IDENTIFYING STRUCTURAL AND RELATIONAL COMPONENTS IN A FAMILY-SCHOOL INTERVENTION PROGRAM: FAMILY SCHOOL CONNECTIONS AMONG LATINA/O IMMIGRANT FAMILIES

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Title: Identifying Structural and Relational Components in a Family-School Intervention Program: Family School Connections Among Latina/o Immigrant Families

At each higher level of education, there are fewer and fewer students of color. The High school dropout rate is a contributing factor to educational and racial disparities in higher education. School engagement has been recognized as an important protective factor for high school completion. Timely family-school intervention programs that promote youth school engagement can hold promise in changing the landscape for students of color. Little is known about the composition of such interventions and how effective they are for families and students that belong to historically excluded groups. This dissertation aimed to identify which structural and relational components of a family-school intervention program were associated with positive school engagement for Latina/o middle school students and what type of family-school connections model best predicts their school engagement. Qualitative coding, exploratory factors analyses, and regression analyses were leveraged to fulfill the study's aims. Findings suggested that homework involvement, structure at home, and school-based involvement practices were significantly associated with positive youth school engagement. There is no conclusive evidence regarding the best model for predicting youth school engagement, however, null findings could be explained by the need to improve measures assessing more nuanced

family-school intervention components. Study limitations, future directions, recommendations, and implications are discussed.

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CHAPTER I

BACKGROUND AND SIGNIFICANCE

Even though at present there is more racial and ethnic diversity in public schools than there was twenty years ago (Hussar et al., 2020), opportunity gaps in educational attainment for students of color continue to grow. Data on high school graduation rates for the 2018-19 school year indicate that Latina/o (82%), Black (80%), and American Indian/Alaska Native (74%) students' graduation rates were below the national average (86%). Only White (89%) and Asian (93%) students' graduation rates surpassed the national average (Irwin et al., 2021). Disparities continue to grow and deepen when college enrollment and graduation rates are analyzed. In Fall 2019, immediate college enrollment rates for new high school graduates were lower for Black (57%) and Latina/o (64%) students than for White (69%) and Asian (82%) students (Irwin et al., 2021). The six-year outcomes for the Fall 2014 entering cohort indicate that for the 2019-2020 academic year, college graduation rates for Black (42%) and Latina/o (49%) students were substantially lower than for White (68%) and Asian (73%) students (Causey et al., 2020). Given population projections that suggest that by 2055 people of color will become the new majority in the United States (U.S.; Pew Research Center, 2015), increasing higher education graduation rates for students of color should be of national interest.

Educational attainment is a social determinant of health, housing, income, and employment (Belfield & Levin, 2007). A higher level of educational attainment is associated with higher earnings. For instance, individuals who hold a bachelor's or higher degree have an annual median income 59% higher than those with a high school diploma

or equivalent (Irwin et al., 2021). To further one's education, a high school degree or equivalent is a prerequisite. Racial disparities in educational attainment are mirrored by disparities in high school dropout rates. Currently, American Indian/Alaska Native youth have the highest high school dropout rate (9.6%), closely followed by Latina/o youth (7.7%), and Black youth (5.6%); White (4.1%) and Asian (1.8%) youth have the lowest dropout rates (Irwin et al., 2021). Youth who dropout of high school are three times more likely than college graduates to be unemployed (NCES, 2021) and thus more likely to experience poverty and a host of accompanying negative outcomes (Renahy et al., 2018).

School engagement plays a crucial role in preventing high school dropout among youth. Bilge et al. (2014) suggest that a sense of belonging that is nurtured by a supportive environment is positively related to school engagement and higher academic achievement. Unfortunately, students themselves have reported that both parents and school could have done more before it was too late to reverse action (Bridgeland, DiIulio, & Morison, 2006). Indeed, for the last two decades, *family-school relationships* have been endorsed as a key element to improve student learning and success (Every Student Succeeds Act, 2015; No Child Left Behind, 2002). A large number of studies suggest that interventions and programs that target the family-school interface have positive effects on student's academic outcomes, including student school engagement (Jeynes, 2007; Wilder, 2014; Smith et al., 2020).

The issue, however, is that the operationalization of family-school relationships in research and practice has been dominated by the notion of *parent school involvement* (Powel et al., 2010). Such operationalizations frequently undergird a bias towards middle-class, European-American norms (Bower & Griffin, 2011) and an expectation of

school-based activities that frequently exclude the participation of low-income families and families of color (Bettencourt et al., 2020). In this dissertation, I use the term Historically Excluded Groups (HEGs), to identify people that by reason of race/ethnicity and/or socioeconomic status (SES) have been excluded from full rights, privileges, and opportunities in the U.S. ("Diversity Officer Magazine", n.d.). Among these are Latina/o immigrant families, the population focus of this study.

Even in Tittle I schools where there is a higher percentage of students and parents from HEGs (Every Student Succeeds Act, 2015), many programs tasked with strengthening family-school relationships continue to favor school-centric activities and invest resources in increasing the accessibility of these school-centric activities (Possey-Maddox & Haley-Lock, 2020). Increasing the accessibility of school-centric activities, although necessary, is not sufficient as many parents simply cannot attend school-based events. It is well documented that parents from HEGs experience barriers to school-based activities such as educational disparities (Daniel-White, 2002; Hornby & Lafaele, 2011; Peña, 2000), lack of time due to demanding, inflexible, multiple jobs and/or loss of pay (Hornby & Lafaele, 2011; Kim, 2009; Malone, 2017; Possey-Maddox & Haley-Lock, 2020; Robinson & Volpé, 2015).

These barriers also affect Latina/o immigrant parents, who in addition can experience language barriers (Daniel-White, 2002; Peña, 2000; Turney & Kao, 2009), have little experience navigating the U.S. educational system (Cross et al., 2019; Peña, 2000), or may experience documentation-status concerns that can foster institutional distrust due to fear of deportation (Cross et al., 2019). Importantly, most programs that target the family-school interface fail to adopt an equity lens to address these barriers and

further, they tend to dichotomize parents as adequate vs. inadequate (Montemayor & Romero, 2000). The notion of "adequate" is usually rooted in middle-class, European-American values and norms (Bower & Griffin, 2011). Relatedly, while most legislation and programs that target the family-school intersection use partnership language (Gross et al., 2020), in practice, support for students is rarely addressed using a true partnership approach between parents and educators.

For a program to be accurately classified as a *family-school partnership,* the/ program must promote actions that represent the coordinated effort and shared responsibility and power between parents and educators to support the student's academic and behavioral functioning (Cowan et al., 2004; Cox, 2005; Kim & Sheridan, 2015; Smith et al., 2020). In contrast, school involvement programs for parents mainly entail the participation of parents in the home and the school settings, based on school and/or educators' guidance (Fishel & Ramirez, 2005; Terriquez, 2011). In this sense, if family-school relationships are understood as a continuum, parent school involvement and family-school partnerships could be placed at opposite ends of this continuum.

Kim & Sheridan (2015) use an encompassing term, *Family-School Connections* (FSC), to include both of these types of programs; adducing the term unites salient features of family-school relationships broadly understood. They note that FSC's salient features can manifest in a variety of ways, yet research has focused mainly on either the *activities* in which parents and educators engage (a *structural approach* to FSC) or the *relationships* that parents and educators establish to support children's learning and development (a *relational approach* to FSC; Kim & Sheridan, 2015). The authors, however, theorize that the most effective approach to increase family-school connections,

especially among parents from HEGs, is one that brings together structural and relational components circumscribed within a partnership orientation. This model will be described more extensively in a further section of this dissertation.

This dissertation is grounded on Bronfenbrenner's Ecological theory and is responsive to Kim & Sheridan's (2015) FSC model and call for research that helps determine the composition of interventions designed to strengthen family-school relationships and the potential for stronger effects on children's outcomes with a combined approach. The purpose of this study is three-pronged. First, the structural and relational components of a family-school intervention program called *Conexiones: Families and Schools United for Equity* (hereafter referred to as *Conexiones*) will be identified. *Conexiones* was developed to enhance Latina/o immigrant parents' and educators' capacities to effectively support Latina/o middle school students' academic and behavioral success. Second, the unique effects of *Conexiones'* structural components on a measure of students' school engagement, and lastly, the combined effect of structural and relational components on the same outcome will be assessed.

