rural Education (R<sup>2</sup>Ed), funded by a grant from the U.S. Department of Education's Institute of Educational Sciences (R324A100115). The paper was presented originally by the authors at the 2013 Rural Futures Conference. The statements made herein are those of the developers and are not meant to represent opinions or policies of the funding agency.

**R<sup>2</sup>Ed working papers are available online at [r2ed.unl.edu/resources\\_workingpapers.shtml](http://r2ed.unl.edu/resources_workingpapers.shtml)**

**Recommended citation:**

Witte, A. L., Coutts, M. J., Holmes, S. R., & Sheridan, S. M. (2013). The impact of teacher motivation for intervention on rural student behavioral outcomes (R<sup>2</sup>Ed Working Paper No. 2013-4). Retrieved from the National Center for Research on Rural Education: [r2ed.unl.edu](http://r2ed.unl.edu)

## Introduction

- By definition, rural schools are geographically isolated, creating a unique set of challenges for educators responsible for diverse needs of nearly 22% of our nation's children (Johnson & Strange, 2007).
- Rural schools tend to be hard-to-staff with high teacher turnover and a high percentage of inexperienced or poorly prepared teachers (Monk, 2007).
- Social-emotional and behavioral problems of children are prevalent among children and adolescents in rural America (Herzog & Pitman, 1995).
- Despite the need programs and services to address problems in rural schools are often poorly developed, ineffective, or fragmented (Moore, 2001).
- Rural schools have a below-average share of highly trained teachers including special education teachers to serve students with emotional and/or behavior disorders, and they struggle to provide specialized services (Monk, 2007).
- One promising option for meeting rural students behavioral needs is Conjoint Behavioral Consultation (CBC; Sheridan & Kratochwill, 2008), a family-school partnership intervention.
- Family-school consultation services, linking parents and educators in shared responsibility for implementing evidence-based strategies can be instrumental in addressing unmet behavioral and social-emotional needs of students in rural settings (Owens et al., 2008).
- School-based, family-linked programs improve access to and utilization of services (Atkins et al., 2006), and reduce symptoms in children with behavioral problems (CPPRG, 1999; Owens et al., 2005).
- The benefits of CBC for students with behavior concerns are well supported by the literature (e.g., Sheridan et al., 2012).
- However, few studies have investigated the adult factors which influence CBC's success despite the fact that it is adults who deliver the intervention.
- Adult motivation to participate in interventions contributes to treatment integrity has been proposed as a critical factor for intervention implementation and ultimately child success (Nock & Photos, 2006).
  - Interventions for children are effective only to the extent they are implemented with integrity by stakeholders (Noell, 2008).

- Understanding the link between teacher motivation for participation in CBC and student outcomes is particularly salient in rural schools where teachers often have inadequate resources (Jerald, 2002), and where teacher turn-over rates are high (Monk, 2007).

### **Purpose**

- Examine how motivation for change among rural teachers impacts the success of Conjoint Behavioral Consultation (CBC; Sheridan & Kratochwill, 2008), a family–school partnership intervention, for decreasing disruptive behaviors of rural students.
  - The primary research question asks—Does teacher motivation moderate the effectiveness of CBC for improving student behavior?
- This study helps to clarify the conditions under which family-school partnership interventions are most effective.
  - That information will be essential to ensuring that this promising intervention can be adapted to meet the unique needs of rural teachers, families, and students.

### **Method**

#### **Participants**

- A sample of 115 kindergarten through 3<sup>rd</sup> grade students, their families and teachers was drawn from a larger experimental study investigating the efficacy of CBC in rural communities.
- Teachers were predominantly white non-Hispanic and female.
- Teachers were randomly assigned to a treatment group (received CBC) or control group (treatment as usual), and the participating students within a classroom were assigned accordingly.

#### **Procedures**

##### *Conjoint Behavioral Consultation*

- CBC is a structured indirect form of support in which teachers and parents work together to promote adaptive behaviors and decrease disruptive behaviors.
- CBC process lasts approximately 8-12 weeks.
- Within each CBC-assigned classroom, a consultant met with a teacher and parents of participating students for CBC meetings via a 4-stage process operationalized by semi-structured *conjoint* interviews. See Table 1 for description of CBC objectives. CBC stages are:

- Needs Identification and Analysis
- Plan Development
- Plan Implementation
- Plan Evaluation
- Through the CBC process teachers develop and implement a behavior plan in their classrooms which consists of 3 components—home-school communication, behavioral function, and rewards.
- Control group participants received treatment as usual.

