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### Conjoint Behavioral Consultation with Latinx Families and Children: What Works for Whom?

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CONJOINT BEHAVIORAL CONSULTATION WITH LATINX FAMILIES AND  
CHILDREN: WHAT WORKS FOR WHOM?

by

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A DISSERTATION

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CONJOINT BEHAVIORAL CONSULTATION WITH LATINX FAMILIES AND  
CHILDREN: WHAT WORKS FOR WHOM?

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University of Nebraska, 2020

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Latinx students in the United States are at risk for unmet mental and behavioral health needs (Kataoka, Zhang, & Wells, 2002; Toppelberg, Hollinshead, Collins, & Nieto-Castañon, 2013) and are disproportionately referred for special education and disciplinary consequences (Moreno & Segura-Herrera, 2014). Effective approaches and interventions are needed to address behavioral and socioemotional concerns for Latinx students; Conjoint Behavioral Consultation (CBC) is one such approach. CBC is an indirect problem-solving approach designed to build socioemotional skills and decrease maladaptive behaviors in children (Sheridan & Kratochwill, 2008). Preliminary research demonstrates that CBC is effective for Latinx children and families (Clarke et al., 2017), but little is known regarding factors that moderate CBC's effects. Ecological variables, such as culture, socioeconomic status, and parent-teacher relationship history may influence the efficacy of CBC for Latinx participants. The purpose of the current study is to determine whether these variables moderate CBC's effects on Latinx student's behavior outcomes as reported by parents and teachers (externalizing behavior, internalizing behavior, and school problems).

This study contains data drawn from three prior randomized controlled trials of CBC, across which 96 Latinx students and their parents, as well as 86 teachers, participated. Cultural orientation, as assessed via a language proxy, and parent-teacher relationship

history were found to moderate the effects of CBC on Latinx student's school problems (attention and learning difficulties). Cultural orientation was found to moderate CBC's effects on home internalizing behaviors as well. Family socioeconomic status was not found to be a significant moderator of CBC's effects on any of the behavioral outcomes examined. Study limitations (including sample size and power), future directions for research, and implications for practice are discussed.

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## Table of Contents

Chapter 1: Introduction .....	1
Challenges for Latinx Students in the United States .....	1
Conjoint Behavioral Consultation .....	2
The Current Study .....	2
Chapter 2: Literature Review .....	5
Latinx Parent Involvement in Education .....	6
Family-School Partnerships .....	8
Conjoint Behavioral Consultation .....	9
Ecological Systems Theory .....	15
Revised Ecological Systems Theory: Cultural Microsystems .....	17
Salient Ecological Factors for Latinx Families in the United States .....	18
Purpose .....	29
Research Questions .....	29
Chapter 3: Method .....	31
Participants .....	31
Setting .....	37
Study Variables .....	38
Data Collection .....	46
Research Design and Analytic Plan .....	47
Chapter 4: Results .....	53
Missing Data Analysis .....	54

Cultural Orientation.....	56
Family Socioeconomic Status .....	59
Parent-Teacher Relationship History .....	60
Fidelity to CBC Process .....	62
Chapter 5: Discussion .....	64
Cultural Orientation.....	65
Family Socioeconomic Status .....	70
Parent-Teacher Relationship .....	71
Limitations .....	72
Future Directions .....	75
Implications for Practice .....	82
Conclusion.....	85
References.....	87

## **Chapter 1: Introduction**

### **Challenges for Latinx Students in the United States**

Latinx is a gender-neutral term for a broad group of people with ancestry in Mexico, Puerto Rico, Cuba, the Dominican Republic, and Spanish-speaking countries in Central and South America. The Latinx population is the largest minority population in the United States, making up approximately 18% of the total population (United States Census Bureau, 2018a), and is quickly growing; nearly 25% of elementary, middle, and high school students identify as Latinx (United States Census Bureau, 2015), and this number is only expected to increase. Data from the National Center for Education Statistics shows that by 2035, almost 30% of all students in the United States will be Latinx (United States Department of Education, National Center for Education Statistics, 2016). Unfortunately, this growing population of students is facing challenges. Latinx students often have mental health needs that go unaddressed (Kataoka, Zhang, & Wells, 2002), as they are less likely to seek mental health services than their non-Latinx white peers (Arantani & Cooper, 2011). Latinx students are also at risk for poor school outcomes; they are suspended and expelled from school at higher rates than their peers, which may lead to lower achievement and waning engagement in academic and extracurricular activities (Gregory, Skiba, & Noguera, 2010). As such, Latinx students have the highest school dropout rate of any other group in the United States (United States Department of Education, National Center for Education Statistics, 2017). Furthermore, Latinx students are over-represented in special education programs and disproportionately receive disciplinary referrals (Moreno & Segura-Herrera, 2014),



suggesting schools may not have effective means for addressing Latinx student problem behavior.

### **Conjoint Behavioral Consultation**

With the number of Latinx children in United States on the rise, it is crucial to consider how to meet needs of this population. Conjoint Behavioral Consultation (CBC) is a problem-solving intervention in which parents and teachers jointly address child problem behaviors at home and school (Sheridan & Kratochwill, 2008). The effectiveness of CBC for increasing adaptive and social behaviors while decreasing maladaptive behaviors is well documented (Sheridan et al., 2012; Sheridan et al., 2013; Sheridan et al., 2017a; Sheridan et al., 2017b). There is also evidence that CBC is efficacious with populations that have historically been marginalized in the United States (e.g., low-income, single-parent households; Sheridan, Eagle, & Doll, 2006), including Latinx families and children (Clarke et al., 2017). As such, CBC may provide a partial solution to challenges faced by Latinx students by strengthening communication between home and school, providing teachers and families with behavioral strategies, and building adaptive skill sets in Latinx students. However, little is known regarding how the ecology of Latinx families may buffer or suppress CBC's effects. To best serve this population and address the challenges of Latinx students, it is critical to understand conditions under which Latinx families and children are most likely to benefit from CBC.

### **The Current Study**

The current study examined whether salient ecological variables for Latinx families acted as moderators of CBC's effects on Latinx students' outcomes. Latinx participants' data were obtained from three randomized controlled trials of CBC, two that

enrolled students of any racial/ethnic background and one that only enrolled Latinx students. A total of 97 students and parents (treatment  $N = 61$ , control  $N = 36$ ) and 86 teachers (treatment  $N = 55$ , control  $N = 31$ ) provided data for this subsample. Information on primary language spoken in the home, annual family income, number of people living in the home, and parent-report of the parent-teacher relationship were collected prior to participation in CBC (and a similar time for the control group, called Time 1).

Information on poverty thresholds from the United States Census Bureau (2018b) was used in conjunction with annual family income and the number of people living in the home to create an income-to-needs ratio for families. The income-to needs ratio represented family socioeconomic status. Family socioeconomic status, in addition to the historic parent-teacher relationship and primary language spoken in the home, reflected the possible moderating variables of interest. Information on student behavioral outcomes, including internalizing and externalizing behaviors at home and school and school problems (attention and learning difficulties) were collected before and after the completion of the CBC process (and at a similar time for the control group, called Time 2). Multilevel modeling (for teacher-reported outcomes) and multiple regression (for parent-reported outcomes) analyses were used to determine the impact of moderating variables on the effects of CBC. Student behavior prior to CBC participation and original randomized controlled trial of participant were modeled as covariates. Significant interactions between moderating variables of interest and treatment condition were probed to determine the nature of the interaction.

The long-term goal of this line research is to improve educational and behavioral outcomes for Latinx students. The aim of the current study was to determine if ecological

factors (cultural orientation, family socioeconomic status, and parent-teacher relationship history) moderate the effects of the CBC intervention on child behavior outcomes (i.e., externalizing behaviors, internalizing behaviors, and school problems) as reported by parents in the home environment and teachers in the school environment. Results demonstrated that family socioeconomic status and parent-teacher relationship history were not significant moderators of CBC's effects. Cultural orientation was found to be a significant moderator of CBC's effects on school problems and on parent-reported internalizing behaviors. For both outcomes, CBC group children of Latinx parents who reported less alignment with their traditional Latinx culture at Time 1 demonstrated the fewest school problems and home internalizing behaviors at Time 2. Limitations and future directions of research will be discussed.

## Chapter 2: Literature Review

Studies suggest that the mental health and behavioral problems of young Latinx students often go untreated, even when identified by both parents and teachers (Toppelberg, Hollinshead, Collins, & Nieto-Castañon, 2013). Latinx students are over-represented in special education programs and disproportionately receive disciplinary referrals (Moreno & Segura-Herrera, 2014), likely because their socioemotional and behavioral needs are unaddressed through other means. Effective methods for addressing Latinx behavior problems and mental health concerns are needed in schools to prevent future negative outcomes such as low engagement in school (Gregory, Skiba, & Noguera, 2010) and school dropout (United States Department of Education, National Center for Education Statistics, 2017).

Latinx parental involvement in children's education has been posited as a method for bolstering behavioral and academic success in schools (Jeynes, 2003; O'Donnell & Kirkner, 2104). However, typical methods of school-based parental involvement may not appeal to Latinx families. Family-school partnerships, in which mutually respectful relationships and joint responsibility are emphasized, may be a more effective approach to addressing problems at home and school for Latinx children. Preliminary evidence suggests Conjoint Behavioral Consultation (CBC), a family-school partnership intervention, may be efficacious with Latinx families (Clarke et al., 2017). However, little is known regarding ecological variables that may moderate the effects of CBC on Latinx student outcomes. What follows is a review of parent involvement literature, including its limitations with Latinx families, and a discussion of how family-school partnerships may address the needs of Latinx students and families. Research regarding

CBC is reviewed. A discussion of ecological systems theory and the role of culture in systems is provided. Finally, ecological variables salient to Latinx families are discussed.

### **Latinx Parent Involvement in Education**

Parent involvement in children's education has been identified as a critical component for success in the areas in which Latinx students face challenges. Both home-based (e.g., helping with homework, providing opportunities and materials for learning) and school-based (e.g., attending parent-teacher conferences, volunteering in the classroom) parent involvement have been linked to benefits for children in literacy skills, math achievement, and socioemotional learning (Van Voorhis, Maier, Epstein, & Lloyd, 2013). Levels of absenteeism and discipline at school can also be reduced through parent involvement intervention (Sheldon & Epstein, 2002; 2004). In addition, positive relationships between families and schools are associated with improved academic achievement, fewer behavior problems, and increased school attendance for children (Christenson & Sheridan, 2001).

In the Latinx population, parent engagement has similarly been shown to benefit children. In a meta-analysis focused on parent engagement strategies for minority children, moderate to large effect sizes were found for Latinx children's academic achievement (Jeynes, 2003). O'Donnell and Kirkner (2014) found that a parent engagement program focused on increasing home-based parent involvement, school-based involvement, and parenting skills for Latinx parents led to improved social skills and schoolwork habits for their children up to two years after intervention delivery. However, research also suggests Latinx children benefit differently from various types of parent involvement than peers of different racial/ethnic backgrounds (Lee & Bowen,

2006). This may be related to how parent involvement opportunities are presented by schools.

Parent involvement in education has been well established as a tool for bolstering student behavioral and academic success (Fan & Chen, 2001). However, parental involvement is typically narrowly defined by schools and teachers, and generally consists of school-based activities (e.g., participating in parent associations, chaperoning events, or attending parent teacher conferences). This prescriptive “culture” of parent involvement is aligned with ideals of parenting and education practices of mainstream culture in the United States (i.e., the culture of the European-American majority); thus, Latinx families may feel more alienated than included by overtures for this type of involvement (Doucet, 2011). In accordance with this view of parent involvement, research has demonstrated that Latinx parents and non-Latinx teachers often define “involvement” differently (Nzinga-Johnson, Baker, & Aupperlee, 2009; Tinkler, 2002), and that Latinx parents are unsure of school expectations for parent engagement (Ramirez, 2003). Specifically, a review of literature on Latinx parent involvement indicates that Latinx parents tend to engage in more home-based involvement activities and consider transmission of sociocultural values in the home environment an important piece of education (Tinkler, 2002).

Parent involvement is linked to children’s academic and behavioral success and may help prevent problems in these areas. As such, it may be expected that Latinx students with behavioral and academic needs may be positively impacted by their parents’ involvement in their education. However, the narrow set of activities offered by schools in which parents can participate may not be an effective means of engaging

Latinx families. A method of engaging Latinx families that is sensitive to their idea of parent involvement and values regarding education is needed. As such, family-school partnerships may be an appropriate and acceptable means of parent engagement for Latinx families.

### **Family-School Partnerships**

Family-school partnerships extend beyond parent involvement in prescribed activities; they are high quality, mutually respectful relationships between parents and educators who use bi-directional communication and actions to promote consistency across environments and children's success (Moorman Kim & Sheridan, 2015). Family-school partnership intervention research has demonstrated that increasing connections between parents and educators leads to improvements for children in a variety of areas, not just at school but in the home environment as well (Power et al., 2012; Sheridan et al., 2017a; Sheridan et al., 2017b; Stormshak, Fosco, & Dishion, 2010). This is partially because family-school partnerships create an avenue for strategies and interventions to be implemented consistently across environments, but also because the partnership itself may act as an intervention and lead to behavior change in children (Sheridan et al., 2012; Sheridan et al., 2017a).

In family-school partnerships, building relationships and creating essential roles for parents and teachers in educating and helping children across environments is emphasized (Christenson, 2004). In a partnership between families and schools, both parties focus on children's needs, strengths, and strategies for success; this child focus ensures that the results of the partnership (e.g., behaviors enacted by families or schools, implementation of supports or interventions) are individualized to a particular child and

family. As such, family-school partnerships present an opportunity for parents and teachers to collaborate in an inclusive, culturally aligned process. Although useful when working with all parents, a partnership approach may be even more crucial for marginalized Latinx families who report feeling misunderstood when working with schools (Hill & Torres, 2010). Despite this strong rationale for using a partnership approach with Latinx families, limited research exists examining the effectiveness of family-school partnerships with Latinx families. Furthermore, research that seeks to understand ecological variables that may moderate family-school partnership intervention effects is completely lacking.

### **Conjoint Behavioral Consultation**

Though research is limited, existing studies point to the promise of family-school partnerships as an effective intervention for Latinx students. A portion of this work is focused on CBC, a problem-solving intervention that relies on indirect service delivery to both decrease problem behaviors in children (while simultaneously building adaptive skills) and build strong working partnerships between parents and teachers (Sheridan & Kratochwill, 2008). In this intervention, a CBC consultant leads a parent and teacher jointly through problem-solving objectives, and demonstrates and encourages effective listening, perspective taking, and collaboration. These aims are accomplished across four stages, three of which have a corresponding meeting attended by the consultant, parent, and teacher: Conjoint Needs Identification, Conjoint Needs Analysis, Conjoint Plan Implementation, and Conjoint Plan Evaluation. In addition to structural components of a traditional behavioral consultation model, relationship building between parents and



teachers is emphasized. See Table 1 for a complete list of content objectives and Table 2 for relational objectives of CBC.