To accomplish these purposes, FSC will be treated as a latent construct and Boateng et al. (2018) guidelines for scale development will be used. The goal is not to create a FSC measure but to try to locate indicators of structural and relational components of FSC using an existing data set. This study specifically aims to: 1) describe the FSC construct and provide preliminary conceptual definition; 2) specify and define the a priori dimensions of the construct, that is, the structural and relational components suggested by Kim & Sheridan (2015) through a literature review; 3) use Exploratory Factor Analysis to identify specific structural and relational components in *Conexiones*;

4) examine the association between the structural and relational components in *Conexiones* derived from the exploratory factor analysis and students' school engagement in a sample of Latina/o adolescents; and 5) test which model best predicts positive student school engagement: a structural components only or a combined structural plus relational components.

Theoretical Framework

This dissertation is theoretically grounded on Bronfenbrenner's ecological systems theory. Although subsequent revisions of this theory highlighted the role of biology and genetics in human development and added the affix *bio-* to the model's name (*bioecological* model; Bronfenbrenner & Ceci, 1994), the premise of the seminal theory remains unchanged. Bronfenbrenner (1979) advanced that human development is influenced by events, settings, and interactions within various overlapping and nested systems that range from micro to macro. The innermost of these systems is the *microsystem*, represented by the persons, groups, and institutions that the developing person experiences directly like home, school, or work (Bronfenbrenner, 1989). The next is the *mesosystem*, which comprises the interactions between two or more settings in which the developing person participates (Bronfenbrenner, 1979). For instance, the home-school mesosystem comprises the relations between parents and educators.

The outer systems are not directly experienced by the developing person, but do affect the micro- and mesosystems that they experience directly, thus, they are considered more distal influences on development. The first of these is the *exosystem* which encompasses the relations and processes that take place between microsystems where at least one microsystem does not contain the developing person (Bronfenbrenner & Morris,

2007). In this study, an example could be parent's work environment and policies, like changing work shifts, that can indirectly affect both child's home and school microsystems. The outermost system is the *macrosystem*, which includes intangible elements like cultural and subcultural norms, values, and belief systems, as well as socio-economic and political structures that indirectly shape a person's development (Bronfenbrenner, 1989). Finally, all of these systems are embedded in a *chronosystem* that represents how development progresses and changes over time (Bronfenbrenner & Morris, 2007).

The ecological model illustrates how systems influence and are influenced by one another and how individuals' development is affected by multiple interacting variables, across and within systems, over time. In the context of FSC, student's development and outcomes are influenced by multiple variables at different individual and systemic levels. For the purposes of this study, the focus is only on the micro- and mesosystemic influences on students' school engagement. Both the home and school microsystems and their intersection (i.e., the mesosystem) have been identified as prime contexts in which to test models of student's academic success, however, different views on what represents mesosystemic influences need to be noted. Some authors that ground their research on Bronfenbrenner's ecological model make a one-to-one correspondence between home- and school-based parent involvement practices to the micro- and mesosystems, respectively (e.g., Seginer, 2006). From this point of view, when parents take any action on the school grounds, an interplay between the home and school microsystems takes place, hence, a mesosystemic influence takes place.

In this dissertation a more nuanced understanding of mesosystemic influences is utilized. Smith et al. (2020) define mesosystemic influences as those that represent coordinated efforts between parents and educators and not simply the isolated, different or analogous, actions occurring at home and/or at school. In this sense, a mesosystemic influence is not determined by the place in which practices take place but by the intentional focus in bridging home and school when designing and implementing such practices. In sum, Bronfenbrenner's ecological model is used to help illustrate how micro- and mesosystems interact and use the Smith et al. (2020) definition of micro- and mesosystemic influences to guide the identification of structural and relational components in *Conexiones*.

Family and School Connections

The literature on the intersection between the home and the school microsystems is replete with multiple terms to describe this shared space of influence. "Parent involvement," "parent engagement," "parent participation," "home-school collaboration," and "family-school partnerships," are a sample of the terms used. As indicated earlier, this dissertation uses Kim and Sheridan's (2015) definition of Family-School Connections (FSC) as an encompassing term that describes parents and educators' practices to support children's positive outcomes. Kim and Sheridan's (2015) specify that FSC share two core features: "(1) parents and educators are mutually engaged in the educational process, and (2) efforts are aimed at supporting children's learning and positive development" (Kim & Sheridan, 2015, p. 2). These efforts to support children's learning and development can take multiple forms, however, some scholars advance that there are two basic models of FSC: Parent Involvement models and Home-School

Collaboration models (Christenson 1995; Cox, 2005; Fishel & Ramirez, 2005). Each of these is described next.

Parent Involvement Models. Parent Involvement (PI) models entail "the participation of significant caregivers in the educational process of their children in order to promote their academic and social wellbeing" (Fishel & Ramirez, 2005, p. 371). More traditional accounts of PI define *participation* as parents performing activities that are school or educator led, either at home or at school. This kind of participation has been termed by Terriquez (2011) as *plug-in school involvement*. Some examples may include volunteering at the school or in the child's classroom, supporting students with their homework, and attending school-based events such as PTA meetings. This plug-in school involvement is characterized by school personnel directing the activities, defining the what and the how, and frequently leaving little space for parents' influence (Ishimaru & Takahashi, 2017; Terriquez, 2011).

In PI models, there is an implicit common goal among parents and educators, namely the educational achievement and wellbeing of the child, yet there is an unequal share of power and responsibilities between them (Fishel & Ramirez, 2005). More contemporaneous accounts of PI suggest that there is a continuum between parent involvement with schools and parent engagement with children's learning in which a more equitable distribution of agency is negotiated between parents and educators as they move along the continuum (Goodall & Montgomery, 2014). While there are various definitions of PI, a consistent feature of programs that follow a PI model is an activity-based typology (for an example, see Epstein 1995; 2010).

Although a number of studies have found that PI programs and/or practices are associated with a multitude of positive child outcomes (Guli, 2005; Henderson & Mapp, 2002; Wilder, 2014), some researchers have questioned the effectiveness of PI models to improve student's academic outcomes. For instance, Fan & Chen (2001) found that there was substantial variability among studies included in their meta-analysis, with studies showing positive, negative, and no relations between PI and student's academic achievement. This variability was also noted in Fishel & Ramirez's (2005) review, who submitted that there was no conclusive evidence that suggested that PI was effective in raising academic achievement. Boonk et al. (2018) advanced that this variability could be explained by an inconsistent operationalization of PI. Indeed, studies that found a stronger positive relation between PI and student's academic achievement defined PI as parental expectations for academic achievement (Boonk et., 2018, Fan & Chen, 2001; Wilder, 2014) while the weakest associations were found for studies that defined PI as home supervision or homework assistance (Fan & Chen, 2001; Wilder, 2014).

Home-School Collaboration Models. Home-School Collaboration (HSC) models are defined as a reciprocal dynamic process between families and schools where parents and educators "share in decision making regarding mutually determined goals and solutions related to a student for whom all parties share interest and responsibility" (Cowan et al., 2004, p. 201). Importantly, this process is powered by the recognition of the shared roles and responsibilities between parents and educators (Kim & Sheridan, 2015), but also by the active pooling of their resources to create a cooperative interdependent relationship (Cowan et al., 2004, p. 201). Sample practices of HSC programs include school-to-home and home-to-school messaging and the collaboration of

parents and educators in the planning, implementation, and problem-solving of specific interventions (Cox, 2005).

Another salient feature of HSC models is that they are guided by mutually established goals between parents and educators which in turn serve as benchmarks for collaboration progress. Cowan et al. (2004) advance that the length and depth of goals is what differentiate HSC models from family-school partnerships models. In this sense, the latter model implies a longer-term relationship between parents and educators where goals are more encompassing and designed to influence whole systems that benefit all children, whereas HSC models' goals are relatively shorter-term and designed to influence individual children. For the purpose of this study, these two models are considered virtually the same and no distinction is made in relation to the literature reviewed.

The evidence for the effectiveness of HSC models to improve children's academic outcomes appears to be more consistent than for PI models. In a literature review, Cox (2005) concluded that HSC programs were effective in improving school outcomes such as increasing academic achievement and improving school-related behavior. Cox notes that the most effective HSC interventions involved parents and educators working together to implement an intervention and some form of communication between home and school, particularly two-way exchanges of information. In a recent meta-analysis, Smith et al. (2020) reached a similar conclusion to Cox's (2005), indicating that HSC programs significantly improved both students' academic achievement and academic behaviors, stressing that communication and collaboration between home and school were found to drive these positive effects.