### **Data Collection**

- Upon enrollment in the study, rural teachers completed a questionnaire assessing their motivation to participate in intervention.
- A teacher questionnaire assessing student conduct problems and externalizing problems was assessed at 4 time points across 2 academic years:
  - Year 1
    1. At enrollment (pre-intervention)
    2. 12-weeks after enrollment (post-intervention)
  - Year 2
    3. Fall of the academic year (initial follow-up)
    4. Spring of academic year (second follow-up)

### **Measures**

- Teacher Motivation Inventory (TMI; adapted from Nock & Photos, 2006)
- Behavior Assessment System for Children, 2<sup>nd</sup> Edition (BASC-2; Reynolds & Kamphaus, 2004)

### **Analysis**

- Variables

- Independent variable: Conjoint Behavioral Consultation (CBC; Sheridan & Kratochwill, 2008)
  - CBC, family-school partnership intervention, involves teachers working with parents and a consultant to design and implement behavioral interventions.
  - Students were randomly assigned to treatment condition—CBC intervention or control condition – “business as usual”.
- Dependent variable: Student behavior outcomes
  - assessed using the BASC at 4 time points.
- Moderating variable: Teacher motivation
  - Using a mean split of teacher motivation scores teachers were divided into two group—high motivation and low motivation.
- Analysis of Variance (ANOVA) was used to reveal interaction effects among the variables.
  - ANOVA is a statistical method involving the comparison of variances reflecting different sources of variability (Keppel & Wickens, 2004).

### **Results**

- Results indicated teacher motivation moderated the effects of conjoint behavioral consultation (CBC) on rural students’ disruptive behaviors.
- Specifically, students who received CBC and whose teachers reported *high* levels of motivation received lower ratings of conduct problems ( $p=.0577$ ) and externalizing problems ( $p=.0698$ ) than students who received CBC and whose teachers reported *low* levels of motivation. See Tables 2 and 3 and Figures 1 and 2.
- Although treatment student negative behavior decreased in both motivation conditions (i.e., low and high) from time point 1 to time point 2, improvements in behavior from time point 1 to time point 4 were significantly greater in the condition where teacher motivation was high, indicating teacher motivation moderates the effectiveness of CBC over time.

### **Discussion**

- Results suggest increasing teacher motivation for intervention in rural communities may contribute to increased effectiveness of CBC.

- As expected all students who received CBC demonstrated reduced negative behavior relative to students in the control group but students who received CBC and had high teacher motivation showed the greatest improvement over time.
- Students in the control group showed either an increase or no change in negative behavior from time point 1 to time point 2. Interestingly their scores decreased a time point 3 but rebounded at time point 4.
- The longitudinal nature of the study provides important insight into the long-term implications of teacher motivation for participation in CBC.
  - Because the students participated across two different academic years, two different teachers completed the student behavioral outcomes measure (BASC).
  - This suggests that teacher motivation affected long-term student behavior even when rated by other teachers.

### **Limitations and Future Directions**

- The patterns of behavior change were unique across all four groups (treatment low motivation, treatment high motivation, control low motivation, and control high motivation) Further investigations are need to determine if these patterns hold in future studies.
- The scope of this study did not allow for direct investigation of treatment integrity and its relationship to teacher motivation.
  - Because of the hypothesized link between motivation and treatment integrity future studies are need to analyze this link overtly.
- Although this study compared low and high teacher motivation groups, all participating teachers indicated relatively high levels of motivation limiting variability.
  - Studies are needed that actively manipulate teacher motivation for intervention to test for intervention effects for teachers with low, medium and high motivation.
- Future studies should continue to investigate the relationship between teacher motivation for intervention and child outcomes.