**Table 1***Content Objectives of CBC*

Interview	Objectives
Conjoint Needs Identification	<ul style="list-style-type: none"> <li>• Identify strengths of child, family, and teacher</li> <li>• Behaviorally define concerns at home and school</li> <li>• Determine a shared behavioral goal for consultation</li> <li>• Specify the target setting for intervention</li> <li>• Explore cross- or within-setting environmental factors that influence behavior</li> <li>• Establish and implement procedures for collecting baseline data</li> </ul>
Conjoint Needs Analysis and Conjoint Plan Implementation	<ul style="list-style-type: none"> <li>• Explore baseline data across settings and determine if baseline data is representative and sufficient</li> <li>• Identify setting events and other variables that may influence behavior</li> <li>• Investigate trends across settings</li> <li>• Determine the function of behavior</li> <li>• Collaboratively design an intervention plan that address function of the behavior</li> <li>• Summarize intervention plans, being clear as to what is to be done when and by whom</li> <li>• Implement intervention plans and continued data collection at home and school with support from consultant</li> </ul>
Conjoint Plan Evaluation	<ul style="list-style-type: none"> <li>• Analyze intervention data in relation to baseline data</li> <li>• Determine if goals of consultation have been met</li> <li>• Evaluate the effectiveness of plans across settings</li> <li>• Discuss continuation, modification, or termination of the plan</li> <li>• Discuss strategies for continued joint problem-solving and decision-making</li> </ul>

*Note.* Adapted from Sheridan, S. M. & Kratochwill, T. R. (2008). *Conjoint behavioral consultation: Promoting family-school connections and interventions*. New York, NY: Springer.

**Table 2***Relational Objectives of CBC*

Objective	Examples
Improve communication, knowledge, an understanding of child, family, and school	<ul style="list-style-type: none"> <li>• Elicit ideas, information, and perspectives with open-ended questions</li> <li>• Paraphrase and validate messages from all parties</li> </ul>
Promote shared ownership and joint responsibility for problem solving	<ul style="list-style-type: none"> <li>• Provide rationale for families and schools working together</li> <li>• Encourage and reinforce intended joint problem solving among parents and teachers</li> <li>• Structure interventions that require cooperation and communication</li> </ul>
Promote greater conceptualization of needs and concerns, and increase perspective taking	<ul style="list-style-type: none"> <li>• Use nonverbal listening skills to convey understanding and acceptance</li> <li>• Verbally acknowledge differing perspectives</li> </ul>
Strengthen relationships across systems	<ul style="list-style-type: none"> <li>• Reframe problems into opportunities for skill development and reframe negative comments</li> <li>• Emphasize positive efforts of all parties</li> <li>• Use physical arrangement of meeting rooms to encourage eye contact and dialogue</li> <li>• Use gestures to communicate joining of home and school</li> </ul>
Maximize opportunities to address needs across, rather than within, systems	<ul style="list-style-type: none"> <li>• Emphasize importance of out-of-school opportunities for students to experience success</li> <li>• Comment on benefits of continuity and congruence across environments for students</li> <li>• Highlight similarities across settings</li> </ul>
Increase shared commitment to educational goals	<ul style="list-style-type: none"> <li>• Develop plans that are consistent across settings and support achievement in and out of school</li> <li>• Use inclusive language such as “we” and “us”.</li> </ul>
Increase expertise and resources available	<ul style="list-style-type: none"> <li>• Involve students when possible</li> <li>• As parents for ideas to intervention and incorporate them into plans</li> </ul>

*Note.* Adapted from Sheridan, S. M. & Kratochwill, T. R. (2008). *Conjoint behavioral consultation: Promoting family-school connections and interventions*. New York, NY: Springer.

Decades of research have demonstrated the utility of CBC for children exhibiting problem behaviors at home and school (Sheridan et al., 2012; Sheridan et al., 2013; Sheridan et al., 2017a; Sheridan et al., 2017b). Children whose parents and teachers participate in the CBC process show improvements in desired behaviors in the classroom, such as on-task behavior and appropriate social interactions (Sheridan et al., 2017a). Both parents and teachers report an increase in general social skills as well (Sheridan et al., 2012; Sheridan et al., 2017b). In addition, maladaptive child behaviors, such as off-task behavior and motor movement in the classroom (Sheridan et al., 2017a) and noncompliance and temper tantrums in the home, decrease for children whose parents and teachers received CBC (Sheridan et al., 2013; Sheridan et al., 2017b). Parents and teachers similarly benefit from engaging in CBC; increases in problem-solving skills and parent-teacher relationship quality have been found across studies (Sheridan et al., 2012; Sheridan et al., 2013; Sheridan et al., 2017a; Sheridan et al., 2017b).

Conceptually, CBC is uniquely positioned to be effective with culturally diverse families due to a focus on fostering relationships, helping teachers to develop awareness of student differences, and building trust and shared commitment across home and school environments (Sheridan & Kratochwill, 2008). Researchers have explored this with studies focused on the efficacy of CBC for populations that have historically been marginalized in the United States. Sheridan, Eagle, and Doll (2006) explored the effectiveness of CBC with children representing varying levels of sociodemographic risk factors. Children were grouped by the number of risk factors they represented as identified through demographic survey (i.e., non-white race, low income, fewer than two adults in the home, low maternal education, and non-English language spoken in the

home). Sheridan and colleagues examined the average single-subject effect size of treatment outcomes for children representing no risk factors to children with one risk factor, and children with two or more risk factors. Findings demonstrated that CBC was equally effective for children representing all levels of risk. Furthermore, parents in the highest risk group (two or more factors) reported the highest subjective effectiveness and acceptability ratings of the intervention. Overall, these results suggest that CBC is effective for historically marginalized consultees/clients, regardless of the number of sociodemographic risk factors for the participating family.

While this study is important in terms of demonstrating the utility of CBC for marginalized populations, it did not further the knowledge base pertaining to the efficacy of CBC with Latinx families specifically. Clarke et al. (2017) attempted to remedy this by conducting a secondary data analysis with Latinx CBC participants from prior studies. Specifically, data from 35 Latinx students and their parents and teachers from two randomized controlled trials were utilized (the data from these same participants was also utilized in the current study). Outcomes were analyzed via analysis of covariance, which allowed for comparison of post-CBC outcomes between the control and experimental group. Differences in pre-and post-test variables of interest were also examined within the CBC group. Findings suggested CBC was effective for Latinx children and their families; teachers reported decreases in externalizing problems and school problems and increases in social skills for CBC group students. Latinx parents reported an improvement in their relationship with their child's teacher in addition to feeling more competent in problem solving.

The results of the Clarke et al. (2017) study are promising. They demonstrate that CBC is potentially efficacious for Latinx families. However, Clarke et al.'s (2017) research is limited in several ways. The small sample size ( $N = 35$ ) and choice of analysis (which neglected to address the nested nature of participants' data) limit the strength of the conclusions. Furthermore, the findings are merely first steps in understanding the utility and efficacy of CBC with Latinx families and children. Specifically, ecological factors and their influence on the outcomes of the CBC process were not considered. Determining factors that moderate the effects of CBC on primary outcomes for Latinx children (i.e., child behavior) will demonstrate conditions under which CBC is most (or least) effective for this population.

### **Ecological Systems Theory**

The impact of CBC on Latinx children's behavior may be suppressed or buffered by experiences in their home, school, and broader cultural context. Ecological Systems Theory (Bronfenbrenner, 1977; 1979; 1994) posits that children develop within multiple proximal and distal systems. The child and these systems are constantly interacting with one another, which impacts child behavior and learning (Bronfenbrenner & Morris, 1998). Systems, or environments, are nested, and organized by level of proximity to the daily life of the child. These systems are the microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem.

Microsystem refers to the interactions between a person and their immediate environments. For children, this likely would include home, school, relative's homes, and daycare. The mesosystem consists of the interactions between a child's various microsystems. This includes relationships between home and school, home and daycare,

etc. Exosystems include relationships between a child and more distal environments in which they spend little to none of their time but nonetheless have an impact. This might include events occurring within a parent's workplace or services offered in the community (e.g., healthcare clinics, public transportation, local services for families in need). The exosystem may also include intangible settings, such as local media available to the child (e.g., billboard advertisements in the neighborhood).

The macrosystem does not refer to a specific environment, but rather to the overarching economic, social, political, and legal context that encompass all of a child's other systems. Macrosystems give meaning to the events and settings of the lower order systems. Large entities or structures such as federal and state laws are considered macrosystems, as are ethnic cultures and national culture in the United States. The chronosystem is not an environment per se, but rather describes the way that interactions between children and their environments change over time. The amount of time a child spends in a microsystem and the impact of that microsystem will change as the child grows older, as will the types of mesosystems and exosystems that affect them.

### ***The Role of Culture in Ecological Systems Theory***

Though Bronfenbrenner describes culture as a macrosystemic entity, others argue that this is an inappropriate conceptualization given the influence of culture in all aspects of life (Vélez-Agosto, Soto-Crespo, Vizcarrondo-Oppenheimer, Vega-Molina, & García Coll, 2017). In Bronfenbrenner's model, systems are viewed as nested, implying that the inner systems are dependent on external systems. The more external the system, the more removed it is from the child (e.g., microsystems include physical locations in which children live or are cared for, while exosystems include locations such as parent

workplace, which a child may never visit). Bronfenbrenner places culture in the macrosystem, which implies culture, though interacting with all systems, is somewhat removed from immediate settings. Vélez-Agosto and colleagues (2017) propose a revised version of Bronfenbrenner's model in which they draw from sociocultural and ecocultural approaches to understanding culture.

### **Revised Ecological Systems Theory: Cultural Microsystems**

Sociocultural theory posits that human development is an inherently cultural process in which all learning is achieved through culturally-specific speech and tools (Vygotsky, 1978, as cited in Vélez-Agosto et al., 2017). Thus, every behavior learned and exhibited by a child is a product of his or her culture. From this perspective, culture is not an external force exerting its influence on child development. Rather, culture cannot be disentangled from development and gives meaning to the actions of children and others in their environments. Participation in everyday routines, such as completing homework, playing with siblings, and eating with family, is an enactment of culture (Weisner, 2002). Culture dictates why (e.g., cultural values) and how (e.g., cultural norms) children engage in these activities. Thus, culture becomes synonymous with routines. The environments in which these routines take place are also culturally determined. Rogoff and colleagues (2007, as cited in Vélez-Agosto et al., 2017) conceptualize children's "communities" (e.g., home, daycare facility) as crucial mechanisms for child development. Children's communities provide countless opportunities for learning through such processes as participation in activities and observation of adults and peers. Culture guides the types of communities children will join, as well as their roles in those communities. The function



and importance of children's communities, or environments, in their development are also influenced by culture (García Coll et al., 1996).

Vélez-Agosto and colleagues (2017) provide a strong rationale for “cultural microsystems”. Rather than acting as an external influence, culture is central to the settings, activities, and routines of children. Said differently, systems are not nested in culture, but inherently contain culture. In their revision to Bronfenbrenner's ecological model, little distinction is made between “systems” or “levels.” However, environments and institutions are still arranged in terms of proximity to the child. Based on this revised framework, Vélez-Agosto and colleagues suggest assessing culture through daily practices and behaviors, as these are fundamentally cultural acts.

### **Salient Ecological Factors for Latinx Families in the United States**

In the present study, ecological variables of interest are conceptualized in alignment with the revised ecological systems model proposed by Vélez-Agosto and colleagues (2017). These factors include ethnic cultural orientation, family socioeconomic status, and parent-teacher relationships. Cultural orientation was conceptualized as a microsystemic variable and is assessed via a daily practice (language use). Family socioeconomic status was also conceptualized as a microsystemic variable and is assessed via a family income-to-needs ratio (in which a smaller ratio indicates less ability to meet family needs with annual income, and thus lower socioeconomic status). Parent-teacher relationships were conceptualized as a mesosystemic variable and assessed via subjective parent report of the relationship.

Based on findings from previous research, as well as census data, these ecological factors may be especially salient for a Latinx population. Specifically, Latinx children

may be raised within traditional Latinx culture based on their families of origin. They are at disproportionately risk for being part of a family with low socioeconomic status (United States Census Bureau, 2018c). Latinx children are also likely to have parents with poor relationships with their school and teachers (Hill & Torres, 2010; Ramirez, 2003). Culture, family socioeconomic status, and parent-teacher relationships have been shown to be related to behavioral outcomes for children, parent involvement in education, and parenting practices, all of which are addressed within the CBC process. These connections will be examined in the following sections.

### ***Traditional Latinx Culture: A Microsystemic Variable***

Latinx families living in the United States are a heterogeneous group. They differ in terms of languages spoken, country of nativity, length of time lived in the United States, education level, etc. Despite variability in the population, there are cultural values and traditions that many Latinx families continue to endorse even in the United States. There is a recognizable traditional Latinx culture with specific values and practices that have strong implications for the daily lives and development of Latinx children. The values discussed here are not an exhaustive list; they were selected based on their possible relevance to and impact on the CBC intervention. Furthermore, though these following values are common in traditional Latinx culture, the Latinx individuals who endorse these values may conceptualize them or act upon them in different ways.

Language spoken in the home may represent a proxy for the cultural traditions and values endorsed in Latinx families. Language is a crucial piece of human communication that allows people to share their thoughts and emotions through speech and movement. While language is commonly thought of as words and their meaning (i.e.,

semantics), it is much more than that; it includes shared cultural context, nonverbal cues, and the like (Adams, 2004). Language is imbued with the values, beliefs, and models of interaction for a community, and thus the culture tied to (and inherent within) language is critical for understanding communication in a social context (Lovelace & Wheeler, 2006). According to Hymes (1967), communities differ in patterns and roles assigned to language with regard to beliefs, values, and reference groups and these variables affect language use. In simple terms, language and culture are intertwined; one loses its complete significance without the other (Jiang, 2000). Because these two constructs are so interrelated, language is highly related to cultural and ethnic identity (Betancourt & Regeser López, 1993; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). Indeed, there is a research precedent documenting the use of language to represent culture (see Echeverría et al., 2013; Lara, Gamboa, Kahramanian, Morales, & Bautista, 2005).

***Familismo.*** *Familismo* refers to the value of family cohesiveness and interdependence (Sue & Sue, 2016). In traditional Latinx culture, emphasis is placed on strong bonds between family members, sacrifice of personal needs/wants for the benefit of the family, support of family members through difficult situations, and protection of family honor (Lugo Steidel & Contreras, 2003). Latinx families are also likely to rely on an extended family network, and name relatives and close family friends as part of their nuclear family (Sue & Sue, 2016).