An Integrative Family-Schools Connections Model

Kim and Sheridan (2015) discuss the limitations of conceptually understanding FSC from a single dimension perspective, that is, focusing only on the activities in which parents engage or focusing only on the relational dynamic between educators and parents. They suggest that this unidimensional perspective can overlook the complexity of FSC and can obscure the ability to identify which dimensions of FSC are more effective for whom; hence, they propose a *Meta Model of Family-School Partnerships* that integrates the strengths of both PI and HSC models. These authors render traditionally understood PI models as a *structural approach* to FSC given the structure that activities employed by parents to support their children's education provide. They note that activities are compartmentalized by the setting in which they occur, home or school, giving way to the well-known categories of *home-based involvement* and *school-based involvement*. Correspondingly, they suggest that a *relational approach* to FSC aligns well with models of HSC given its emphasis on the interpersonal relationships between educators and parents and their joint involvement to support child's outcomes.

Kim & Sheridan (2015) indicate that programs that emphasize a relational approach to FSC incorporate the recognition of shared roles and responsibilities among parents and educators and promote cross-system (i.e., school and home) collaboration, while programs that underscore a structural approach to FSC feature different roles and actions for parents and educators based on setting. While these broad descriptions of the general approaches are a good introduction, it is necessary to define the structural and relational components that make them in greater detail. In a meta-analysis study in which Kim and Sheridan were coauthors, Smith et al. (2020) conducted a component analysis of

several family-school interventions in which specific relational and structural intervention components were identified.

Smith et al. (2020) defined structural intervention components as "activities, behaviors, or strategies aimed at engaging parents in children's learning" (p. 513), and relational components as strategies "aimed at strengthening relationships or meaningful interactions among parents and teachers" (p. 513). An additional distinctive feature identified by Smith et al. (2020) was that structural intervention components targeted either the school or the home microsystems, while the relational intervention components targeted the home-school mesosystem. In other words, structural intervention components were the actions employed by parents and/or educators in their respective settings, and relational intervention components referred to the "work happening in an integrated way across settings" (p. 518).

In analyzing the definitions provided by Smith et al. (2020), some challenges related to the identification of components in family-school interventions can emerge. First, it could be argued that the structural components are more easily identified than the relational components (e.g., activities, behaviors by parents and teacher vs. work happening in an integrated way). Second, there is variability regarding what is categorized as a component and what is categorized as a sample practice of a particular component. For example, homework involvement is frequently considered a practice within home-based involvement (Boonk et al., 2018; Hill & Tyson, 2009), yet, Smith et al. (2020) categorize it as a component.

The first challenge can be explained by the fact that most of the research in the FSC field has focused on the concrete actions in which parents engage to improve

student's outcomes, whereas the efforts to strengthen the relationship between parents and educators and how it influences student's outcomes has received little attention in comparison (Kim, 2009; Kim & Sheridan, 2015). Although this may be a plausible explanation, it could still potentially complicate the identification of relational components within *Conexiones*. For its part, the lack of a clear guideline of what makes a given element a sample practice and what makes it rise to the component level appear to be a rather discretionary decision and, thus it could be an additional complication in the identification of structural and relational components within *Conexiones*.

Taking in consideration these challenges and the mixed findings of some structural approach (i.e., PI models) components and/or practices, it is important to first review the literature to develop as clear as possible definitions of each of the components advanced by Smith et al. (2020) and describe the evidence for their effectiveness in improving educational outcomes, to generate informed hypotheses. Evidence suggests that some forms of FSC decline in frequency or in effectiveness with the transition of students from elementary to middle school, while others may increase in importance or need (Hill & Tyson, 2009). The transition between primary and secondary school is an important one due to the confluence of changes in child's biopsychosocial development, family dynamics, and context (Hill & Tyson, 2009). These changes are very likely to impact FSC.

Given this study's focus on academic outcomes and the sample's sociodemographic composition, the literature search strategy focused on FSC among secondary school-aged children from HEGs. Nonetheless, due to the overrepresentation of studies conducted with samples of primary school-aged children in the FSC field, it

was not always possible to find studies that included samples with the aforementioned characteristics. In these instances, a note highlighting the use of literature with samples of younger children when studies with secondary school-aged children was not available is made. Described next are the structural and relational components identified by Smith et al. (2020), their definition, and evidence.

Homework Involvement. This construct is commonly represented by parents monitoring and/or directly aiding their children with homework (Sheridan et al., 2019), however, the literature includes a multitude of operationalizations of this construct. In their review article, Hoover-Dempsey et al., (2001) note this variability and conclude that parents can engage in a diversity of behaviors that can be categorized as homework involvement. In this review, the authors extract homework involvement behaviors from different studies and create encompassing descriptive categories that range from creating a school-like structure at home (i.e., establishing a schedule, ensuring a "distraction-free" environment, etc.) to scaffolding learning strategies to increase the fit between tasks' demands and the child's skill level.

Evidence from the Hoover-Dempsey et al. (2001) and the Boonk et al. (2018) reviews suggest that parents' homework involvement on student's academic achievement has yielded mixed findings, possibly related to the inconsistent operationalization of the construct. Although both of these reviews included studies with samples of secondary school-aged students, it was not their sole focus. Specifically, for the secondary school-aged students, Boonk et al. (2018) concluded that parent's interference with homework, homework-related conflict, and checking, controlling or helping with homework were

negatively associated with student achievement. No homework-related practice was positively associated with academic achievement for this age group in this review.

Home-Based Involvement. Seginer (2006) defines this construct as parents performing school-like functions in the home environment to support their children's learning and motivation. Seginer notes that as children move from preschool to high school with the corresponding increase in school subject's complexity and difficulty, parents shift their home support practices from helping with cognitive tasks to mainly motivational prompting (Seginer, 2006). In Boonk et al. (2018) review, parent's expectations, valuing academic achievement, reinforcing learning at home by providing educationally enriching activities (e.g., reading, watching or listening science content), academic encouragement, and parent-child educational conversations were positively associated with secondary school-aged student's academic achievement, school engagement, and self-efficacy. Interestingly, more is not always better. Parental control or interference in the form of excessive parent's academic pressure to perform or homework control was found to be negatively associated with academic achievement for secondary school-aged children (Boonk et al., 2018; Hill & Tyson, 2009).

Hill & Tyson (2009) yielded similar findings in their meta-analysis. These authors identified that when home-based involvement was measured as engagement with school work or helping with homework, the relationship with academic achievement was negative for middle-school students. In contrast, when it was measured as parent-child communication about school and providing educationally enriching activities and materials, it was positively related to achievement. In addition, Hill & Tyson (2009) identified that parent's behaviors—those that communicated to students their

expectations for achievement and their value of education, as well as fostering educational and occupational aspirations in their adolescents via discussions, planning, and preparing for the future—were associated with the largest effect sizes in academic achievement among middle-school students.

Home-based involvement appears to be an umbrella term that encompasses multiple parent behaviors. In this sense, it will be maximally informative to identify what discrete practices of home-based involvement were encouraged by *Conexiones* and if some of these practices are associated with stronger school engagement outcomes. Given that multiple studies have found that when home-based involvement is measured as homework involvement, the relationship with academic achievement is negative; when it is measured as other types of home-based practices, the relationship is positive. The decision of Smith et al. (2020) to exclude homework involvement from home-based involvement might be a reflection of that previous research.

School-Based Involvement. Seginer's review (2006) also provides a definition for school-based involvement. Seginer indicates that, as with home-based involvement, parent practices change as their child advances from preschool through secondary school. School-based involvement is defined as activities performed by parents at school that are intended to advance their children's educational outcomes. In early education, parents' school-based practices include direct involvement in educational tasks, while in secondary school, parents mainly engage in school-based meetings (Seginer, 2006). Hill & Tyson (2009) suggest that school-based involvement for parents of middle school students is less likely to promote their presence in their child's classroom and more likely

to include assisting educators with classroom organization, school fundraising, and/or committee work.