## References

- Atkins, M. S., Frazier, S. L., Birman, D., Adil, J. A., Jackson, M., Graczyk, P. A., et al. (2006). School-based mental health services for children living in high poverty urban communities. *Administration and Policy in Mental Health and Mental Health Services Research*, 33, 146-159.
- Conduct Problems Prevention Research Group (CPPRG) (1999). Initial impact of the Fast Track prevention trial for conduct problems: II. Classroom effects. *Journal of Consulting and Clinical Psychology* 67(5): 648-657.
- Herzog, M. J., & Pittman, R. B. (1995). Home, family, and community: Ingredients in the rural education equation. *Phi Delta Kappan*, 77(2), 113-118.
- Jerald, C. D. (2002). All talk, no action: Putting an end to out of field teaching. *The Education Trust* [On-line]. Available from <http://www.edtrust.org/main/document/AllTalk.pdf>
- Johnson, J., & Strange, M. (2007). Why rural matters 2007: The realities of rural education growth. US: Rural School and Community Trust.
- Keppel, G. and Wickens, T.D. (2004). *Design and analysis: A researchers handbook (4th ed.)*. Englewood Cliffs, NJ: Prentice-Hall.
- Moore M. (2001). Empowerment at last? *Journal of International Development* 13(3), 321–329.
- Monk, D. (2007). Recruiting and retaining high-quality teachers in rural areas. *The Future of Children*, 17, 155-174.
- Nock, M. K., & Photos, V. (2006). Parent motivation to participate in treatment: Assessment and prediction of subsequent participation. *Journal of Child and Family Studies*, 15, 345-358.
- Noell, G.H. (2008). Research examining the relationships among consultation process, treatment integrity, and outcomes. In W. P. Erchul & S. M. Sheridan (Eds.), 135 *Handbook of Research in School Consultation: Empirical Foundations for the Field*. Mahwah, NJ: Erlbaum.
- Owens, J. S., Murphy, C. E., Richerson, L., Girio, E. L., & Himawan, L. K. (2008). Science to practice in underserved communities: The effectiveness of school mental health programming. *Journal of Clinical Child and Adolescent Psychology*, 37, 434-447.
- Owens, J. S., Richerson, L., Beilstein, E. A., Crane, A., Murphy, C. E., & Vancouver, J. B. (2005). School-based mental health programming for children with inattentive and disruptive behavior problems: First-year treatment outcome. *Journal of Attention Disorders*, 9, 261–274.



- Reynolds, C. R., & Kamphaus, R. W. (2004). *Behavior Assessment System for Children, Second Edition (BASC-2)*. Circle Pines, MN: AGS Publishing.
- Sheridan, S. M., Bovaird, J. A., Glover, T. A., Garbacz, S. A., Witte, A., & Kwon, K. (2012). A randomized trial examining the effects of conjoint behavioral consultation and the mediating role of the parent-teacher relationship. *School Psychology Review, 41*, 23-46.
- Sheridan, S. M., & Kratochwill, T. R. (2008). *Conjoint behavioral consultation: Promoting family-school connections and interventions*. New York: Springer.

Table 1

*Objectives of Conjoint Behavioral Consultation Stages*

Interview	Objectives
Needs Identification/Analysis	<ul style="list-style-type: none"> <li>• Jointly identify and define student’s needs</li> <li>• Determine a primary behavior to address (target behavior) for initial intervention</li> <li>• Collaboratively develop appropriate goals for target behavior across home and school</li> <li>• Discuss what is happening before and after the target behavior, as well as specific patterns that occur, during the focused time/setting</li> <li>• Jointly establish a procedure to collect baseline data across settings</li> </ul>
Plan Development	<ul style="list-style-type: none"> <li>• Collaboratively develop a plan built upon strengths and competencies to address the target behavior across home and school</li> <li>• Learn plan implementation skills as necessary</li> </ul>
Plan Implementation	<ul style="list-style-type: none"> <li>• Implement agreed-upon intervention across home and school settings</li> <li>• Make immediate modifications to plan as necessary</li> <li>• Assess immediate changes in student’s behavior</li> </ul>
Plan Evaluation Interview	<p>Determine if the goals for the priority behavior have been met.</p> <ul style="list-style-type: none"> <li>• Discuss effective elements of the intervention plan.</li> <li>• Discuss continuation/termination of plan.</li> <li>• Schedule additional interview if necessary, or terminate consultation.</li> </ul>