In practice, the consultees in CBC are generally one primary caregiver (e.g., biological parent, foster parent, grandparent) and a classroom teacher. In Latinx families where *familismo* is valued, people other than primary caregivers or parents may be considered critical in childrearing. Though additional family members would be

welcomed at CBC problem-solving meetings, Latinx families may feel that the intervention does not encompass all essential family members. This could reduce acceptability and participation of Latinx families. Similarly, if a consultant fails to conceptualize the importance of extended family or non-relatives in the child's life, the CBC team would miss critical opportunities for intervention implementation and related child behavior change. However, some aspects of *familismo*, such as increased adult monitoring of child behavior (Calzada, Huang, Linares-Torres, Singh, & Brotman, 2014), is reinforced through the data collection and intervention activities of CBC.

***Respeto.*** *Respeto* is defined as “proper demeanor,” or knowing the level of respect required in a situation given the age, sex, and social status of others (Hardwood, Miller, & Lucca Irizarry, 1995). Though applicable for Latinx of all ages, *respeto* is often emphasized as a critical skill for young children. Latinx parents expect appropriate behavior from children that demonstrates *respeto*, such as courtesy toward elders and professionals, use of polite language (e.g., greeting others, saying “please” and “thank you”), and proper behavior in public (Calzada, Fernandez, & Cortes, 2010).

*Respeto* is a critical component of Latinx parenting. Latinx parents' values surrounding child rearing and child behavior may not align with the approach to child behavior in the CBC process. For example, CBC intervention plans are based on behavioral principles of learning and focus on contingencies that reinforce behaviors and controllable setting events. As such, behavior plans typically include reinforcement and antecedent strategies to promote desired behavior (Sheridan & Kratochwill, 2008, p. 43; Sheridan et al., 2017a). Latinx parents may be more likely to endorse corporal discipline strategies to gain obedience and respect (Calzada et al., 2010; Calzada, Basil, &

Fernandez, 2012). However, Latinx parents seeking to instill respectful, compliant behavior may value CBC's focus on behavior improvement, regardless of strategies used. *Respeto* may also influence the CBC consultant's attempts to build a relationship between Latinx parents and teachers. Latinx parents may be unsure how to engage in equal partnership with their child's teacher, as *respeto* indicates a need for deference to teachers in their expert role (Carrasquillo & London, 1993).

***Educación.*** Latinx parents strongly value education, both in and outside the home. To be considered well-educated, Latinx children must be successful academically, but also moral, responsible, and respectful (Hill & Torres, 2010). Latinx parents' role in *educación* is to provide support for learning at school *and* to disseminate moral teachings in the home (Auerbach, 2006; Olmeda 2003; Tinkler, 2002). Latinx parents hold teachers in high regard and respect their authority in schools, while simultaneously feeling that education in the home is equally important and should be respected by teachers (Hill & Torres, 2010).

The value of *educación* appears well aligned with CBC. Latinx parents view academic education at school and moral education at home as two important aspects of becoming a well-educated person. CBC focuses on creating continuity across home and school contexts (Sheridan & Kratochwill, 2008) while simultaneously allowing parents and teachers to identify child behavior concerns salient to their respective environments. Parents are considered experts on their children's needs and strengths and are considered critical for developing the home *and* school intervention plans. In CBC, developing appropriate behaviors and minimizing problem behaviors at home and school are equally

important. This is likely to resonate with Latinx parents seeking to develop respectable, moral behavior in their children.

***Personalismo.*** Cooperative and respectful interactions are valued in traditional Latinx culture (Sue & Sue, 2016). For the Latinx community, *personalismo* refers to relationships and interactions characterized by warmth, sincerity, and the mutual understanding that both parties care about one another (Davis, Lee, Johnson, & Rothschild, 2019). *Personalismo* is common in social relationships, but can also develop in professional relationships; members of the Latinx community are likely to value a personal, trusting relationship with those they know in a professional setting, such as doctors or teachers (Davis et al., 2019; Hill & Torres, 2010). Despite a history of low-quality interactions, or a lack of interaction altogether, Latinx families may feel positively about partnership building with their child's teacher. Strengthening relationships across environments is a key relational objective of CBC, and behaviors associated with *personalismo* are likely to be rewarded and reinforced throughout the process. In this way, *personalismo* may enhance relationship building in CBC, which will ultimately lead to desired student outcomes.

Families that are more oriented toward traditional Latinx culture are likely to value *familismo*, *respeto*, *educación*, and *personalismo*. As such, they may be more likely to endorse certain parenting practices or beliefs than Latinx families who are less oriented toward Latinx culture. CBC, which is only just beginning to be studied with a Latinx population, is not rooted in Latinx cultural principles. Latinx families who speak Spanish in their home (i.e., likely more oriented to traditional Latinx culture), may more readily approve or disapprove of the CBC process and its relational and structural components.

This could affect their engagement in meetings, use of behavioral strategies, and other components of CBC, thus impacting outcomes for their child. No studies have yet examined the possible influence of culture on CBC; the current study sought to determine if family cultural orientation as measured through their primary language spoken in the home moderates the effects of CBC on Latinx students' outcomes.

***Family Socioeconomic Status: A Microsystemic Variable***

Family socioeconomic status (SES) can be defined in a variety of ways, but generally social scientists agree that it reflects some combination of a family's social and economic condition (Bradley & Corwyn, 2002). Generations of researchers have found that family SES is related to child outcomes, with most models demonstrating that poorer outcomes for children from low SES families are the result of limited resources or higher levels of stress associated with lower SES (Bradley & Corwyn, 2002). Family SES is negatively related to child behavior problems (Singh & Ghandour, 2012) and mental health issues, with children from families with low SES being two to three times more likely than families with high SES to develop a mental health problem (Reiss, 2013). Several hypotheses for this connection between low SES and child socioemotional difficulties have been posed, including that financial strain on parents leads to parental depression and a subsequent increase in harsh parenting practices and low levels of nurturance (Keegan Eamon, 2001; McLoyd, 1998; McLeod & Shanahan, 1993).

Latinx children are at disproportionate risk for living in poverty as compared to their European American peers (United States Census Bureau, 2018c). In Latinx populations, children from families with low SES report more depressive symptoms (when compared to white, non-Latinx children from families with low SES; Hill, Bush, &

Roosa, 2003). For Latinx males, low SES and poverty in childhood is related to antisocial behavior in adolescence (Keegan Eamon & Cray Mulder, 2005). Economic hardship in Latinx families is also linked to increased rates of depressive symptoms for parents, which in turn is related to less parenting warmth and higher levels of consistency in discipline (White, Roosa, Weaver, Nair, & McBride Murry, 2009). These increased depressive symptoms in parents are related to hostile parenting practices (parental rejection of children, control, and withdrawal in the relationship), which lead to the development of internalizing and externalizing behavior problems for Latinx children (Parke et al., 2004).

Some parent intervention researchers have already investigated the possible moderating effects of family SES. While determining possible moderators of the family-school partnership intervention Family Check-up (Dishion & Stormshak, 2007), Gardner et al. (2009) found that children of caregivers with the lowest educational levels (often used in definitions of SES; Bradley & Corwyn, 2002) were more responsive to intervention effects on problem behavior than caregivers with higher education levels. In a meta-analysis on parent training interventions for children with disruptive behavior, families with low SES were less likely to immediately benefit from intervention when behavior severity was low. Additionally, families with low SES were less likely than families with a higher SES to maintain treatment effects at later follow-up assessments (Leijten, Raaijmakers, Orobio de Castro & Matthys, 2013). Possible explanations for these trends include that families with low SES and fewer resources are more motivated to fully engage in intervention when their child is presenting with severe problem



behavior, and that families that experience chronic financial hardship may not have the resources needed to continue intervention without support (Leijten et al., 2013).

Family SES is clearly linked to child behavior and mental health issues in Latinx families. Furthermore, it has been found to moderate the effects of interventions that address child behavior. Little is known about how family SES moderates the effects of CBC on Latinx student outcomes. As Latinx children are disproportionately more likely to be part of a family with low SES, more information is needed regarding the possible moderating effect of this variable on CBC's effects. This relationship will be explored through an aspect of family SES, an income-to-needs ratio.

### ***Parent-Teacher Relationships: A Mesosystemic Variable***

High-quality parent-teacher relationships have been linked to positive socioemotional and academic functioning at school. Parent reports of their relationships with early childhood educators are positively related to child adjustment and learning, and negatively related to problem behaviors (Pirchio, Tritrini, Passiatore, & Taeschner, 2013). Teacher reports of positive relationships with parents have been found to predict children's functioning at school in later years (Izzo, Weissberg, Kaspro, & Fendrich, 1999). There is also evidence that the parent-teacher relationship is even more critical for student success than teacher experience or training (Xu & Gulosino, 2006).

Similarly, interventions that help to create high-quality relationships between parents and educators, such as the Family Check-up Model and the Family School Success Program, demonstrate how these relationships can positively influence struggling youth (for Family Check-up Model, see Brennan et al., 2013; Shellbey et al., 2012; for Family School Success Program, see Mautone et al., 2012; Power et al., 2012). Sheridan

and colleagues (2012, 2017a) demonstrated across two separate randomized controlled trials that the parent-teacher relationship mediates the effect of CBC on child school problems, adaptive skills, and social skills at school, indicating that it is in fact high-quality parent-teacher relationships that lead to the changes in student behavior within the CBC process.

For Latinx families, the parent-teacher relationship is an important factor related to parent involvement, and thus children's success (Nzinga-Johnson et al., 2009). It is also directly linked to child behavior; Latinx youth's perceptions regarding the relationship between parents and school has been found to be predictive of their externalizing behavior problems (Coatsworth et al., 2002). Unfortunately, low quality parent-teacher relationships are of special concern for the Latinx population. There is a history of misunderstanding and miscommunication among Latinx parents and their children's teachers. Latinx parents who recently immigrated to the United States report feeling unwelcome in schools, and unsure of the expectations for parent participation (Ramirez, 2003). Latinx parents also report they communicate less with their child's teacher than parents of other ethnic groups (Wong & Hughes 2006). Latinx families and non-Latinx teachers view parent engagement in schools in different ways (Zarate, 2007), resulting in teachers believing Latinx parents are apathetic towards their child's education (Tinkler, 2002). Teachers of Latinx students are also unlikely to notice if there are problems in their relationships with Latinx parents; teachers tend to view their relationships with Spanish-speaking Latinx parents as more positive than the parents view the relationship (Miller, Lewis Valentine, Fish, & Robinson, 2016). This disconnect

between Latinx families and their children's teachers can make it extremely difficult to forge lasting, high quality parent-teacher relationships.

The parent-teacher relationship has previously been established as a mediator for CBC's effects when assessed after CBC completion. This suggests that the partnership built or strengthened during the CBC process is partially responsible for child behavior change. However, the parent-teacher relationship history (as assessed prior to CBC participation) may also act as a moderator for the Latinx population specifically.

Historically, Latinx families have not felt welcome or understood in schools. Teachers may have negative perceptions of Latinx parents, such as that they are apathetic toward their child's education. Parents who experience negative interactions with their child's teacher or other school personnel may be less likely to become engaged in their child's education than parents who experience positive interactions (Hornby & Lafaele, 2011), and less likely than parents with positive parent-teacher relationships to voice concerns about their child's behavior or academic performance (Lareau, 2003). As such, Latinx parents may be hesitant to fully engage and participate in CBC, particularly in the early stages of the intervention. Although it is expected that relationships between Latinx parents and their children's teachers would improve as a function of CBC (Sheridan et al., 2012; Sheridan et al., 2017a; Sheridan et al., 2017b), the history of a low-quality relationship may hinder the success of the intervention. As such, the relationship built throughout the CBC process may act as a mediator, but the relationship history between parents and teachers before CBC begins may act as a moderator. Thus, this study will determine if the parent-teacher relationship history moderates the effect of CBC on Latinx child behavior outcomes.

## **Purpose**

Latinx children face significant challenges in schools. They are at a disproportionate risk for school dropout and exclusionary discipline practices in addition to having unmet mental and behavioral health needs. Family-school partnerships are uniquely positioned to address these needs, as parent involvement strategies are shown to boost student success but are not always suited to the practices and culture of Latinx families. CBC is a family-school partnership model with decades of research supporting its efficacy for children, including preliminary work targeting Latinx children. However, no studies yet exist that demonstrate conditions under which CBC is likely to be more (or less) effective for this population. Culture, family SES, and parent-teacher relationship history are salient contextual factors for Latinx families and children. As prior research has documented the relationship between these variables and Latinx child outcomes, they may also moderate the effects of CBC on child behavior outcomes. The purpose of the current study is to determine if cultural orientation, an aspect of family SES (an income-to-needs ratio), and parent-teacher relationship history, moderate the effects of the CBC intervention on child behavior outcomes (i.e., externalizing behaviors, internalizing behaviors, and school problems) as reported by parents in the home environment and teachers in the school environment.

## **Research Questions**

1. For Latinx families, does cultural orientation (operationalized as parent report of primary language used in the home) moderate the effects of CBC on parent and teacher report of Latinx children's externalizing behaviors, internalizing behaviors, and teacher-reported school problems?

2. For Latinx families, does parent-reported family SES (operationalized as an income to needs ratio) moderate the effects of CBC on parent and teacher report of Latinx children's externalizing behaviors, internalizing behaviors, and teacher-reported school problems?

3. For Latinx families, does parent-reported parent-teacher relationship quality assessed prior to intervention moderate the effects of CBC on parent and teacher report of Latinx children's externalizing behaviors, internalizing behaviors, and teacher-reported school problems?

### Chapter 3: Method

To address the research questions of the current study, a subsample of Latinx participant data was created from three randomized trials of CBC. The first and second randomized controlled trials contributed 35 Latinx student participants to the current data set (see Sheridan et al., 2012, Sheridan et al., 2013, Sheridan et al., 2017a, and Sheridan et al., 2017b for further information on these randomized trials). The third trial, which only recruited Latinx participants, is currently on-going; only the first two cohorts (62 Latinx students) of that larger study contributed data to the current study. Multilevel modeling and multiple regression analyses were used to determine if cultural orientation (as assessed through primary language used), an aspect of family SES (income-to-needs ratio), and parent-teacher relationship history (as reported by Latinx parents before intervention) moderated the effect of CBC on Latinx students' internalizing behaviors, externalizing behaviors, and school problems as reported by parents and teachers at home and school. Intent-to-treat (Lachin, 2000) and restricted estimation maximum likelihood approaches were implemented (Harville, 1977; Patterson & Thomson, 1971).