While these school-based duties are important for school functioning, they do not provide parents with instrumental skills in fostering their children's academic outcomes (Hill & Tyson, 2009), hence a direct relationship with the student's academic achievement may not manifest. Most evidence suggest that parents' school-based involvement is not related or negatively related with secondary school-aged children's achievement (Boonk et al., 2018; Seginer, 2006). For instance, Boonk et al. (2018) found that parents attending school-based events, meeting with educators, and/or volunteering at school was not related with their student's academic achievement, and that parent's communication with school was negatively associated with achievement. Interestingly, Hill & Tyson (2009) found a positive but not very strong relationship between school-based involvement and academic achievement among middle school students. These authors operationalized school-based involvement as parents attending school-based events, participating in school governance, and communicating with school personnel.

Of note is that school-based involvement is frequently operationalized as attending school-based events that range from parent-educator conferences to discuss child's progress to attending social events (e.g., student's plays, dance recitals, etc.) and participation in school governance. Similar to home-based involvement, school-based involvement can be an umbrella term that includes multiple parent behaviors that take place at school. It may be useful to distinguish between parent school-based involvement practices that can indirectly support the academic achievement of students (e.g., participating in school governance, fundraising, aiding educators with classroom

organization), and parent school-based involvement practices that can directly support student's academic achievement as parent-educators' conferences. Nonetheless, given that in this study communication is considered a relational component, parent-educator conferences will be included in the operationalization of bi-directional communication.

Behavioral Support. This construct has a long standing history of research in the education (Oliver & Rechsly, 2010) and family functioning fields (Serketich & Dumas, 1996; Leijten et al., 2019). However, it is not commonly included in definitions and/or operationalizations of FSC. Strikingly, Smith et al. (2020) identified that around 55% of the family-school intervention studies included in their meta-analysis used behavioral supports. Unfortunately, these authors do not provide a substantive definition for the construct. Borrowing from the behavioral management components of educational and family functioning intervention research studies (Leijten et al., 2019; Martinez & Eddy, 2005; Simonsen et al., 2008), a working operationalization of the construct was developed. For the purposes of this dissertation, behavioral support makes reference to the use of clear behavioral expectations, contingent reinforcement strategies to encourage desired behaviors, and consistent discipline (e.g., following-through with consequences) to respond to undesired behavior.

In both educational and family functioning research, behavioral support has been mainly concerned with the prevention of child conduct problems and the prevention of disruptive behaviors that interfere with student learning, but not necessarily with the improvement of academic outcomes. Although the direction of the relationship between behavior problems and academic achievement has not been settled, this association has been consistently established (Algozzine et al., 2011). Studies investigating the

relationship between behavioral support and academic achievement have yielded mixed findings. A longitudinal study implementing School-Wide Positive Behavioral Interventions and Supports (SWPBIS), an intervention that strongly features behavioral supports, found positive relationships between behavioral outcomes and academic achievement in multiple middle schools serving mostly students from HEGs, (Lassen et al., 2006).

In contrast, a large scale study that also assessed the effects of the implementation of SWPBIS within 153 schools (about a third were secondary schools) found a positive relation with students' behavioral outcomes but no significant relation with academic achievement outcomes (Noltemeyer et al., 2019). This finding is consistent with the results of two separate meta-analyses that synthesized research on the relation between behavioral support and behavioral outcomes (i.e., positive relation; Sheridan et al., 2019) and behavioral support and academic achievement (i.e., no relation; Smith et al., 2020). Of note is that the studies implementing SWPBIS only included applications of behavioral supports in the school context by educators. While there is a host of research that documents the relationship between behavioral supports implemented by parents in the home environment and positive secondary school-aged students' behavioral outcomes (Serketich & Dumas, 1996; Leijten et al., 2019), it was not possible to locate a study that investigated the direct relationship between behavioral supports implemented by parents in the home environment and academic achievement for secondary school-aged students.

Cross-Site Communication. Graham-Clay (2005) defines cross-site communication in the school-to-home direction as the communication that takes place when educators "seek to inform parents about events, activities, or student progress

through a variety of sources, such as an introductory letter at the beginning of the school year, classroom or school newsletters, report cards, communication books, radio announcements, school websites, and so on." (p. 118). No parallel definition for cross-site communication in the home-to-school direction is provided by Graham-Clay (2005); however, Fantuzzo et al. (2013) use a conceptually similar construct, home-school conferencing, in their measurement development study. Although this measure was developed to validate different dimensions of FSC among parents with preschool-aged children, the items that operationalize the home-school conferencing construct can be useful for the identification of this component. Fantuzzo et al. (2013) propose that items such as "I talk to my child's teacher about his/her daily school routine," "I talk to my child's teacher about my child's accomplishments," and "I talk to my child's teacher about his/her difficulties at school," among other items adequately capture this construct (p. 739).

In reviewing the Graham-Clay (2005) definition of cross-site communication and the items that made up the home-school conferencing construct proposed by Fantuzzo et al. (2013), it could be argued that what determines the direction of cross-site communication in a given program is who provides information and/or what microsystem the information is coming from. On the one hand, the Graham-Clay (2005) definition specifies educators informing parents about school events and student progress; on the other hand, the Fantuzzo et al. (2013) construct's items emphasize the parents informing educators about their children's home routines, outstanding events that can impact their schooling, and educational accomplishments and difficulties as seen from the parent's perspective at home. In addition, to increase differentiation between this construct and the

next, bi-directional communication, it may be important to specify that the information being shared does not require or invite a response from the other.

In terms of evidence linking these communication practices with students' academic achievement, Smith et al. (2020) found in their meta-analysis that, overall and across different age groups, one-way school-to-home communication, but not home-to-school communication, had a significant effect on this outcome. These findings could be partially explained by the small number of studies that included home-to-school communication practices, which could have affected the study's power to identify significant relationships. Both the literature review conducted for this dissertation and the Smith et al. (2020) meta-analysis suggest that more studies rely on school-to-home communication strategies than home-to-school communication strategies.

Bi-Directional Communication. Graham-Clay (2005) defines this construct as an interactive dialogue between educators and parents and specify that it can take place via phone calls, home visits, parent-educator conferences, and other home- or school-based activities. The defining characteristic of this type of communication is that parents and educators have the chance to have a back-and-forth exchange where both have the opportunity to voice their needs and perspectives (Davidson & Case, 2018). In their meta-analysis, Smith et al. (2020) found that bi-directional communication was not significantly related with academic achievement, but significantly and positively associated with social behavioral competence. Interestingly, they found that this positive relationship was moderated by age, suggesting that bi-directional communication was most effective in improving social behavioral outcomes in older students (Smith et al., 2020), however, the precise age-group was not detailed by the authors.

In a teacher outreach intervention, Bennett-Conroy (2012) used a homework completion intervention to increase teacher-initiated bi-directional conversations with eight grade students' parents from HEGs. Bennett-Conroy (2012) operationalized bi-directional communication as at least five-minutes phone or in-person conversations between educators and parents where they talked about the intervention's assignments and the student's overall progress in class. Although this study did not test the direct relationship between bi-directional communication and homework completion and homework grades, the author did find that educators had more bi-directional conversations with the parents of students who received the intervention versus those that did not receive it (Bennett-Conroy, 2012). In addition, students in the intervention condition had higher homework completion rates and higher grades than students in the control condition. Anecdotally, Bennett-Conroy (2012) reported that many intervention parents indicated they continued having lengthy conversations with educators, even after the study concluded, and educators indicated that parents who had never attended school-based events started attending them the following academic term. This could suggest that when educators implement relational practices such as increasing bi-directional communication, structural practices such as homework completion and school-based involvement may ensue.

Parent-Teacher Relationship. The FSC field has moved from a sole focus in the activities in which parents engage to yield positive child outcomes to a recognition that the parent-child relationship (Jeynes, 2010) and the educator-parent relationship have an important role in producing the desired child academic outcomes (Kohl et al., 2000; Minke et al., 2014). Based on Kohl et al. (2000) conclusion that the quality of the parent-

educator relationship is more predictive of child outcomes than the amount of contact between them, in this study the definition of educator-parent relationship aims to go beyond the mere contact between parents and educators and focuses on the quality of their relationship.

Kohl et al. (2000) assessed the quality of the parent-educator relationship by measuring three dimensions: the quality of their relationship, the educator's perception of the parent's value of education, and the parent's satisfaction with the child's school (Kohl et al., 2000). Other authors suggest similar and additional characteristics. Bronfenbrenner (1979) indicated that positive orientation, mutual trust, goal consensus across settings, and balanced power underlie effective parent-educator interactions. For its part, Minke et al. (2014) highlight similar characteristics to the ones detailed by Bronfenbrenner (1979) and add the presence of shared beliefs, a commitment to establishing and maintaining a positive relationship with respect to a child's education and schooling, accountability, consideration, sensitivity, and reciprocity.