Table 2

*Fixed Effects Solution for Conduct Problems*

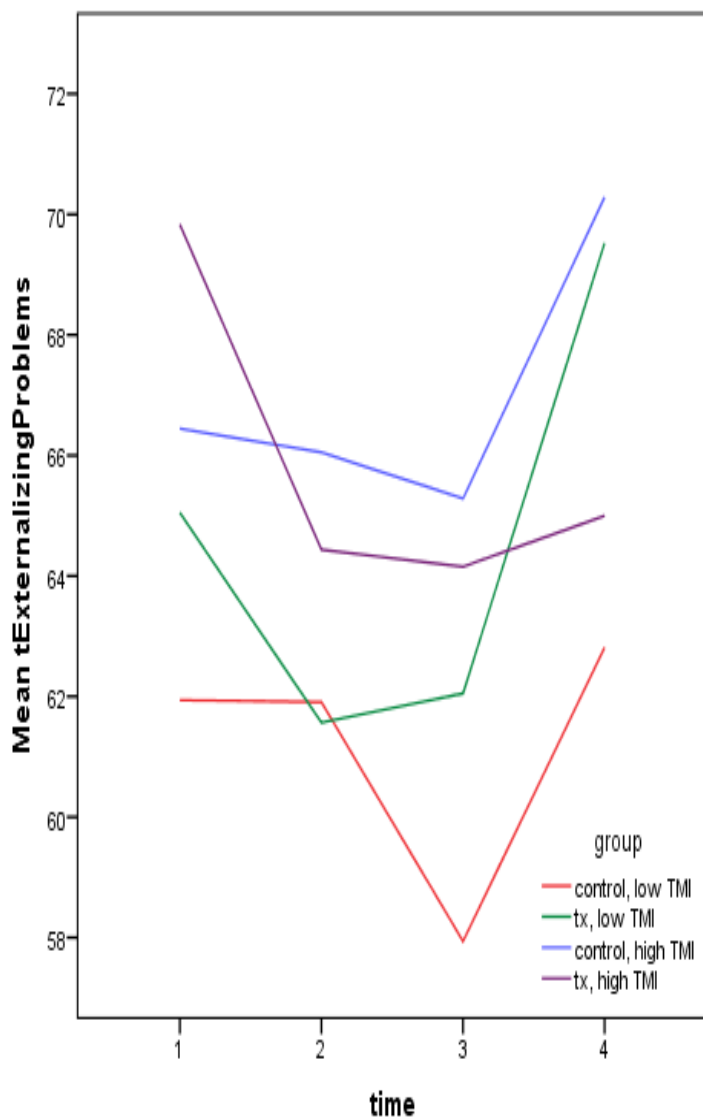
Effect	Est.	SE	df	t	p
Intercept	53.7116	4.1895	328	12.82	<.0001
Treatment Group	-0.6078	5.6571	328	-0.11	.9145
Time	-0.8771	2.6934	328	-0.33	.7449
Treatment Group * Time	6.0050	3.5815	328	1.68	.0946
Teacher Motivation	4.1787	2.9543	328	1.41	.1582
Treatment Group * Teacher Motivation	2.2290	3.8075	328	0.59	.5587
Time * Teacher Motivation	1.2658	1.9300	328	0.66	.5124
Treatment Group * Time * Teacher Motivation	-4.7693	2.5038	328	-1.90	.0577

Table 3

*Fixed Effects Solution for Externalizing Problems*

Effect	Est.	SE	df	t	p
Intercept	57.6611	3.9819	354	14.48	< .0001
Treatment Group	-0.4414	5.2378	354	-0.08	.9329
Time	-1.3627	2.5946	354	-0.53	.5998
Treatment Group * Time	5.6410	3.4097	354	1.65	.0989
TMI1	4.0518	2.7763	354	1.46	.1453
Treatment Group * TMI1	1.7020	3.5155	354	0.48	.6286
Time * TMI1	1.1073	1.8490	354	0.60	.5497
Treatment Group * Time * TMI1	-4.3277	2.3800	354	-1.82	.0698

**Figure 1.** *Rate of Change in Student Externalizing Problems as a Function of Teacher Motivation*



**Figure 2.** *Rate of Change in Student Conduct Problems as a Function of Teacher Motivation*