#### Participants

Participants were 97 parent-identified Latinx students in Kindergarten through Grade 5, including their parents ( $n = 97$ ) and teachers ( $n = 86$ ). The majority of students were male and in Kindergarten through Grade 3. See Table 3 for student demographics. Parent demographics are presented in Table 4. The majority of participating parents were female and reported their families predominantly spoke Spanish in the home (65%). Approximately 39% of parents reported they did not complete high school and did not have a high school diploma or equivalent degree. Nearly 50% of participating parents

reported an income of \$25,000 or less annually for their family. Finally, teacher demographics are reported in Table 5. The majority of participating teachers identified as white, non-Latinx and female.

**Table 3**

*Student Demographic Information*

Characteristics	Total ( <i>N</i> = 97)	CBC ( <i>N</i> = 61)	Control ( <i>N</i> = 36)
Mean ( <i>SD</i> ) student age	7.65 (1.64)	7.75 (1.70)	7.47 (1.53)
Student Gender			
Male	69.1%	75.0%	65.6%
Female	30.9%	25.0%	34.4%
Student grade			
Kindergarten	19.6%	16.4%	25.0%
First	20.6%	23.0%	16.7%
Second	25.8%	31.3%	16.7%
Third	16.5%	11.5%	25.0%
Fourth	8.2%	6.6%	11.1%
Fifth	8.2%	11.5%	2.8%

*Note.* Percentages may not equal 100% due to missing data.

**Table 4***Parent Demographic Information*

Characteristics	Total (N = 97)	CBC (N = 61)	Control (N = 36)
Mean (SD) parent age	35.61 (7.27)	35.35 (8.50)	34.97 (6.30)
Parent Gender			
Male	11.3%	11.1%	11.5%
Female	86.6%	86.1%	86.9%
Parent Education			
Less than high school diploma	38.9%	34.4%	38.9%
High school diploma	25.8%	24.6%	27.8%
GED	8.2%	9.8%	5.6%
Some college	19.6%	23.0%	13.9%
College degree	4.1%	3.3%	5.6%
Some graduate coursework	2.1%	3.3%	0.0%
Primary language spoken in home			
English	34.0%	34.4%	33.3%
Spanish	65.6%	63.9%	66.7%
Annual Household Income			
\$8,000 or less	11.3%	3.3%	25.0%
\$8,001 - \$12,001	7.2%	4.9%	11.1%
\$12,001 - \$15,000	6.2%	8.2%	2.8%
\$15,001 - \$18,000	7.2%	9.8%	2.8%
\$18,000 - \$20,000	7.2%	9.8%	2.8%
\$20,001 - \$23,000	4.1%	1.6%	8.3%
\$23,001 - \$25,000	6.2%	6.6%	5.6%
\$25,001 - \$28,000	7.2%	4.9%	11.1%
\$28,001 - \$30,000	7.2%	6.6%	8.3%
\$30,001 - \$33,000	3.1%	3.3%	2.8%
\$33,001 - \$35,000	2.1%	1.6%	2.8%
\$35,001 - \$38,000	7.2%	9.8%	2.8%
\$38,001 - \$40,000	4.1%	6.6%	0.0%
\$40,001 - \$43,000	3.1%	4.9%	0.0%
\$43,001 - \$45,000	4.1%	1.6%	0.0%
\$45,001 - \$48,000	1.0%	8.2%	0.0%
\$48,001 - \$50,000	0.0%	0.0%	0.0%
More than \$50,000	10.3%	8.2%	13.9%

*Note.* Percentages may not equal 100% due to missing data.



**Table 5***Teacher Demographic Information*

Characteristics	Total ( <i>N</i> = 86)	CBC ( <i>N</i> = 55)	Control ( <i>N</i> = 31)
Teacher gender			
Male	4.7%	3.6%	6.5%
Female	95.3%	96.4%	93.5%
Teacher race			
White non-Latinx	93.0%	92.7%	93.5%
Black/African-American	0.0%	0.0%	0.0%
Hispanic/Latinx	3.5%	3.6%	3.2%
American Indian/Alaskan Native	2.3%	1.8%	3.2%
Native Hawaiian or other Pacific Islander	1.2%	1.8%	0.0%
Asian/Asian-American	0.0%	0.0%	0.0%
Other	0.0%	0.0%	0.0%
Teacher education			
Some college	1.2%	1.8%	0.0%
College degree	27.9%	25.5%	32.3%
Some graduate coursework	17.4%	23.6%	9.7%
Advanced graduate degree	53.5%	50.9%	58.1%

*Note.* Percentages may not equal 100% due to rounding.

Data for the current study are compiled from three large, federally-funded, randomized controlled trials (RCT) of CBC that have taken place over the last 13 years. The first RCT (RCT 1) contributed 17 Latinx students and took place between 2004 and 2009. The second RCT (RCT 2) contributed 18 Latinx students and took place between 2010 and 2015. The third and final RCT (RCT 3) began in 2016 and is on-going. Despite the third RCT continuing for several more years, the current study made use of only the 62 participants who had been enrolled at the time of study initiation. Children were recruited for possible participation based on teacher nomination for significant externalizing behavior problems (internalizing behaviors were also targeted in RCT 3).

To be eligible for enrollment, children had to meet requirements on screening tools. See Table 6 for description of screening tools and eligibility requirements.

**Table 6***Screening Tools and Eligibility Across RCTs*

Screening Tool	RCT 1	RCT 2	RCT 3
Teacher nomination for behavior problems	Teachers ranked up to 10 children in their classroom with externalizing behavior problems	Teachers ranked up to 5 children in their classroom with externalizing behavior problems	Teachers nominate unlimited children in their classroom with externalizing or internalizing behavior problems
Systematic Screening for Behavior Disorders (Walker and Severson, 1990)	Completed for the top five ranked children	N/A	N/A
Researcher-developed checklist assessing frequency, severity, and need for intervention	Completed for the top five ranked children. Likert scale of 1-9 for severity and frequency and 1-5 for need for intervention.	Completed for all children nominated by teacher. Likert scale of 1-7 for severity and frequency and 1-5 for intervention.	Completed for all children nominated by the teacher. Likert scale of 1-7 for severity and frequency and 1-5 for intervention.
Behavioral and Emotional Screening System (BESS; Reynolds & Kamphaus, 2015)	N/A	N/A	Completed for all referred children by both parents and teachers

Screening Tool	RCT 1	RCT 2	RCT 3
Eligibility	a) Score of elevated or extremely elevated on the SSBD; or b) Exhibited behaviors with moderate severity (a rating of at least 5), <i>or</i> moderate frequency (a rating of at least 5) <i>or</i> a moderate need for intervention (a rating of at least 3) on the checklist.	Exhibited behaviors with moderate severity (a rating of at least 4), moderate frequency (a rating of at least 4), and moderate need for intervention (a rating of at least 3) on the checklist.	a) Score of 61 or higher on either the parent or teacher version of the BESS or b) Exhibited behaviors with moderate severity (a rating of at least 4), moderate frequency (a rating of at least 4), and moderate need for intervention (a rating of at least 3) on the checklist.

A total of 16 consultants administered the CBC process over the three RCTs.

Consultants were graduate students or Masters-level clinicians with degrees in counseling psychology, school psychology, or similar fields. Consultants were 94% female and 86% white, non-Hispanic/Latinx. One consultant identified as Latinx and one consultant identified as both white and Native American.

### **Setting**

Participating children are from 86 classrooms in 40 schools. Participants from the first RCT were from mainly Midwestern urban schools, participants from the second RCT from only Midwestern rural schools, and participants from the third RCT from urban and rural areas in the Midwestern United States. CBC intervention meetings took place at children's elementary schools, generally in teachers' classrooms (unless parents requested another location). Other intervention services, such as consultant support of

parent plan implementation, took place in participants' homes at parents' request or approval.

### **Study Variables**

The independent variable in this study is CBC. The dependent variables in this study are child behaviors as reported by parents and teachers (i.e., externalizing behavior at home and school, internalizing behavior at home and school, and attention/learning problems, called "school problems," at school). The moderating variables in this study are orientation to Latinx culture as measured by family language spoken in the home, family SES as measured by an income-to-needs ratio, and the parent-teacher relationship history as reported by parents. Control variables were RCT of origin (i.e., RCT 1, 2, or 3) and child behavior at Time 1 (i.e., externalizing behavior at home and school, internalizing behavior at home and school, and school problems at school). Fidelity of the CBC intervention was also assessed.

### ***Independent Variable and Study Conditions***

The independent variable in the current study was assignment to CBC intervention. CBC is defined as a series of problem-solving meetings attended by parents and teachers and led by a consultant. Consultants administered the CBC intervention in accordance with the structure provided by Sheridan and Kratochwill (2008).

**Conjoint Behavioral Consultation.** Parents and teachers assigned to the CBC condition met with a consultant for three to five meetings lasting 45 to 60 minutes each. The CBC process was administered over eight weeks in the first and second RCTs, and over an average of 9 weeks in the third RCT. Parents who requested interpretation were supplied with an interpreter for each meeting. In cases led by a bilingual consultant,

parents had a choice of conducting meetings in English or Spanish. If meetings were conducted in Spanish, an interpreter was present to interpret for the teacher if needed.

During the first meeting, Conjoint Needs Identification, the consultant led parents and teachers in discussing the students' strengths and challenges, selecting a specific target behavior, and creating a system for collecting data on the target behavior in the respective environments. Data on target behaviors were available for 43 of the Latinx children in the treatment group. A small majority of target behaviors were related to on-task behavior (48.8% of target behaviors at school, 25.5% of target behaviors at home) and compliance with instructions (11.6% of target behaviors at school, 37.2% of target behaviors at home). In past CBC studies, on-task target behaviors were a similar proportion of all target behaviors at school (Sheridan et al., 2012; Sheridan et al., 2017a). However, the proportion of home target behaviors related to compliance was lower in the current study than in other CBC research (42% of all target behaviors in Sheridan et al., 2012 and 73.2% of all target behaviors in Sheridan et al., 2017b). Other target behaviors in the current study included reducing disruptive speech or blurting (11.6% at school), reduction of tantrums/increased emotional control (6.9% at school, 11.6% at home), improved communication of needs and questions (11.6% at school, 9.3% at home), increased participation during classroom lessons (4.7% at school and home), initiating peer interactions (2.3% at school and home), and work completion (2.3% at school and 6.9% at home).

Teams reconvened for the second meeting, Conjoint Needs Analysis. During this meeting, the parent and teacher shared the target behavior data collected and determined an appropriate goal for the student. The consultant, parent, and teacher then

discussed possible functions of the student’s behavior, which was used to inform their collaborative creation of an intervention plan. Intervention plans were structured around empirically-based behavioral strategies, and included positive reinforcement, skills training, antecedent controls, and reductive techniques. See Table 7 for the types of components utilized in behavioral intervention plans across the three RCTs (Sheridan et al., 2012; Sheridan et al., 2017a; Sheridan et al., 2017b).

**Table 7**

*Components used in Behavioral Intervention Plans*

Components	Percentage of plans containing component					
	First RCT		Second RCT		Third RCT	
	Home	School	Home	School	Home	School
Positive reinforcement	97.3%	96.5%	100%	100%	70.0%	80.0%
Antecedent control	66.4%	57.5%	86.0%	89.0%	45.0%	55.0%
Skills training	24.8%	41.6%	13.0%	25.0%	15.0%	20.0%
Reductive techniques	10.6%	13.3%	15.0%	11.0%	10.0%	0.0%

*Note.* Information on behavioral plans from the first and second RCT are based on data from all participants and are not specific to Latinx students. Information on behavioral plans from the third RCT are based on data available from 20 participants.

Parents and teachers implemented plans with support as needed from consultants (Conjoint Plan Implementation). During this plan implementation stage, parents and teachers continued to collect data on target behaviors, and consultants supplied feedback on plan implementation to consultees if necessary. During the final and third meeting, Conjoint Plan Evaluation, parents and teachers discussed data they collected on target behaviors during plan implementation and determined whether the intervention plan would be altered or discontinued based on student progress.

**Control Condition: Business as Usual.** Students of teachers randomly assigned to the control condition were allowed to pursue any services typically provided by their school or community. This could include after school care, the Student Assistance Team (SAT) process, special education services, inpatient or outpatient therapy, typical behavioral consultation from a school psychologist, etc. Parents of control group students reported receiving outpatient therapy ( $n = 2$ ), engaging in the SAT process ( $n = 2$ ) and participating in the Multidisciplinary Team process (MDT) for consideration of special education services ( $n = 1$ ).

### ***Dependent Variable and Measures***

The dependent variables in this study were children's externalizing and internalizing behaviors at home as reported by parents and children's externalizing behaviors, internalizing behaviors, and school problems (attention and learning difficulties) at school as reported by teachers. The dependent variables were assessed using the Behavior Assessment Scale for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004). The BASC-2 is a multidimensional tool that indicates the level of dysfunctional and functional behaviors and symptoms in children ages two through 25. Respondents reply to items with a four-point Likert scale, indicated how often a child engages in or displays that behavior. This measure has rating forms for different age groups and reporters, but all items map on to broad composites: internalizing behaviors, externalizing behaviors, adaptive behaviors, the behavioral symptoms index, and school problems (school problems is teacher report only;  $T$  scores above 70 indicate clinical distress for maladaptive behaviors scales, and scores lower than 30 for adaptive behavior). The BASC-2 has excellent psychometric properties and is well regarded in



child clinical and educational research. Furthermore, it has been translated into Spanish and validated with a Spanish-speaking population (Reynolds & Kamphaus, 2010). For the current study, parent and teacher report of externalizing and internalizing behaviors composite scores, and the teacher report of the school problems composite score were used to measure the dependent variables.

### ***Moderating Variables and Measures***

Three variables were investigated to determine whether they moderated CBCs effects on the dependent variables. The variables of interest, cultural orientation, family socioeconomic status, and parent-teacher relationship history, are defined below, with a description of the measures used to assess each.

**Family Cultural Orientation.** Family cultural orientation is defined in this study as primary language spoken in the home, as reported by parents. Use of spoken language to assess for cultural orientation is also aligned with Vélez-Agosto and colleagues (2017) reconceptualization of ecological systems theory and recommendation of measuring culture through daily practices. Language spoken in the home was assessed via one demographic item that asked parents to report on either which language they spoke most often in their home (RCT 3) or which language was spoken most often in the child's home (RCT 1 and 2). Response options were coded for English or Spanish. In cases where parents reported they spoke English and Spanish equally in the home ( $n = 8$ ), response options were recoded into English or Spanish based on the language of surveys completed by parents. This transformation was completed because Latinx parents from the first and second RCT did not have the opportunity to respond that they equally speak Spanish and English in their homes. Children were placed into categorical groups based

on parent responses, with the selection of “Spanish” indicating the family was more oriented toward traditional Latinx culture than mainstream United States culture and the selection of “English” indicating the family was less oriented toward traditional Latinx culture than mainstream United States culture. Family cultural orientation is a categorical variable.