Evidence assessing the relationship between the quality of the parent-educator relationship and secondary school-aged children's academic outcomes was not found, yet accrued evidence from research syntheses with younger children suggest that the quality of parent-educator relationships positively affects the social-behavioral and emotional adjustment of children (Henderson & Mapp, 2002; Sheridan et al., 2019). Some evidence for this younger age group also suggests positive associations between educator reported quality of parent-educator relationships and student's academic outcomes (Dawson & Wymbs, 2016; Hughes et al., 2005). Nonetheless, in the context of family-school

interventions, Smith et al. (2020) did not find evidence for this component's positive association with academic achievement in their meta-analysis.

Collaboration. The definition of collaboration has changed over time. By the 1950's there was a strict role separation between families and schools where families were responsible for children's moral, cultural, and religious education and schools were responsible for children's academic formation (Hill & Taylor, 2004). The separating line between home and school's roles started to blur in the early 1970's and continues to fade today with legislation, parent activism, and school accountability systems that call for increased collaboration and shared roles across settings (Cowan et al., 2004; Hill & Taylor, 2004). For the purposes of this study, collaboration is then understood as parents and educators "joining forces on behalf of a child by using joint decision-making and goal-setting" (Smith et al., 2020, p. 536).

In their meta-analysis, Smith et al. (2020) concluded that, overall and across school grades, family-school interventions using collaboration had a positive and significant impact on academic achievement. It should be noted that the studies included in the Smith et al. (2020) meta-analysis that included samples of secondary school-aged students' and a measure of academic achievement, participating students were diagnosed with different cognitive disabilities and also presented severe behavioral problems (see Carpenter-Aeby & Aeby, 2001; Kim & Park, 2012; Molina et al., 2008). Although some of these studies reported positive associations between collaboration and student academic outcomes, given the characteristics of these samples and the type of intensive interventions described in these studies, it is not clear whether collaboration is effective in improving academic outcomes among typically developing secondary school-aged

students. It was not possible to locate a study that directly tested the relationship between collaboration and academic achievement outcomes in typically developing secondary school-aged children samples.

Summary of the Family-School Connections Components Literature

As has been reviewed in preceding sections, there are myriad parent practices that can be included under the broad concept of FSC. Briefly, FSC are parent and educator practices that aim to support children's positive outcomes and development. Kim & Sheridan (2015) suggested that those practices can be further characterized as either structural or relational approaches to FSC depending on where the emphasis is placed; either on parent actions or on the parent-educator relationship. A structural approach provides parents with evidence-based tools and techniques that can help support the development and positive outcomes of students. A relational approach creates the context for developing effective collaboration between parents and educators that can also support students' positive outcomes.

Evidence suggests that different FSC practices are effective in improving student academic outcomes on different developmental stages. There is a larger evidence base documenting the effectiveness of FSC practices among elementary school-aged children than among secondary school-aged children. In addition, most studies assessing the effectiveness of FSC practices in improving academic outcomes among secondary school-aged children focus on structural over relational FSC practices leaving large knowledge gaps in the family-school relationships field. This dissertation study is designed to begin filling some of those gaps by identifying the structural and relational components in the *Conexiones* program and then testing the association between each of

the identified structural and relational components and the outcome of interest: school engagement among middle school students. In the next section, the current study's research questions and hypotheses are presented. Then, in the subsequent chapter, the methods used to test the hypotheses are described.

Current Study's Research Questions and Hypotheses

Conexiones is the family-school intervention program developed in the *Juntos* Project (hereafter referred to as *Juntos*). Using a longitudinal small-scale randomized controlled trial design with random assignment at the school level, a sample of educators (n = 43), Latina/o immigrant parents (n = 125) and their middle school students (n = 94) were recruited. Study participants completed assessments at three time points: baseline, immediately post-intervention, and 12-months post-baseline. This dissertation will use the parents' and students' baseline assessments, exploratory factor analysis, and regression analyses to answer the following research questions:

1. Can both structural and relational components of family-school connections be identified using exploratory factor analysis approaches in the *Conexiones* parents' assessment data?
2. What specific structural and relational components of family-school connections in the *Conexiones* parents' assessment data are significantly and positively associated with higher levels of students' school engagement?
3. What model best predicts student school engagement, a structural components model or a combined structural plus relational components model?

For research question one, it is hypothesized that the *Conexiones* parents' assessment data will have a large number of factors; some of these factors will adequately

fit under the overarching construct of a structural approach to FSC and some others will adequately fit under the overarching construct of a relational approach to FSC, as suggested by Kim & Sheridan (2015). In addition, some of these factors will resemble the specific structural and relational components described by Smith et al. (2020) and some others may emerge that do not coincide with these specific components. Similarly, it is hypothesized that *Conexiones* parents' assessment data will not have every single structural and/or relational component described by Smith et al. (2020).

For research question two, the hypothesis is that only home-based involvement and behavioral support, among the structural components, will be significantly and positively associated with students' school engagement. Given that the outcome of interest has a behavioral component, it is hypothesized that all relational components will be significantly and positively associated with students' school engagement. Finally, for research question three, the hypothesis is that a combined model, structural plus relational components, will be a better predictor of students' school engagement than will a model with only structural components.

CHAPTER II

METHODS

This dissertation uses data from *Juntos*, a three-year intervention development study led by the University of Oregon's Center for Equity Promotion (CEQP). This study aimed to develop a culturally specific family–school partnership intervention and test its potential promise in improving educators' and Latina/o parents' capacities to effectively support Latina/o students' school engagement and achievement in a small-scale randomized controlled trial. Six middle schools in three different districts in Lane County, Oregon, were recruited to participate and were randomly assigned to either a control condition (i.e., business as usual middle school services) or an intervention condition (i.e., *Conexiones*). Study participants completed individual assessments at three time points (i.e., baseline, immediately post-intervention, and 12-month post-baseline). A total of $n = 95$ primary parents[1], $n = 94$ students, and $n = 43$ educators were assessed at baseline. The present study used complete parent and student dyads ($n = 94$) baseline assessments only.

Sample

The analytic sample comprised Latina/o parents ($n = 94$) and their youth ($n = 94$). Parents had a mean age of 40 years at baseline; all but three parents reported being the biological mother or father of the target youth; 97% of these biological parents were the youths' mothers. The three remaining non-biological mother or father were the youth's aunt, stepmother, and grandmother. All but three parents were born in Latin American countries with the overwhelming majority having been born in Mexico (86%). All but

[1] In this study, the term parent includes individuals on a parental role who are not necessarily the biological mother or father of the youth, but are regardless considered their primary caregiver.

one parent reported Latina/o as their race and/or ethnicity; that parent indicated their race and/or ethnicity was White. On average, immigrant parents arrived first to the U.S. at age 17, with the youngest one arriving at age four and the oldest at age 35. All but one parent reported speaking Spanish at home and a little less than half also reported speaking English at home. Regarding education, 23.40% reported an elementary school education or less, 17% attended school through 8th grade, 20.20% attended high school without completion, 31.90% completed high school or a GED, and 7.40% attended post-secondary education or earned degrees.

Youth reported being 12 years of age, on average, (*SD* = .83) at baseline; over half reported being males (52%). Youth reported being in 6th grade (36.2%), 7th grade (40.4%), and 8th grade (23.4%). Approximately 88% of the youth reported being born in the U.S., 10% reported being born in Mexico, and 2% reported being born in Guatemala. Around 96% of the youth identified as Latina/o, 1% identified as indigenous from Latin America, and 3% of the youth declined to answer. All but one youth reported speaking Spanish at home and about 85% also reported speaking English at home.

Procedures

After obtaining IRB approval from the University of Oregon, *Juntos* staff collaborated with the six participating middle schools to recruit the study's sample. Spanish-English bilingual school staff conducted the initial recruitment by contacting all eligible families at the school. Eligible families were those with at least one Spanish-speaking parent and a U.S.-born or foreign-born youth between 6th and 8th grade. Bilingual school staff introduced the study to potential parent participants and requested their permission to be contacted by *Juntos* staff. If parents agreed, *Juntos* staff called

them to further discuss the study and, if they were interested, review the consent process and forms on the telephone. Once parents agreed to participate, their student was recruited in the same way. Project description narrative, consent, and assent forms in the preferred language (i.e., Spanish or English) were sent via mail with a self-addressed stamped envelope so participants could sign and return the forms. This recruitment method yielded 96 families, including 125 parents and their middle school youth.