**Family Socioeconomic Status (SES).** Family SES was operationalized using an income-to-needs ratio. An income-to-needs ratio does not fully define a family’s SES, but does indicate financial hardship. Smaller ratios reflected lower SES. Parent participants reported on the annual income of their household as well as the number of people living in their household. Annual income was assessed via one demographic item that asked parents to select their annual income from 18 ranges beginning at *\$8,000 or less* and ending at *\$50,000 or more*. Ranges were in \$2,000 to \$3,000 increments. In order to use this response in the income-to-needs ratio, the mid-point of the range selected was selected as the annual income for a family. For families who selected *\$50,000 or more*, \$50,000 was used to represent their annual income ( $n = 10$ , 10.3% of all participants). Though this method of assessing annual income limited variability for families making \$50,000 or more, it provided more variability in the lower income strata, which Latinx families are more likely to endorse (United States Census Bureau, 2018c). Number of people living in the home was assessed via a composite of two demographic items that asked parents to report on the number of adults (18 years or older) living in the home and the number of children (younger than 18) living in the home. The number of people living in the household was used to determine the families’ poverty threshold (United States Census Bureau, 2018b); the income-to-needs ratio was based on the family’s total

annual income divided by the appropriate poverty threshold for the year they participated. The income-to-needs ratio representing family SES is a continuous variable. The method of assessing annual income was categorical, though a specific numerical amount (and not a category assignment) was used in conjunction with number of people living in the home to create the income-to-needs ratio. Thus, although part of the data used to create the income-to-needs ratios for families was categorical, the final ratio was continuous.

**Parent-Teacher Relationship.** Parent-teacher relationship history is defined as parent-report of the quality of their relationship with their child's teacher prior to participation in intervention. It was measured via the Parent Teacher Relationship Scale (PTRS; Vickers & Minke, 1995), which assess the quality of the relationship between a parent and teacher through two constructs: joining and communication-to-other. Joining reflects the feelings of interpersonal connection between parent and teacher and communication-to-other is defined as the respondent's perceived communicative contribution to conversations. Scores for the joining subscale, communication-to-other subscale, and overall relationship can be computed. In the current study, the overall relationship score was used. The PTRS has 24 Likert scale-type questions, with higher overall scores indicating a more positive relationship. One parent, typically the parent who was the primary CBC participant, completed this measure. Because teachers do not typically perceive negative qualities of their relationship with Latinx parents (Miller, Lewis Valentine, Fish, & Robinson, 2016), only the parent overall relationship scores were used to obtain a more accurate rating of the relationship. The parent version of the PTRS was shown to possess adequate internal consistency in Sheridan et al.'s 2017 (RCT2) study ( $\alpha = .90-.93$ ). Parent-teacher relationship history is a continuous variable.

### ***Control Variables***

The control variables in this study were RCT of origin and pre-intervention levels of child behavior (externalizing behavior and internalizing behavior as reported by parents and teachers and school problems as reported by teachers). RCT of origin was defined as the original study from which a participant's data originated. RCT of origin was a categorical variable. Pre-intervention report of child behavior were assessed via the Behavior Assessment Scale for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004).

### ***Fidelity of CBC Intervention***

CBC meetings were recorded to assess if consultants implemented CBC objectives for each meeting with fidelity. Methods for assessing fidelity differed across the three RCTs from which the current study obtained data. As the third RCT is currently enrolling participants, fidelity data is not yet available for participants from that study.

In the first RCT, trained coders listened to 45% of all meetings conducted (all meetings referring to the entire sample of the RCT, not just Latinx participants). Coders assessed whether consultants met the objectives for each type of CBC meeting using the CBC Objectives Checklists (Sheridan, Eagle, Cowen, & Mickelson, 2001). The Conjoint Needs Identification meeting had 20 adherence objectives and Conjoint Needs Analysis and Conjoint Plan Evaluation both had 10 adherence objectives. Nearly 20% of the selected recorded meetings were coded twice for reliability purposes.

In the second RCT, 30% of recorded meetings (across the three meeting types) were coded for fidelity by trained coders. Again, this reflects all meetings and not those specific to Latinx participants. Thirty percent of selected meetings were coded twice for

reliability purposes. For this study, a CBC Fidelity Matrix was developed to code consultants in terms of adherence to objectives as well as quality with which they were completed (Sheridan et al., 2017a). For each objective, consultants were assigned an adherence score (0 = objective not completed, 1 = objective completed) and a quality or effectiveness score (0 = not effective, 1 = moderately effective, 2 = highly effective). An overall quality score for each CBC interview was calculated by dividing the total score (i.e., sum of 1 and 2 ratings) by the total possible quality rating score for each interview.

### **Data Collection**

Data collection was conducted at two time points, the first being before CBC implementation (and at a similar time for the control group; called Time 1), and the second being the conclusion of CBC treatment (and at a similar time for the control group; called Time 2). The length between Times 1 and 2 was 8 to 12 weeks.

### ***Independent Variable***

The independent variable, assignment to CBC, was assessed at Time 1. Student/parent randomization was based on teacher randomization.

### ***Dependent Variables***

The dependent variables of externalizing behavior and internalizing behavior as reported by parents and teachers and school problems as reported by teachers was assessed via the BASC-2 at Time 2. Dependent variables were assessed via online survey or paper survey in RCT 1 and 2, and by interview in RCT 3.

### ***Moderating Variables***

Cultural orientation, family SES (as represented by the income-to-needs ratio), and parent-teacher relationship history was assessed at Time 1. Moderating variables

were assessed via online survey or paper survey in RCT 1 and 2, and by interview in RCT 3.

### ***Control Variables***

RCT of origin was assessed at Time 1 via review of participant records. Pre-intervention externalizing behavior and internalizing behavior as reported by parents and teachers and school problems as reported by teachers was assessed at Time 1 via the BASC 2. Pre-intervention child behavior was assessed via online survey or paper survey in RCT 1 and 2, and by interview in RCT 3.

### **Research Design and Analytic Plan**

Data from the three original RCTs were merged to create the dataset for the current study. Five statistical models were used to answer the exploratory research questions regarding whether the ecological variables of interest moderated the effects of CBC for Latinx students. Multilevel modeling and multiple regression analyses were utilized. Significant interactions were probed to determine the nature of the moderating relationship.

### ***Data Preparation***

Participant data from three separate RCTs were merged to comprise the final sample for this study. Merging included data cleaning, renaming variables to create matched variable names across studies, combining Latinx participant cases into one dataset, and checking the final dataset for accuracy. Dummy variables were created for categorical data, specifically experimental condition (0 = control ‘business as usual’ condition, 1 = CBC condition), culture in the home (0 = English language, 1 = Spanish language), and RCT of origin (RCT 1 is the comparison group; Dummy code 1

[comparison of RCT 1 and 2]: 0 = RCT 1, 1 = RCT 2, 0 = RCT 3; Dummy code 2 [comparison of RCT 1 and 3]: 0 = RCT 1, 0 = RCT 2, 1 = RCT 3). The continuous moderators (income-to-needs ratio, parent-teacher relationship history) and Time 1 BASC-2 scores were cluster-mean centered (Enders & Tofighi, 2007).

### ***Design and Statistical Analysis***

The current study used a subsample of data (i.e., demographics, parent-teacher relationship history, and child behavior) from three previous cluster-randomized controlled trials. The original studies from which data were derived used cluster-randomized experimental designs, in which teachers were randomized to the treatment (CBC) or control (business as usual) condition. Children's group randomization was based on their teacher's condition.

Five separate models were run to answer the proposed research questions. The moderator variables, control variables, and the interaction variables (moderator variables interacting with experimental condition) were used as predictors for each of the child behavior outcomes (parent-reported externalizing behaviors, parent-reported internalizing behaviors, teacher-reported externalizing behaviors, teacher-reported internalizing behaviors, and teacher-reported school problems).

The current study used a combination of multilevel modeling and regression analyses. The structure of the data indicated a need to assess for effects of nesting through intraclass correlation analyses. Findings demonstrated that the variability due to nesting within teacher or school was negligible for the parent-reported externalizing and internalizing models ( $ICC = 0$ , in both cases). As such, multiple regression was deemed to be an appropriate model for testing research questions 1, 2, and 3 for parent-reported

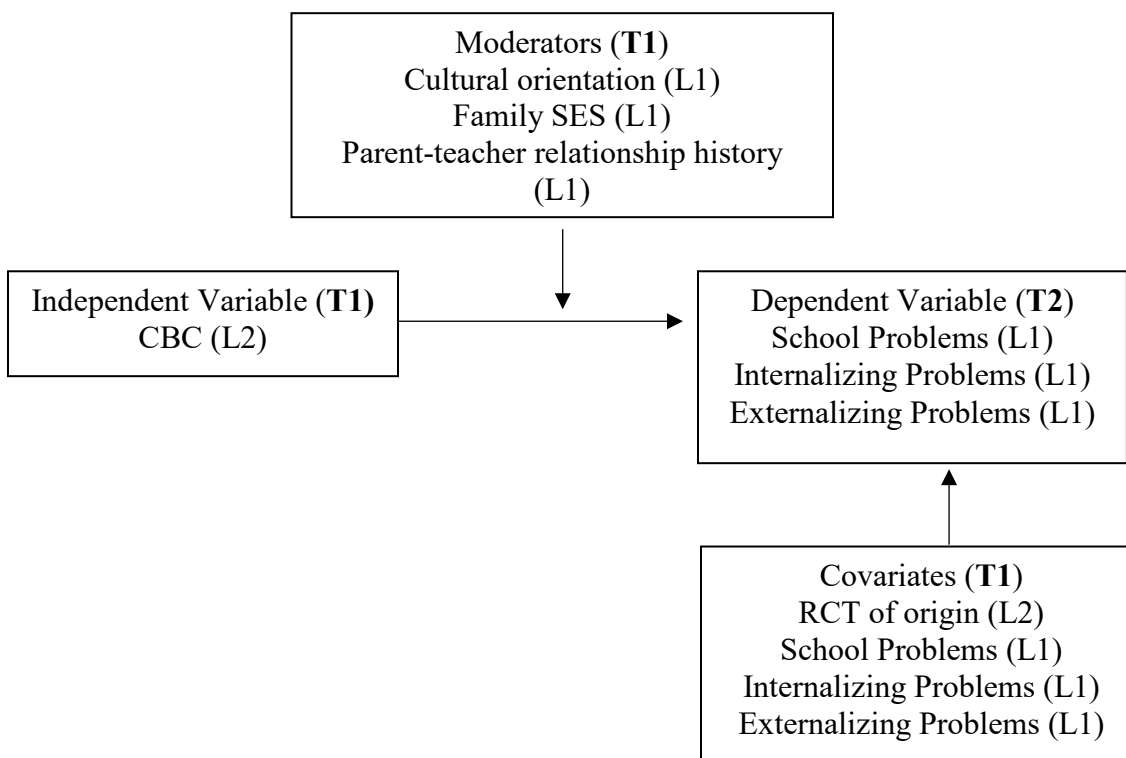
outcomes. For the teacher-reported school problems, externalizing problems, and internalizing problems models, variability at both the teacher and school levels was found to be significant, with the combination of variance at both levels explaining nearly 100% of all variance in all three models. This indicated a need for multilevel modeling to test research questions 1, 2, and 3 for teacher-reported outcomes.

In all models, control variables were prior levels of child behavior (Time 1) as well as RCT of origin of the participant. Models also included direct effects of condition assignment, cultural orientation, family SES, and parent-teacher relationship history. To test the moderating role of cultural orientation, family SES, and the parent-teacher relationship history, interaction terms including the moderator of interest and the experimental condition assignment (CBC) were included in the models. In the teacher-reported outcome models, which were multilevel in nature, the dependent variables (child externalizing behavior, internalizing behavior, and school problems) and moderator variables (cultural orientation, family SES, and parent-teacher relationship history) were modeled at Level 1 (student level), and the independent variable (experimental condition) was modeled at Level 2 (teacher level). Variability due to teacher nesting and school nesting was modeled at Levels 2 and 3, respectively. See Figure 1 for a model of the theorized relationship between variables.



**Figure 1**

*Theoretical model representing relationship between variables of interest*



*Note.* “T” refers to the time at which the variables were assessed. “L” refers to the level of analysis.

Significant interactions between experimental condition and categorical moderators (i.e., cultural orientation) were probed using an LSMEANS statement in SAS. This statistical procedure allows for exploration of significant differences in effects of an independent variable on an outcome at different levels or categories of the moderating variable. Significant interactions between experimental condition and continuous moderators were probed by creating additional models in which models were re-run with the cluster-centered mean of the moderating variable in question altered to 1 SD above and below the mean. This method allowed for determining the “level” at which the interaction between the moderator and the experimental condition occurred.

Analysis of a subsample requires attention to possible issues with randomization, statistical significance, and Type I error (Bloom & Michalopoulos, 2013). Typically, this would indicate a need for more conservative  $p$  values and/or Type I error corrections. However, due to the exploratory nature of the research questions and the large sample size generally needed to detect even small moderation effects, the current study did not adjust  $p$  values or make Type I error corrections in favor of reducing the likelihood of Type II error.

An intent-to-treat (ITT) approach was used to allow a participant's data to be used regardless of whether they fully received treatment or withdrew early. Retaining participants regardless of study completion mirrors the real-world implementation of interventions, in which attrition is likely to occur. An ITT approach also decreases statistical bias in results and reduces the likelihood of Type I error. Furthermore, it accounts for participants who may have not completed treatment, but who still demonstrated benefits (Lachin, 2000). A Restricted Maximum Likelihood Estimation (REML) approach also was utilized in this study. Using this type of estimation ensures the statistical model is the best fit for the data by ignoring the influence of nuisance parameters (e.g., parameters not of interest in the model that nevertheless must be accounted for) and by retaining degrees of freedom in the estimation (Harville, 1977; Patterson & Thomson, 1971). Furthermore, a maximum likelihood approach reduces the possible bias introduced to the analysis from missing data and helps meet the assumption that data are missing at random (Baraldi & Enders, 2010).

**Missing Data Analysis.** Preliminary analyses were conducted to determine missing data patterns and relatedness of missing data to outcomes of interest.

Relationships between missing data at Time 2 behavior outcomes (i.e., externalizing behavior as reported by parents and teachers, internalizing behavior as reported by parents and teachers, and school problems as reported by teachers) and Time 1 behavioral outcomes, child age, family language spoken in the home, annual family income, and parent education level were examined. These variables were selected due to literature that suggests they are often related to missing data and study attrition in parent training interventions (Chacko et al., 2016; Fernandez & Eyberg, 2009; Snell-Johns, Mendez, & Smith, 2004).

## Chapter 4: Results

The purpose of the current study was to test the moderating effects of variables of ecological significance on CBC behavioral outcomes for Latinx children (i.e., externalizing behaviors, internalizing behaviors, and school problems) as reported by their parents and teachers. To address these questions, a dataset representing Latinx participants (i.e., demographics, parent-teacher relationship history, and child behavior) from three previous randomized controlled trials was created. See Table 8 for descriptive data on the predictors and outcomes of interest. The original studies from which data were derived used cluster-randomized experimental designs, in which teachers were randomized to an experimental (CBC) or control condition; children's group randomization was based on their teacher's condition. In the current study, a combination of multilevel modeling and regression analyses were used to answer the research questions. Intraclass correlation analysis demonstrated negligible amounts of variability due to nesting within teacher or school for parent-reported externalizing and internalizing models. As such, multiple regression was used as the analysis for parent-reported outcomes. For the teacher-reported outcomes, variability at both the teacher and school levels was found to be significant. Thus, multilevel modeling was utilized in the analyses for teacher-reported outcomes, in which students (Level 1) were nested within teachers (Level 2), nested within schools (Level 3). Preliminary analyses regarding missing data and fidelity data are also presented.

**Table 8***Descriptive Statistics for Study Variables*

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	Minimum	Maximum
Time 1 Variables					
Income-to-needs ratio	97	1.02	0.85	0	6.41
Parent-teacher relationship	93	4.13	0.58	2.33	5.00
Parent-reported externalizing behaviors	84	51.56	13.04	32	86
Teacher-reported externalizing behaviors	77	59.95	13.96	34	98
Parent-reported internalizing behaviors	86	51.77	11.50	32	80
Teacher-reported internalizing behaviors	82	56.41	13.75	38	102
Teacher-reported school problems	82	59.40	7.63	43	80
Time 2 Variables					
Parent-reported externalizing behaviors	77	50.58	13.20	30	86
Teacher-reported externalizing behaviors	70	60.21	12.51	36	98
Parent-reported internalizing behaviors	77	49.08	9.31	32	81
Teacher-reported internalizing behaviors	77	55.09	14.23	39	100
Teacher-reported school problems	83	57.33	7.95	43	82

**Missing Data Analysis**

A descriptive analysis of missing behavioral outcome data at Time 2 demonstrated that 52% of participants were missing none of the five outcomes (parent-reported externalizing and internalizing problems and teacher-reported externalizing, internalizing, and school problems). Approximately 8% of participants were missing data for all five outcomes. Twenty-two percent of participants were missing one behavioral

outcome at Time 2, and 16.5% of the population were missing data for two, three, or four of the outcomes. Further exploration revealed substantial amounts of missing data for behavioral outcomes as measured by the BASC 2 at Time 1 as well. While nearly 59% of participants had data for all behavioral outcomes at pre-test, 24.7% were missing data for one outcome and 16.5% were missing data for two or more outcomes.

Chi-square and t-test analyses were conducted to determine if relationships existed between missing data at Time 2 and pre-test behavioral data, child age, annual income, and parent education. Only one significant relationship was found; teacher report of externalizing behavior at Time 1 was significantly related to missing data for teacher report of externalizing behavior at Time 2 ( $t = 2.57, p = .012$ ). Participants who were missing data for the teacher-reported externalizing outcome at Time 2 had significantly lower scores for the outcome at Time 1 (Missing data group  $M = 53.05, SD = 12.86$ , Non-missing group  $M = 62.21, SD = 13.68$ ). This may suggest that Latinx students with less severe externalizing behaviors prior to beginning intervention were more likely to discontinue services than children with more severe problems.

Variables theorized to be related to missing data in the sample (e.g., parent language, pre-test of behavioral outcomes, and income level) were already included in the analyses (income level as part of the income-to-needs ratio) due to research questions and thus were controlled for. Other variables typically found to be associated with missing data, including child age and parent education, were not found to be related to missingness on Time 2 outcomes in the current sample. Furthermore, the analytic strategy included a maximum likelihood approach to help meet the assumption that data were missing at random. As such, missing data was not found to be a significant issue for the

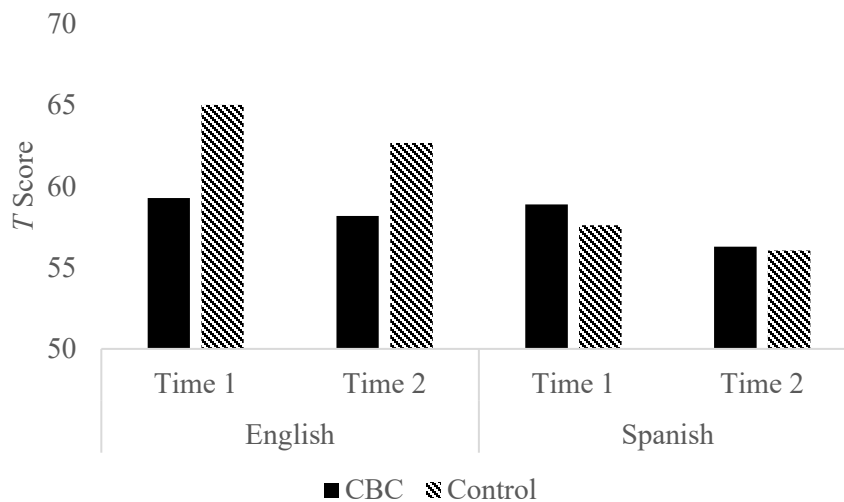
current study. The previously described missing data approaches were implemented to support meeting the assumption that that data were missing at random (ultimately to reduce bias due to missing data in the analysis).

### **Cultural Orientation**

For Latinx families, cultural orientation (operationalized as primary language spoken by the family at home) moderated the effect of CBC on teacher-reported school problems. The moderated effect was found for English-speaking families only. Specifically, children of families less oriented toward Latinx culture (i.e., those who spoke English at home) who were in the experimental group had a greater decrease in teacher-reported school problems at Time 2 than English-speakers in the control group,  $t(61.8) = 2.44, p = 0.02, \gamma = 7.22$  (English-speaking control group  $M = 64.63, SE = 2.64$ , and English-speaking treatment group  $M = 57.41, SE = 1.88$ ). For children of families more oriented toward Latinx culture (i.e., those who speak Spanish at home), there was no treatment effect for teacher-reported school problems  $t(35.5) = -0.41, p = 0.68, \gamma = -0.78$  (Spanish-speaking control group  $M = 54.85, SE = 2.57$ , and Spanish-speaking treatment group  $M = 55.63, SE = 2.59$ ). In other words, a CBC treatment effect existed for children of families who speak English in the home, but not for children of families that speak Spanish in the home. See Figure 2 for average school problems by condition and language.

**Figure 2**

*Mean T score for school problems by condition and language spoken in the home*

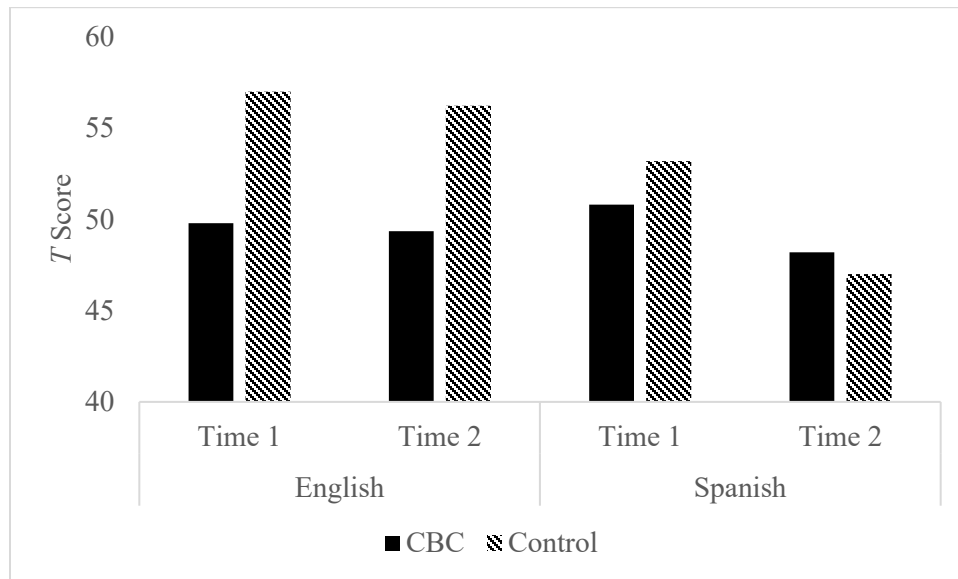


Similarly, cultural orientation moderated the effect of CBC on parent-reported internalizing behaviors,  $F(1) = 4.33, p = .0416$ . In particular, children of families less oriented toward Latinx culture (i.e., those who speak English in the home) in the experimental group had a greater decrease in parent-reported internalizing behaviors at Time 2 when compared to the English-speaking control group (English-speaking control group  $M = 58.73, SE = 3.49$  and English-speaking treatment group  $M = 48.29, SE = 2.44, p = .0155$ ). For children of families more oriented toward Latinx culture (i.e., speak Spanish in the home), there was no treatment effect for parent-reported internalizing problems, (Spanish-speaking control group  $M = 46.27, SE = 3.66$ , and Spanish-speaking treatment group  $M = 46.51, SE = 3.27, p = .9313$ ). See Figure 3 for average parent-reported internalizing problems by condition and language.



**Figure 3**

*Mean T score for parent-reported internalizing problems by condition and language*



Associations between cultural orientation, teacher-reported internalizing problems, teacher-reported externalizing behaviors, and parent-reported externalizing behaviors were not significant. See Table 9 for results of models testing the interaction between cultural orientation and experimental condition across child outcomes.

**Table 9***Results for cultural orientation x experimental condition interaction across outcomes*

Time 2 Outcome	$\gamma$	<i>SE</i>	<i>F</i>	<i>p</i>	<i>N</i>	Lower CL	Upper CL
Teacher-Reported School Problems	7.99	3.60	4.93*	0.03	76	0.82	15.19
Teacher-Reported Internalizing Behaviors	15.48	8.18	3.58†	0.06	69	-0.67	31.68
Teacher-Reported Externalizing Behaviors	6.13	6.45	0.90	0.35	57	-6.86	19.12
Parent-Reported Internalizing Behaviors	10.69	5.14	4.33*	0.04	70	0.42	20.96
Parent-Reported Externalizing Behaviors	-4.68	7.06	0.44	0.51	72	-18.82	9.45

†  $p < .10$ . \*  $p < .05$ .**Family Socioeconomic Status**

For Latinx families, the income-to-needs ratio, an aspect of family SES, did not moderate the effects of CBC on parent or teacher report of Latinx children's externalizing behaviors or internalizing behaviors, or on teacher-reported school problems. This suggests that CBC functions equally for Latinx children regardless of their financial hardship. See Table 10 for results of models testing the interaction between the income-to-needs ratio and experimental condition across child outcomes.

**Table 10**

*Results for family SES (income-to-needs ratio) x experimental condition interaction*

*across outcomes*

Time 2 Outcome	$\gamma$	<i>SE</i>	<i>F</i>	<i>p</i>	<i>N</i>	Lower CL	Upper CL
Teacher-Reported School Problems	-2.46	4.98	0.24	0.65	76	-16.70	11.77
Teacher-Reported Internalizing Behaviors	9.39	20.54	0.21	0.65	69	-33.45	52.23
Teacher-Reported Externalizing Behaviors	0.24	31.02	0.00	0.99	57	-62.20	62.67
Parent-Reported Internalizing Behaviors	0.52	2.57	0.04	0.84	70	-4.61	5.66
Parent-Reported Externalizing Behaviors	0.84	3.61	0.05	0.82	72	-6.38	8.06

### **Parent-Teacher Relationship History**

For Latinx families, parent report of the parent-teacher relationship prior to intervention was found to moderate the effect of CBC on teacher-reported school problems,  $t(4.5) = 3.38$ ,  $p = .023$ ,  $\gamma = 28.60$ . Further probing to compare school problems scores for children of parents with historically high- (one standard deviation above the

mean) and low- (one standard deviation below the mean) quality relationships was conducted. The simple slopes were not significant for historically high-quality relationships,  $t(32.3) = 1.34, p = .189, \gamma = 2.91$ , or historically low-quality relationships,  $t(33.7) = -1.87, p = .070, \gamma = -3.99$ . Thus, while parent-teacher relationship history may moderate the effects of CBC on school problems for Latinx children, the nature of the moderation effect remains unclear. The interactions between parent-teacher relationship history (as reported by Latinx parents) and externalizing and internalizing problems (as assessed by parents and teachers) were not significant. See Table 11 for results of models testing the interaction between parent-teacher relationship history and experimental condition across child outcomes.

**Table 11**

*Results for parent-teacher relationship x experimental condition interaction across outcomes*

Time 2 Outcome	$\gamma$	$SE$	$F$	$p$	$N$	Lower CL	Upper CL
Teacher-Reported School Problems	28.60	8.45	11.44*	0.02	76	6.11	51.08
Teacher-Reported Internalizing Behaviors	7.60	15.87	1.25	0.27	69	-190.99	56.83
Teacher-Reported Externalizing Behaviors	42.10	53.95	0.61	0.44	57	-66.51	150.70
Parent-Reported Internalizing Behaviors	4.10	4.39	0.87	0.35	70	-4.69	12.88
Parent-Reported Externalizing Behaviors	4.84	6.24	0.60	0.44	72	-7.67	17.31

\*  $p < .05$ .

### **Fidelity to CBC Process**

Overall consultant fidelity to the CBC process was high across the first and second RCTs. In the first RCT, consultants met 99% of objectives during the Conjoint Needs Identification Meeting, 98% of objectives in the Conjoint Needs Analysis Meeting, and 98% of objectives during the Conjoint Plan Evaluation Meeting. In the second RCT, consultant adherence to CBC objectives ranged from 93% to 96% across

meetings. Average quality ratings ranged from 1.64 to 1.81 ( $SD = 0.51$ ) across the CBC meetings (the maximum possible rating for a meeting was 2.0).

## Chapter 5: Discussion

Latinx students in the United States are at risk for poor school outcomes, such as suspension and expulsion (Gregory et al., 2010) and their mental health and behavioral needs are often not addressed (Kataoka et al., 2002; Toppelberg et al., 2013). Latinx parent involvement in their child's education has been shown to be beneficial; it is related to increases in academic achievement (Jeynes, 2003), social skills, and schoolwork habits (O'Donnell & Kirkner, 2014). However, Latinx parents often feel unwelcome and misunderstood in their children's educators (Hill & Torres, 2010; Ramirez, 2003). This is almost certainly related to how parent involvement is defined and invited by schools, which may not align with Latinx cultural values or ideas of engagement (Doucet, 2011; Nzinga-Johnson et al., 2009). As such, family-school partnerships, which are individualized and sensitive to the unique needs of students and families, are likely to be effective in increasing parental involvement and helping Latinx students succeed.