After participants were recruited, a third-party statistician used a random number generator to randomize each of the two schools per district into one of the two conditions. Although school randomization occurred before baseline assessments, participants were blind to their randomization status when they completed the assessment. Once parental consent and student assent were received, participants could choose to be assessed by a telephone interview, by in-person interview, or to complete the assessment independently through a secure Qualtrics link. These options remained available for the follow-up assessments.

All parent assessments were administered in Spanish (see Appendix A and B). All of the students' assessments were administered in English. All participants who completed assessments received a gift card of varying amounts, depending on the assessment wave, in compensation for their time. Finally, participants randomized into the intervention condition were invited to participate in the multicomponent *Conexiones* intervention program. *Conexiones* group sessions took place roughly once a week on the early evening of a weekday at the youth's middle school. Each session lasted about 2.5 hours; child care and food were provided to parents and make-up sessions were provided for parents who could not attend their regular group session.

Intervention

The *Conexiones* curricula was built on Latin American cultural assets and was designed to address common challenges confronting Latina/o immigrant parents and their youth, affecting the latter's academic and school success. *Conexiones* encompassed a Family Component for Latina/o parents, a School Component for educators, and a Bridge Component that provided a venue to connect parents and educators. Based on the study's theory of change (see Figure 1), Family, School, and Bridge components were considered the more proximal factors predicting proximal students' outcomes such as school engagement, homework completion, and attendance and more distal students' outcomes like academic achievement, discipline, and college readiness. Given the model's emphasis on the influence of family and school factors in positive student outcomes, parents and educators were the direct intervention targets in the *Juntos* study. Detailed descriptions of the content and process of the *Conexiones* intervention components is available upon request.

Measures

In order to best fit the *Juntos* study sample, particularly the experiences of Latina/o parents and their youth from an equity sustaining lens, the assessment battery development strategy implemented item and/or scale adaptations on existing measures. The extent of these adaptations was not always recorded by the assessment development team and, for some items and/or scales, it was impossible to locate the original measure that served as the source for some of the items and/or scales used in the *Juntos* assessments. In these cases, a note indicating that the measure being described was a *Juntos* creation is made.

An additional issue was that some scales from some of the measures were not used as suggested in the original measure, rather, additions, deletions, and/or adaptations of individual items for a specific scale were conducted. In the description of the measures, such changes are noted. These practices resulted in an assessment battery with high levels of face validity but unknown construct validity. Given this approach, the definitions included in the theoretical background in Chapter I are used to propose some of the following measures and later, exploratory factor analyses for scale construction. Alpha reliability scores are computed on the scales resulting from the exploratory factor analyses and hence not included in the measures section. The current study includes measures of parent practices, parent relationship with school, and the outcome, a measure of students' school engagement.

Parent Practices

Parent practices such as homework involvement, monitoring, and appropriate discipline were selected and adapted from the parent interview used in the *Nuestras Familias: Andando entre Culturas* intervention study (Martinez, & Eddy, 2005). In turn, this parent interview was developed based on some of the constructs developed and used on seminal family intervention studies at the Oregon Social Learning Center (see Capaldi & Patterson, 1989). Other measures of parent practices that can be categorized under the umbrella terms of home-based involvement and school-based involvement were developed for use in the *Juntos* study.

Homework Involvement. A total of 17 items reflecting the frequency in which parents engaged in specific behaviors aimed at supporting their youth with homework (e.g., creating a home environment conducive to homework completion, verifying

homework completion, providing incentives or sanctions for completion or incompletion, respectively) composed this measure. Sample items included "*I reminded my youth to do their homework,*" and "*I reviewed and checked my youth's homework.*" Two items reflecting parent's non-involvement in homework were reverse scored. Response options used a Likert scale that ranged from (1) "never" to (4) "often."

Monitoring. Five items reflecting the level of parent's endorsement of their tracking of their youth's activities, where they are, and who are they with when they are not at home were used to measure parent's monitoring of their youth. Sample items included statements such as "*I often talk with my youth about their plans for the next day*," and "*in general I know who my youth is with*." Response options used a Likert scale that ranged from (1) "strongly disagree" to (4) "strongly agree."

Appropriate Discipline. Seven items reflecting the level of parent's endorsement of their use of effective discipline strategies such as responding to youth's misbehavior with specific consequences and incentivizing desired youth's behaviors with positive reinforcement were used to measure appropriate discipline in this study. Sample items included statements such as "*every time my youth does something bad, I respond with a specific consequence*," and "*when my youth is learning a new behavior, I acknowledge their progress with, for instance, a hug, a smile or a small present*." Response options used a Likert scale that ranged from (1) "strongly disagree" to (4) "strongly agree." Three items reflecting ineffective discipline were reverse scored.

Structure at Home. Eight items reflecting parent's endorsement of their employment of school-like functions in the home environment conformed this *Juntos*-developed measure. Sample items included statements such as "*I have taken measures to*

support my youth to meet deadlines," and "*I have taken measures to support my youth to find ways to be involved in volunteer activities in the community*." Two items slightly overlap with the homework involvement construct, "*I have taken measures to support my youth in developing a plan to study and complete homework*," and "*I have taken measures to support my youth in developing a schedule to complete homework and school projects*," but given their focus on organization and structure, they were kept here. Response options used a Likert scale that ranged from (1) "strongly disagree" to (4) "strongly agree."

Parent-Child Conversations About School. A total of 14 items reflecting the frequency in which parents engaged in conversations with their youth about school (e.g., events happening at school, youth's behavior, academic engagement, progress at school, challenging events like bullying or discrimination, youth's school friends etc.) constituted this *Juntos*-developed measure. Sample items included "*I have had conversations with my youth about things they learn in class*," and "*I have had conversations with my youth about things that happen at school.*" A subset of three items tap into conversations about college and career planning. Response options used a Likert scale that ranged from (1) "never" to (4) "often."

School-Based Involvement. Ten items reflecting the level of parent's endorsement of their involvement in some school-based activities and their efforts in familiarizing themselves with the U.S. school system constituted this *Juntos*-developed measure. Sample items included, "*In general, I make an effort to become involved in school activities, in [my youth's] classroom, and/or other ways (e.g., parent committees, volunteering, etc.)*," and "*In general, I make an effort to understand the school's rules*

and policies." Response options used a Likert scale that ranged from (1) "strongly disagree" to (4) "strongly agree."

Parent Relationship with School

Some items and scales reflecting the parent's relationship with the school and educators were selected and adapted from the Parent and Teacher Involvement Questionnaire - Parent Report (PTIQ – PR; Fast Track Project, 2010 - 2011). The PTIQ instrument was developed to measure various facets of parent and teacher involvement in elementary grades, thus adaptations were made to better fit the *Juntos* study's middle school context. Other measures of parent's relationship with their youth's school were developed for use in the *Juntos* study.

Parent Belongingness in School. Five items reflecting parent's experiences of feeling part of the school community made this *Juntos*-developed measure. Sample items included "*As a parent of this school, I feel like I am part of a community with school staff and other parents*," and "*As a parent of this school, I feel like I am welcome at my youth's school.*" Response options used a Likert scale that ranged from (1) "strongly disagree" to (4) "strongly agree."

Parent Endorsement of School. Four items creating the *parent endorsement of school* scale from the PTIQ – PR were slightly adapted and used to measure the level of parent's agreement with statements that measured their confidence that the school and school staff were serving their youth well. Item adaptations included a change in the phrasing of the person's voice and a reduction in the response scale from a five-point scale to a four-point scale. Sample items included, "*The staff at my youth's school is doing good things for her/him*," and "*My youth's school is doing a good job of preparing*

youth for their futures." Response options used a Likert scale that ranged from (1) "strongly disagree" to (4) "strongly agree."

Parent's Value and Support of Education. Six items reflecting parent's value and support regarding their youth's education and their aspirations for their youth's future made up this *Juntos*-developed measure. Sample items included "*It is important to me that my youth continues their education after high school,*" and "*It is important to me to help my youth make plans and take steps towards their goals for their future.*" Response options used a Likert scale that ranged from (1) "strongly disagree" to (4) "strongly agree."