CBC is an efficacious family-school partnership intervention for improving children's outcomes at home and in the classroom (Sheridan et al., 2012; Sheridan et al., 2013; Sheridan et al., 2017a; Sheridan et al., 2017b). Preliminary research with Latinx children and families suggests that CBC may also be an efficacious method of service delivery for the Latinx population (Clarke et al., 2017). Despite this promising line of research, little is known regarding the factors that moderate the effectiveness of CBC for Latinx children. Cultural orientation, family SES, and parent-teacher relationship history are variables likely to be related to treatment outcomes for this population. The results of this exploratory study demonstrate some important associations between CBC treatment

and these variables, which may be of practical significance for intervention with Latinx families.

### **Cultural Orientation**

Orientation to Latinx culture was found to be a significant moderator of CBC for two child outcomes: teacher-reported school problems and parent-reported internalizing behaviors. Specifically, children of families who were less oriented toward Latinx culture (i.e., spoke English at home) had the best response to treatment (i.e., fewest school problems and parent-reported internalizing behaviors). Stated otherwise, children of families less oriented toward Latinx culture at the time of intervention appear to benefit most from CBC in terms of attention/learning problems at school and internalizing behaviors at home.

This finding may be due to the underlying cultural values of CBC. Though CBC is designed to be culturally responsive and sensitive to individual needs, the intervention was developed by and primarily researched with European American English-speakers. As such, the values placed on behavior and specific behavior strategies (e.g., reinforcement), are rooted in European American, mainstream United States culture. Latinx parents whose cultural values are similar to those espoused in the CBC process may be more engaged and able to effectively implement intervention plans, which would lead to desired changes in child behavior. Similarly, Latinx parents who primarily speak English may have fewer barriers in interacting with educators and engaging in the school system than parents who speak Spanish. As such, they may be more likely to have a history of positive interactions with educators and engagement in school system. English-speaking Latinx families then begin the CBC process with a foundation for partnership



building with teachers. This could explain the moderating effect of cultural orientation for English-speaking Latinx families on child outcomes.

In the current study, children of families less oriented toward Latinx culture demonstrated the best outcomes in terms of teacher-reported school problems and parent-reported internalizing problems. Given the challenges faced by youth who describe themselves as being “assimilated” into mainstream culture (e.g., adopting the culture of a new and different nation or ethnic group), this is an encouraging finding. Latinx youth who described themselves as relatively more aligned with mainstream, United States culture have been found to demonstrate more aggression, conduct problems, and attention problems than Latinx youth who describe themselves as identifying highly with their Latinx culture *and* those who described themselves as identifying equally with United States and Latinx culture (i.e., a bicultural orientation; Sullivan et al., 2007). Similarly, high levels of assimilation into United States culture has been associated with risk behaviors, including legal problems and drug abuse, for Latinx youth (Ebin et al., 2001). In the current study, CBC was found to be most effective for children and families who do not identify strongly with their Latinx culture, indicating it is a powerful intervention that can change behavior in children most likely to have poor outcomes. As CBC is generally implemented in early childhood, it could be used preventatively for Latinx youth at-risk for negative mental health and behavioral trajectories in later childhood and adolescence.

For children with families who were more oriented toward Latinx culture (i.e., speak Spanish in their home), there were no treatment effects of CBC on the school problems or parent-reported internalizing behaviors. It is possible that efforts to interpret

CBC meetings and/or translate written materials used in CBC were not completely effective. Accurate interpretation and translation of an intervention can be a difficult process, particularly when jargon or highly specific language is involved (e.g., “target behavior,” “baseline data;” Sheridan, 2000). In addition, there may be cultural discrepancies between values of Latinx participants and those inherent in the CBC process that limit the effectiveness of the intervention. Sheridan (2000) identifies several components of CBC that may not be universally valued across cultural backgrounds, including an appreciation for a problem-solving approach, definitions of “problem” behaviors, and acceptability of tangible reinforcement for desired behavior.

For Latinx families specifically, strong Latinx cultural values may include an emphasis on *respeto*, which refers to the proper treatment of others given their age, sex, and social status (Hardwood et al., 1995). Though the highly collaborative nature of CBC is intended to increase engagement and build relationships between consultees, it may create barriers for Latinx parents who defer to the expertise of the CBC consultant or their child’s teacher (Carrasquillo & London, 1993). Because they wish to demonstrate *respeto*, Latinx parents may be less likely to voice concerns or ask questions about components of CBC, which could lead to poor implementation of home intervention plans and limited meeting participation. In addition, the value of *familismo* may not be well incorporated into the CBC model if extended family members are not recognized or included. If extended family members or family friends are not included in intervention implementation, parents may find the intervention less acceptable (Parra Cordona et al., 2009), and Latinx children may be less likely to benefit from intervention.

However, there are other values in Latinx culture that appear to be well aligned with the CBC process. Latinx families who are highly oriented toward Latinx culture are likely to value *personalismo*, or the desire to build genuine, trusting relationships with others. This includes having an interest in knowing others personally, rather than relating to them only in a professional context (Hill & Torres, 2010). This value is highly aligned with the emphasis on relationship building in CBC. As the parent-teacher relationship is known to be an essential component driving CBC intervention effects (Sheridan et al., 2012; Sheridan et al., 2017a), it would be expected that children from families with a Latinx cultural orientation (likely to value *personalismo*) would demonstrate the greatest improvements. Traditional Latinx families who value *educación* want their children to develop academically and personally at home and school (Auerbach, 2006; Olmeda, 2003; Tinkler, 2002). CBC's emphasis on interventions across contexts that are heavily influenced by parents' assessments of their child needs appears consistent with this value. Given that some values in traditional Latinx culture appear aligned with the CBC model and others do not, further research is clearly warranted regarding the interaction between cultural orientation and CBC's effects.

Family cultural orientation (via proxy variable of home language use) was not a significant moderator of CBC effects for teacher-reported internalizing behaviors, teacher-reported externalizing behaviors, or parent-reported externalizing behaviors, indicating CBC functions equally for families regardless of cultural orientation for these specific outcomes. It is interesting to note that cultural orientation moderated effects of CBC on parent-reported, but not teacher-reported, internalizing behaviors. Perhaps CBC is effective for reducing internalizing behaviors for Latinx students in the home

environment, but not in the classroom; thus, there is no moderating effect. For example, teacher ratings of Latinx student's internalizing behaviors were not improved as a function of involvement in Schools and Homes Partnership, another family-school partnership intervention (Barrera et al., 2002).

However, it is also possible that differences in perceptions exist among parents and teachers; discrepancies in reports of behavior among different reporters, including parents and teachers, are common (Achenbach, McConaughy & Howell, 1987). This is often true for children's internalizing than externalizing behaviors, as internalizing behaviors are less observable and thus more difficult to report (De Los Reyes & Kazdin, 2005). Teachers may be less likely to perceive internalizing behaviors in the classroom than parents do at home, as they are less noticeable and problematic than disruptive behavior (Berg-Nielsen, Solheim, Belsky, & Wichstrom, 2012). This may make it difficult for teachers to notice change in internalizing behaviors over time and reduce the likelihood for detectable direct and moderating effects of CBC on that outcome. Parents, however, may be more attuned to their child's internalizing symptoms and more likely than teachers to note effects of intervention on those behaviors. As such, teacher reporting may be the reason family cultural orientation was not found to be a significant moderator of CBC's effects on school internalizing behaviors in the current study.

Regarding externalizing behaviors, there may not be detectable moderating effects of cultural orientation on these outcomes due to the relatively smaller number of consultation cases focusing on these behaviors. It could also be the case that cultural orientation does not influence CBC's effects on externalizing behaviors at home or school. Previous research has found that parent ethnicity, highly related to cultural

orientation, does not impact the effectiveness of interventions designed to target child externalizing behavior problems (Miranda et al., 2005).

### **Family Socioeconomic Status**

The results of this study show that an income-to-needs ratio, an aspect of family SES, does not moderate the relationship between CBC treatment and any of the selected child behavioral outcomes. This finding indicates that CBC functions equally well for Latinx children regardless of their family socioeconomic background and economic hardship. This is a significant finding, given that Latinx children and families are more likely to live in poverty and have relatively lower SES than other racial groups (United States Census Bureau, 2016). Traditionally, low family SES has been seen as a barrier to service provision for families (Leijten et al., 2013) and related to poor outcomes for children (DeCarlo Santiago, Wadsworth, & Stump, 2011; Reiss, 2013). Therefore, this promising *lack* of interaction between the income-to-needs ratio and CBC indicates that Latinx children from low SES households are as likely to benefit from CBC to the same extent as their higher SES Latinx counterparts, despite barriers associated with low SES. This is likely due to the individualized nature of CBC. CBC consultants are trained to be accommodating and aware of family schedules, transportation needs, and childcare needs. Parent contribution in intervention planning ensures that selected strategies will be acceptable and feasible for families. In addition, there is a focus on family and child strengths rather than barriers and deficits. These practices likely increase the engagement of low-income families in the CBC process, explaining why CBC functions equally for Latinx families regardless of SES.

### **Parent-Teacher Relationship**

Parent-reported quality of the parent-teacher relationship before beginning intervention was found to moderate the effects of CBC on teacher-reported school problems. However, further probing demonstrated that the simple slopes for this moderating effect were not significant. Whereas CBC effects appear to be moderated by parent-teacher relationship history, the study was underpowered to fully detect the nature of such effects. A trend suggesting that children of parents who reported initial low-quality relationships with teachers may have had the best response to treatment (i.e., fewest teacher reported school problems) was present. However, this cannot be confirmed or fully interpreted due to the non-significant  $p$  value ( $p = .07$ ). Further research in this area with larger samples is clearly warranted.

Parent-teacher relationship history was not a significant moderator of CBC's effects on internalizing or externalizing behavior problems. It may be that children's school problems (attention and learning) are more likely to be influenced by parent-teacher relationship quality than other types of behavior problems (e.g., disruptive behavior, difficulty interacting with peers, aggression). For example, Hughes and Kwok (2007) found that parent-teacher relationships mediated the relationship between child characteristics and teacher reports of their engagement (similar to attention) in the classroom. In addition, previous research indicates that nearly half of target behaviors selected by parents and teachers in CBC intervention are related to engagement in learning in the classroom, as opposed to other internalizing or externalizing behaviors (Sheridan et al., 2012; Sheridan et al., 2017a). As such, there may not be detectable moderating effects of initial parent-teacher relationship history on students' internalizing

or externalizing behaviors if these are not the focus of treatment, especially in this small sample.

### **Limitations**

The main limitation of the current study is the small sample size, leading to issues with power. Significantly more power is needed to detect moderating effects than direct effects, and this exploratory study may not have had the appropriate sample size to detect all moderating effects, particularly if those effects were small. As such, it may be that cultural orientation, family SES, and parent-teacher relationship history are moderators of the effects of CBC for more child outcomes than were found in this study. This is especially true for the parent-teacher relationship history variable. A significant moderating effect was found but could not be interpreted, likely due to the relatively small sample and lack of power. A small sample also limits the inferences that can be made regarding whether the significant moderating effects will be found in a larger Latinx population. This is not to disparage the findings of the current study, as it was an exploratory study and still provides a useful basis for future research.

A second main limitation of the current study is the utilization of data from previous randomized controlled trials of CBC for secondary analysis. The previous studies were not specifically designed to answer the research questions posed in the current study, which led to problems in measuring several variables (i.e., family SES, cultural orientation). In previous studies, family income was collected on a truncated scale, of which the highest response option was \$50,000 and all other response options were ranges of income. In addition, a significant number of families (approximately 90%) made less than \$50,000 annually, which suggests a restricted range in the income

variable. (Even when using additional information to create a needs-to-income ratio for families, variability was low. This may have contributed to the null findings for the first research question regarding whether the effects of CBC are moderated by family SES. Similarly, the measurement of cultural orientation consisted of one demographic variable (i.e., language spoken in the home). Though there is precedent for spoken language as a proxy for culture or acculturation, more recent best practices indicate the use of several variables in the conceptualization of culture, including language proficiency, nativity, and identification with values and customs (Lopez-Class, González Castro, & Ramirez, 2011). In addition, new conceptualizations of culture within ecological systems indicates culture is best measured through daily practices and routines (Vélez-Agosto et al., 2017). Though the current study assesses cultural orientation through a daily practice (i.e., language), use of one item to describe cultural orientation simplifies culture and may have only captured one aspect of cultural orientation.

Another limitation to the current study was the imbalance of participants included from each of the three randomized controlled trials. The majority of participant data for the current study were obtained from one RCT, which is investigating the effectiveness of CBC with Latinx students explicitly. The other RCTs contributed considerably less participant data, as those studies included Latinx participants but enrolled any student who met behavioral criteria for participation. The third RCT was a randomized controlled trial specifically investigating the efficacy of CBC with Latinx students and families. Though consultants adhered to the CBC process, there were some inherent differences between the third RCT and the first and second RCT.



First, a focus group of self-identified Latinx mothers was conducted prior to the study initiation, which resulted in valuable information regarding how best to engage Latinx families in CBC and the research process. This led to procedural changes from the first two RCTs in contacting parents, collecting information, and attrition-prevention activities. Second, this information also informed the training process for consultants in the third RCT, which included training on definitions of culture, self-awareness of biases, and cultural humility. Third, the third RCT made use of a bilingual, Latinx consultant. Participating families with this consultant who primarily spoke Spanish could opt for CBC meetings to be conducted in Spanish, with an interpreter present for the teacher. Additionally, the third RCT took place during a significantly different political climate than the first and second RCT, in which many Latinx immigrants feared deportation due to the United States government renewed emphasis on “illegal immigration” (Pew Research Center, 2017). Though RCT of origin was included as a covariate in this study, there are myriad differences across the RCTs that may have impacted the findings, including consultant training, participant retention strategies, and wider sociopolitical climate.

Finally, the current study did not provide fidelity data specific to Latinx participants. The data of participants in the current study were drawn from three existing RCTs, one of which is continuing to enroll participants. The fidelity data presented reflected the entire samples of the first and second RCTs, not the specific fidelity information for Latinx participants. Furthermore, information regarding the fidelity of the CBC intervention in the third RCT was unavailable. While it was demonstrated that overall fidelity of CBC implementation is typically high (Sheridan et al., 2012; Sheridan et al., 2017a), the level of fidelity with which CBC is implemented with Latinx families

and students remains unknown. As such, the findings of the current study may have been impacted by implementation fidelity. This limitation mirrors a discussion of fidelity in the field of intervention science. The degree to which implementation and non-intended changes affect intervention outcomes is difficult to measure, as is deciding which aspects of intervention implementation merit investigation (Griner Hill, Maucione, & Hood, 2007). For ethnic minority populations, this issue is complicated by the fact that these populations are generally under-represented in intervention research (Caredmil, 2010). Little is known regarding whether interventions such as CBC are implemented with fidelity for minority populations, but this information could be critical to ensuring services are appropriate and that interventions produce desired outcomes for these families.