Family-School Communication. A total of six items reflecting different aspects of the communication between parents and school staff constituted this *Juntos*-developed measure. Two items measure the frequency with which parents have had contact with educators, three items measure conversations about the youth between the parent and educators, and one item reflects the parent's effort to attend parent-teacher conferences. Sample items included "*In the last 3 months, how many times have you had any contact with your youth's teachers or other school personnel?*", "*As a parent in this school, I am certain I can have an honest and respectful conversation about my youth with their teacher*," and "*In general, I make an effort to attend parent-teacher conferences when I am available.*" Response options for the frequency of contact items used a Likert scale that ranged from (1) "never" to (4) "often." Response options for the other items used a Likert scale that ranged from (1) "strongly disagree" to (4) "strongly agree."

Problem Solving with Educators. Four items reflecting parent's confidence and self-efficacy to work with the school and educators to solve problems regarding their

youth constituted this *Juntos*-developed measure. Sample items included "*I can work with the school to find a positive solution if a conflict or problem in the school involving my youth emerges,*" and "*I can work with a teacher to solve any problem my youth is having at school.*" Response options used a Likert scale that ranged from (1) "strongly disagree" to (4) "strongly agree."

Parent-Teacher Relationship. Four items from the PTIQ – PR were selected and adapted from the six-item scale measuring the *quality of parent-teacher relationship,* specifically the parent's interest and comfort in talking with teachers. Scale adaptation encompassed excluding two items. Item adaptations included a change in the number of teachers being considered (i.e., from asking about only one teacher to asking about at least one teacher at the school), a change in the phrasing of the person's voice, and changes in the response scale. Sample items included "*At this school, I feel like there is at least one teacher to whom I can ask questions or make suggestions about my youth*," and "*At this school, I feel like there is at least one teacher that cares about my youth.*" Response options used a Likert scale that ranged from (1) "strongly disagree" to (4) "strongly agree."

Outcome

School engagement has been defined in the educational literature in many ways (Wang & Holcombe, 2010). Fredricks et al. (2005) suggest that school engagement is a multidimensional construct that includes three interrelated dimensions: behavioral engagement, emotional engagement, and cognitive engagement. Briefly, behavioral engagement indexes the student's behavior conducive to learning: on-task classroom behavior, attending classes, and following school rules. Emotional engagement assesses

the students' affective quality and responses in the classroom. Finally, cognitive engagement assesses the students' willingness and interest in going beyond the academic school requirements (Fredricks, et al., 2005). In this study, school engagement is measured as a construct that includes aspects of both behavioral and emotional engagement.

Student School Engagement. Nine items from The School Engagement Measure (SEM; Fredricks, et al., 2005) were selected and adapted from the 19-item original measure. Response options used a Likert scale that ranged from (1) "never" to (5) "all of the time". Factor analysis of items on the original SEM yielded three scales: behavioral engagement (n = 5), emotional engagement (n = 6), and cognitive engagement (n = 8; Fredricks, et al., 2005). *Juntos* used four of the five items assessing behavioral engagement and five of the six items assessing emotional engagement. These items reflected the frequency in which youth were engaged in the classroom, behaved in a manner conducive to learning, and enjoyed being at school. Sample items included "*I pay attention in class,*" and "*I feel excited about what I am learning at school.*" Three items reflecting idleness at school were reverse scored. Exploratory factor analysis in the present study suggested the scale was composed by one factor, however, the item "*When I am in class, I just act like I'm working*." had a factor loading below .30 so this item was removed. The final scale included eight items and it had good internal consistency (α = .80).

Covariates. Given secondary schools' more specialized curricular content, the unlikelihood that all parents are knowledgeable or comfortable with all school subjects, and the increasing request of adolescents for independence and autonomy, it is important

to consider that some parent characteristics like educational level and home resources, including time, are likely to affect the level of parent's school involvement. Likewise, youth variables such as academic performance, behavioral compliance, age, grade level, and gender may also influence the level of parent's involvement. Information collected and treated as covariates in this study included parents' age, parents' educational level, parents' kinship with youth, parents' comfort with English language, youth's age, youth's grade level, and youth's self-identified gender.

Analysis Plan

All analyses were conducted with R software (R Core Team, 2018) and the integrated development environment for R, R Studio (RStudio Team, 2018). The data analysis began with a thorough examination of the data for issues of abnormalities. Once any non-normal distribution issues that could violate model assumptions were identified and addressed, exploratory factor analyses (hereafter referred to as EFA) was conducted (hypothesis one). Given the large number of items (n = 89) and the parents' sample size (n = 96), items grouped in the scales described in the measures section and not the total number of items were subjected to EFA. This approach was taken in order to not excessively surpass the recommended ten respondents to one item ratio suggested in Boateng et al. (2018).

Since *Juntos* assessments variables targeted for EFA were ordinal (4- and 5-point Likert response scales) and EFA of Pearson product-moment correlation among polytomous variables can produce misleading results (Flora et al., 2012), a polychoric correlation approach was used in this dissertation. An unweighted least squares (ULS) estimation method was used for EFA as recommended by Flora et al. (2012). To

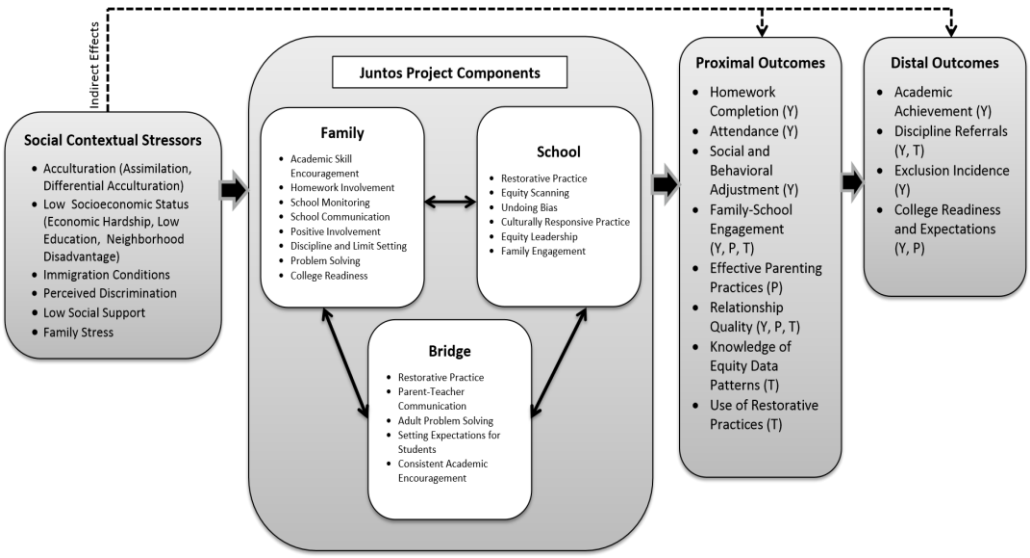
determine the number of factors to retain in each scale, examination of scree plots, Kaiser's rule (eigenvalues > 1), parallel analysis, and analysis of the pattern of factor loadings were considered. If more than one factor emerged in a given scale, an oblique quartimin rotation was used as suggested by Flora et al. (2012). To reach a simple factor structure, items with factor loadings that fell below .3 and items with cross-loadings on more than one factor were discarded. Although the factors extracted at this point only provide a hypothetical structure of the scale that requires further confirmatory factor analyses (CFA) to corroborate its dimensionality (Boateng et al., 2018), CFA was not conducted given the introduction of the manipulated variable, intervention condition, after the first assessment wave. Typically, EFA and CFA require using different waves of data.

To complete this first part of the process, reliability of resulting scales was tested using Cronbach's Alpha to assess how well the items within each scale hung together. Scales with alpha coefficients greater or equal than .70 were considered acceptable and composite scores were calculated. If all items in a composite score had the same response choices, the items were averaged; if not, the items were first standardized before being averaged. These resulting composite scores representing individual structural and/or relational components in *Conexiones* were then used as predictor variables in the regression models. To test what specific structural and relational components identified in *Conexiones* were significantly and positively associated with the outcome, separate simple linear regression models were conducted with each of these components and the outcome (hypothesis two).