### **Future Directions**

Research examining moderation of CBC's effects are lacking. Future research in this area is needed to determine other potential moderators of CBC treatment effects for Latinx parents and children. Possible avenues to explore include other ecological variables shown to moderate similar interventions or programs.

### ***Microsystem***

Characteristics of children and their families have been found to moderate effects of behaviorally based interventions. Research regarding the Incredible Years, an evidenced-based parent training program, demonstrates that child age, child gender, and maternal mental health all moderate intervention effects (Gardner, Hutchings, Bywater, & Whitaker, 2010). Parental personality characteristics have been found to impact similar intervention programs, such as Parent Management Training (Wachlarowicz, Snyder,

Low, Forgatch, & DeGarmo, 2012). In addition, a meta-analysis of parent training programs identified severity of child behavior and the child's diagnosis as moderators of treatment effects (Lundahl, Risser, & Lovejoy, 2006). The effects of the Family Check-Up, a family-school partnership intervention similar to CBC, were found to be moderated by the education level of parents and number of parents in the household (Gardner et al., 2009). These child and parent characteristics may moderate the effects of CBC on Latinx children's outcomes.

Immigration status may also be a salient ecological variable to explore for Latinx families. Parents born outside the United States are likely to identify barriers to participating in their children's education (Turney & Kao, 2009). Current policy and national sentiment in the United States toward Latinx immigrants (documented or undocumented) is one such barrier to participation for Latinx parents (Olivos & Mendoza, 2009) demonstrating the interplay between microsystemic (immigration status) and macrosystemic (federal laws) factors. Due to the influence of immigration status on parent engagement, future research should consider Latinx parent immigration status as a possible moderator of CBC.

**Culture in the Microsystem.** In addition to individual child, parent, and community characteristics, experts in the field call for future intervention research with Latinx families to consider how specific cultural values, acculturation, gender roles (Stein & Guzman, 2015), and daily cultural practices (Vélez-Agosto et al., 2017) influence intervention results. The findings of the current study, which demonstrate that family cultural orientation is a moderator of treatment effects, is aligned with this perspective. Future CBC research regarding moderators of treatment for Latinx families and children

may be designed to explicitly investigate the impact of specific Latinx cultural values (e.g., *personalismo*, *respeto*), acculturation variables (e.g., acculturative stress, identification with original and new culture), and gender roles (e.g., values of *machismo* in the family, gender of parent participating) on treatment effects of CBC. In addition, researchers can investigate if parent and child behavior, as cultural acts, moderate treatment effects. For example, Latinx parents' strategies for engaging in their preschool-aged child's education were found to vary according to parent's primary language (associated with acculturation; McWayne, Limlingan, Melzi, & Schick, 2016). This indicates that daily behaviors and practices are indicative of underlying cultural constructs and may be likely to act as moderators of CBC's effects.

### ***Mesosystem***

The relationship between home and school is the most salient to the CBC process, as it involves parents and teachers. The home-school mesosystem was explored in the current study by identifying the moderating effects of the parent-teacher relationship history on child outcomes. This variable warrants further research, due to the inconclusive findings of the current study.

Other methods of conceptualizing the parent-teacher relationship, such as change in parent-teacher relationship over time or the parent-teacher relationship following CBC participation, may generate different findings. Specifically, it is possible that improvements in the parent-teacher relationship also influence treatment effects. Given that the parent-teacher relationship built through intervention is a known mediator of CBC, but parent-teacher relationship history may act as a moderator, the function of the relationship may be different depending on how or when it is assessed. Furthermore, only

the parent's report of the parent-teacher relationship history, and not the teacher's perspective of that same relationship, was considered in this study. Teacher perceptions of their relationship with parents, and discrepancies between parent and teacher perceptions of the relationship, could be explored as moderators in future research to provide deeper understanding of the role of the parent-teacher relationship history for Latinx families participating in CBC.

Additionally, different aspects of the home-school relationship may also moderate the effects of CBC. The home-school mesosystem could be characterized in a variety of ways, such as parents and teacher perceptions of their interactions or frequency of parent participation in home- or school-based educational activities. Latinx families often report feeling misunderstood or unwelcome in schools (Hill & Torres, 2010; Ramirez, 2003), and parents who experience negative interactions with school personnel are unlikely to become engaged in their child's education (Hornby & Lafaele, 2011). Thus, perceptions of interactions may also moderate the effects of CBC on child outcomes. Parent participation in educational activities, at home or school, could also moderate the effects of CBC. Parent engagement is associated with academic and socioemotional success for children (Ma, Shen, Krenn, Hu, & Yuan, 2016; Sheridan, Smith, Moorman Kim, Beretvas, & Park, 2019). However, little is known regarding how frequency or type of parent engagement may affect intervention. As Latinx families are more likely to engage in home-based educational activities (Tinkler, 2002), both home- and school-based parent engagement would be important to investigate in future research on moderators of CBC's effects.

Furthermore, the juxtaposition of differing (or similar) cultural backgrounds of consultants, parents, and teachers may influence intervention success and acceptability. Research has demonstrated that clients who identify as a racial minority generally prefer a service provider of their same racial/ethnic background (Cabral & Smith, 2011), and that providers of racial/ethnic minority backgrounds are perceived by clients of historically marginalized racial groups as more competent than white, European American providers (Constantine, 2001). When Latinx parents form relationships with teachers and CBC consultants, the same trends may apply. Examining the effect of match or mismatch of cultural, racial, or ethnic backgrounds of Latinx parents and other CBC team members may reveal other moderating relationships in the home-school mesosystem.

### *Exosystem*

Little CBC research has investigated the impact of community and neighborhood characteristics on treatment outcomes. A meta-analysis exploring outcomes of family-school partnership interventions demonstrated that community locale (urban, rural) was a significant moderator of treatment effects, specifically for changes in children's mental health (Sheridan et al., 2019). Research regarding the Family Check-Up demonstrated that neighborhood disadvantage moderated intervention effects (Shaw et al., 2016). As community size and neighborhood disadvantage have been found to moderate effects of family-school partnership interventions, these variables may also moderate CBC treatment effects.

Specific to Latinx youth, ethnic density (Lee & Liechty, 2015) and residential stability of neighborhoods (Lara-Cinisomo, Xue, & Brooks-Gunn, 2013) are related to

internalizing behaviors, though this is dependent on whether the youth is a recent immigrant. Currently, these neighborhood characteristics have been linked to internalizing behaviors; their role in the development of other behavioral difficulties has been unexplored. Future research is needed that considers the role of neighborhood ethnic density and residential stability in CBC treatment, particularly for Latinx youth experience internalizing problems.

### ***The Role of Moderators of CBC for Other Ethnic/Racial Groups***

The purpose of the current study was to determine if certain ecological factors moderated the treatment effects of CBC in a Latinx population. This extends preliminary research suggesting CBC is an effective intervention for Latinx children and their families. However, there is little known regarding the role of moderators of the effects of CBC with other ethnic or racial groups. Intervention effectiveness and efficacy studies rarely include ethnic minority participants, meaning the generalizability of most evidence-based interventions to ethnically diverse samples is unknown (Cardemil, 2010). Though CBC research has included diverse samples of participants (Clarke et al., 2017; Sheridan et al. 2006), there is still much to learn regarding the functionality and practicality of CBC for ethnic and racial minority groups in the U.S. Research exploring moderators of CBC's effects for students representing African American, Asian American, and Native American populations would extend the literature on the efficacy of CBC for diverse families and children, as well as indicate under which conditions CBC works best for these populations.

Family SES, examined in the current study, may be particularly important to explore with other racial/ethnic minority samples. Though not found to be a significant

moderator in the current study, SES has been found to impact immediate and follow-up treatment effects in parent training interventions (Leijten et al., 2013). Furthermore, indicators of SES, such as education, income, and home ownership, are strongly related to race (Williams, Priest, & Anderson, 2016). In a CBC single-case design study, African-American caregivers anecdotally reported participation was difficult given occupational and transportation constraints (e.g., unable to leave work, did not have reliable transportation). For some, these barriers led to withdrawal from the study (Ohmstede & Yetter, 2015). These issues, related to SES, appear to have had a significant impact on families from the African-American community during the CBC process. Given these findings, future research regarding family SES as a potential moderator of CBC treatment effects for all ethnic/racial groups will be critical. This is also true for the parent-teacher relationship history and cultural orientation. As these variables were found to be significant moderators of CBC effects in the current study with Latinx families, they may also impact treatment for other populations.

### ***Why Do Ecological Factors Moderate CBC Effectiveness?***

Perhaps more important than uncovering other moderating effects is a focus on understanding how the CBC process may be improved so that it is equally effective for all children and families, regardless of unique ecological conditions. CBC, as a family-school partnership intervention, is already uniquely positioned to attend to the individual needs of families, including family culture. However, the intervention appears more effective for some Latinx families than others. Determining *why* these moderating relationships exist, and if alterations to CBC need to be made, will be essential in



ensuring CBC is equally effective for Latinx families and children of diverse demographic and cultural backgrounds.

### **Implications for Practice**

Though the current study demonstrates CBC does not function equally for all Latinx families, it is not suggested that CBC must be radically altered to be effective. Decades of research demonstrate that CBC is effective in reducing problems behaviors, increasing prosocial behaviors, and improving the parent-teacher relationship. Furthermore, CBC is an effective and acceptable intervention for historically marginalized families (Sheridan et al., 2006). While the core components of the intervention would remain unchanged, adaptations can be made to ensure it is effective for Latinx families without abandoning the integrity of the CBC process (Gonzalez Castro, Barrera, & Martinez, 2004).

### ***Cultural Adaptations***

Intervention adaptation refers to the process of changing a program to reduce mismatches between its characteristics and those of the new context in which it will be implemented (Card, Solomon, & Cunningham, 2011). Thus, cultural adaptation is the process of changing an intervention proven effective with one cultural group so it is effective with a different cultural group. Methods for creating culturally-adapted interventions suggest that a number of stages: (a) gather information on a group in need of an evidence-based treatment, (b) select an evidence-based treatment with demonstrated efficacy, (c) use experts and group members to determine components in need of adaptation, (d) adapt and pilot new culturally-adapted treatment, (e) seek feedback from

group members, and (f) make additional adaptations based on feedback if necessary (González Castro, Barrera, & Holleran Steiker, 2010).

For Latinx populations, effective cultural adaptation of treatment includes both surface and core modifications to the intervention. Surface modifications refer to minor changes that align the intervention with observable characteristics of the target population, while core modifications refer to changes that incorporate salient cultural characteristics of the target population into the intervention (Cardemil, 2010). Surface modifications to a family-school partnership intervention for Latinx families may include interpretation/translation of meetings and materials, change in location for meetings, or selection of Latinx consultants to provide services. Connecting relevant Latinx values (e.g., *familismo*, *educación*, *personalismo*, *respeto*) to intervention concepts could constitute an important core modification. Most importantly, both superficial and core cultural adaptations to intervention must be derived from the Latinx perspective. Latinx families are seeking effective interventions that are aligned with their values and beliefs; the best way to serve these families is to elicit their suggestions and feedback when adapting interventions (Parra Cardona et al., 2009). As such, asking group members to determine components in need of adaptation, piloting the intervention, and seeking feedback from group members are critical stages of cultural adaptation frameworks when adapting interventions for Latinx families.

### ***Considerations for Consultation***

Studies suggest that consultants need to, and often do, modify consultation processes when working with diverse families (Swanger-Gagné, Garbacz, & Sheridan, 2009; Tarver Behring, Cabello, Kushida, & Murguia, 2000). Though the main

components of the CBC process have repeatedly been shown to be effective, the results of the current study suggest that it would be beneficial for consultants to consider all facets of Latinx families' backgrounds and lived experiences. Latinx students will present with different mental health and behavioral needs as they develop within their various systems and environments. Though the Latinx population may share some overarching cultural values and characteristics, they are a heterogeneous group that deserves individualized, efficacious treatment.

As cultural orientation was found to moderate the effectiveness of CBC for child outcomes, special consideration must be given to this in the consultative relationship. Ingraham (2000) suggests consultants working with families from diverse cultural backgrounds become competent in recognizing their own cultural backgrounds, respecting and valuing other cultures, and understanding individual differences in cultures (among other competencies) to serve families effectively. This may be especially applicable for CBC consultants working with Latinx families, as an interaction between cultural orientation and CBC treatment was found to impact student outcomes.

It is important to remember that the CBC consultation process does not exist in a vacuum. CBC is considered a Tier III intervention, meaning it is an individualized intervention intended for implementation with children for whom prior school-wide or group interventions have not been successful (Horner, Sugai, & Anderson, 2010). As such, CBC is one small component of a much broader school culture. While consultants can labor diligently to create solid, productive family-school partnerships, the school microsystem may not be conducive to the objectives and processes inherent in the CBC process. Specifically, schools may not have the appropriate climate to support positive

partnerships, particularly with diverse families. The most effective CBC consultants will note the historical and present effects of school culture on the relationship between parent and teacher, and use this information to inform implementation of relationship-building objectives.

## **Conclusion**

The mental health and behavioral problems of young Latinx students often go untreated, even when identified by both parents and teachers (Toppelberg et al., 2013). Latinx students are also over-represented in special education programs and disciplinary referrals (Moreno & Segura-Herrera, 2014). Perhaps because of unmet needs, Latinx students are at risk for poor school outcomes, such as suspension and expulsion (Gregory et al., 2010) and school dropout (United States Department of Education, National Center for Education Statistics, 2017). Latinx parent engagement in their child's education could be effective in addressing these needs and bolstering student success, but Latinx parents may feel alienated by school's definitions of "parent involvement" (Doucet, 2011). Thus, finding effective supports for Latinx students that are appropriate and effective for Latinx families is essential.

CBC, a family-school partnership intervention, is a culturally sensitive model with preliminary evidence of efficacy for the Latinx population (Clarke et al., 2017.) The current study extends that work by exploring ecological variables that moderate the effects of CBC on Latinx student outcomes. Orientation to Latinx culture was found to influence the effectiveness of CBC for Latinx students, as was parent-teacher relationship history (although the nature of the moderating effect could not be determined). Based on these findings, providers of CBC can begin to implement small changes to ensure

positive outcomes, including awareness of cultural differences within the Latinx population. Ultimately, greater cultural adaptations to CBC may be warranted. To inform potential changes, further research is needed to determine other variables that may moderate the intervention, with an ultimate goal of understanding how CBC can be effective for all Latinx families regardless of ecological variables.

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