Finally, a step-wise multiple linear regression model was used to test whether a structural-components only model or a combined structural plus relational components model best predicted the outcome (hypothesis three). These models were evaluated on two criteria: proportion of variance accounted for, using an R^2 statistic and Akaike information criterion (AIC) weights (Burnham & Anderson, 2002) to select the model that presented the best fit to the data. Importantly, AIC weights include a penalization for model complexity to counter the fact that adding more predictors to the model increases the proportion of variance accounted for.

Figure 1

Theory of Change and Intervention Targets of Juntos Project Study



CHAPTER III

RESULTS

Preliminary Analyses

Ninety-four parent-youth dyads completed the questionnaires with less than 1% of values missing for the identified scales of interest. Data exploration indicated that items showed considerable univariate skew and kurtosis. Henze-Zirkler and Anderson-Darling multivariate and univariate normality tests, respectively, showed that the data were not normally distributed. No outliers were identified. To determine the factor structure of each of the hypothesized construct scales of interest, exploratory factor analyses (EFA) were conducted using unweighted least squares (ULS) as the estimation method. The ULS estimation method makes no assumptions regarding variable distributions (Flora et al., 2012), thus it was selected as the method that could yield more accurate parameter estimates given the non-normal distribution of the data. Factor and item retention were determined by the examination of scree plots, parallel analysis, and interpretation of the pattern of factor loadings.

Assumptions for regression models were evaluated. The normality, linearity, independence of residual errors, and equal variance of residual errors assumptions appeared tenable. Although no-out-of-range data points were identified in the data, one of the participants' responses appeared to depart from the average responses in the predictors and outcome of interest. This possible outlier did not appear to be caused by data entry errors or human error as there was variability in the participant responses throughout the assessment. Regression analyses were conducted with and without this participant's data. Changes to model parameter estimates were negligible and did not

affect interpretation or statistical significance. Since it was concluded that the observed value of the outlier reflected the experience of the participant and exclusion of the data point had only negligible impact on the models, the data point was retained.

Hypothesis Testing

Research Question 1. The first question asked if both structural and relational components of family-school connections could be identified using an EFA approach in the *Conexiones* parents' assessment data. The associated hypothesis was that a large number of factors would be derived from EFA and, in turn, some of these factors would adequately fit under the overarching constructs of a structural and relational approaches to FSC, as described by Kim & Sheridan (2015). This hypothesis was supported. Thirteen separate EFA models were conducted (see Tables 1 – 13) using the construct scales included in the measurement section of this study.

These analyses derived a total of 19 final solution factors of which 13 passed the specified criteria detailed in the analysis plan section of this study and hence were used in subsequent analyses. A narrative description of EFA and interpretation of the parent practices scales is presented next (see full EFA results in Tables 1 – 6), followed by the parent relationship with school scales (see full EFA results in Tables 7 - 13). The parent practices scales are henceforth referred to as the structural components in *Conexiones* (*n* = 8) and the parent relationship with school scales as the relational components in *Conexiones* (*n* = 5).

Table 14 shows descriptive statistics for the structural and relational components in *Conexiones* derived from EFA and the outcome of interest, youth school engagement. Table 15 presents bivariate correlations for each of these components and the outcome.

Of note is that none of the relational components were significantly related with the outcome; whereas half of the structural components were. Specifically, a monitoring approach to homework involvement ($r = .26$, $p < .05$); structure at home ($r = .21$, $p < .05$); basic school-based involvement ($r = .21$, $p < .05$); and resource-intensive school-based involvement ($r = .22$, $p < .05$) were all significantly and positively associated to the outcome.

Structural Components in Conexiones

The scale identified as *homework involvement* was comprised of 17 items that followed a four-point Likert scale. Initial EFA showed that three items, 82, 83, and 92 had loadings below .30 and were removed from further analyses; the first two of these items had negative loadings. Of note is that these two items were the only ones in this scale that were negatively worded and indexed parents' non-involvement in youth's homework. Examination of the scree plot was not straightforward. Parallel analysis suggested four factors, however, one of these factors would have had only two items, with one of them cross loading into two factors. An EFA with three factors was hence conducted. In this solution, item 95 "*I checked with the teacher to make sure my youth completed their homework*" cross loaded on factor one and two. The cross loading was not too severe (see Table 1) and the item appeared to be more similar to items in factor two and hence it was retained as part of factor two.

In this solution, factor one had an eigenvalue of 3.22 that accounted for 23% of the variance among the items and had factor loadings that ranged between .45 and .90. Factor two had an eigenvalue of 2.65 that accounted for 19% of the variance among the items and had factor loadings that ranged between .44 and .92. Factor three had an

eigenvalue of 1.32 that accounted for 9% of the variance among the items and had factor loadings that ranged between .47 and .78. Interpretation of items in factor one (n = 7) suggested a more academic approach to parents' homework involvement where the parent plays a sort of *tutor* role; they sit by their youth's side, help when they are stuck, quiz them to reinforce learning, correct their youth's mistakes, and help their youth get access to additional learning resources (α = .78). Interpretation of items in factor two (n = 4) suggested a more *monitoring* approach to parents' homework involvement where the parent does not get involved in academic matters, but makes sure their youth has a time and place to do their homework, checks with the youth to ensure homework is done, and checks with the teacher to ensure homework completion (α = .70). Finally, interpretation of items in factor three (n = 3) suggested parents' use of contingent reinforcement strategies to increase behavioral compliance with homework completion (α = .59).

The scale identified as *monitoring* included five items that followed a four-point Likert scale. Examination of the scree plot unambiguously suggested a one-factor model with an eigenvalue of 1.84 that accounted for 37% of the variance among the items. The pattern of factor loadings showed items with factor loadings from .45 to .75 on that single factor. This scale continued to index parents tracking of their youth's activities and with whom are they spending time with (α = .62).

The scale identified as *appropriate discipline* included seven items that followed a four-point Likert scale. Examination of the scree plot suggested a one-factor model, however, a warning indicating that an ultra-Heywood case was detected appeared. Cooperman and Waller (2021) indicate that Heywood cases arise often in EFA applications and that they are indicators of solutions that produce common factors that

account for 100% or more of an observed variable's variance which implies that the corresponding unique factor variance is zero or negative. Factor loading examination confirmed that item 128 "*at home we are on the same page regarding the clear rules about what my youth can and can't do*" had a factor loading of 1.01 and a negative variance (*U2* = -0.03), hence, this item was removed from further EFA. In a second EFA iteration, an additional warning for an ultra-Heywood case appeared, this time item 129 appeared to be the culprit, "*My youngster knows how I will respond when they do something wrong (things that I don't like or that are against the house rules).*" Of note is that both of these items were attempting to capture clear expectations of behavior, however, the way they were worded in Spanish may have affected the clarity of the item.

A new EFA was conducted with the remaining five items and no additional Ultra-Heywood case warning appeared. Examination of the scree plot suggested a one factor solution comprised of only three items; this one factor barely passed the Eigenvalue >1 criterion. EFA confirmed that only three of the five items had factor loadings above the .30 threshold and hence the items that did not meet this criterion were removed from further analysis. A final EFA with the remaining three items was conducted; in this solution, the factor had an eigenvalue of 1.01 and accounted for 34% of the variance among the items; item factor loadings ranged between .38 and .69. Items in this factor (*n* = 3) appeared to index parents' inadequate strategies to deal with youth's misbehavior like yelling when the youth does something wrong or not following through with a consequence in response to youth's misbehavior (α = .50). It is important to note that these three items were negatively worded and were hence reverse scored. It is unclear if EFA was picking up the valence of the items; also, it is worth noting that the two items

that were removed indexed parent's use of contingent reinforcement strategies to improve youth's behavior.

The scale identified as *structure at home* was comprised of eight items that followed a four-point Likert scale. Examination of the scree plot unambiguously suggested a one-factor model with an eigenvalue of 3.77 that accounted for 47% of the variance among the items. The pattern of factor loadings showed items with factor loadings from .47 to .80 on that single factor. This scale continued to index parents' practices to create a continuity between the school and home environment in terms of structure and planning to support youth academic behaviors (α = .82).

The scale identified as *parent-child conversations about school* contained 14 items that followed a four-point Likert scale. Examination of the scree plot was not straightforward. Parallel analysis suggested three factors, hence an EFA with three factors was conducted. After two more EFA iterations with three factors, the solution reached a simple structure. Items 72 and 74 cross loaded into two factors and were removed one at a time in each subsequent EFA iteration. In the final solution, factor one had an eigenvalue of 3.22 that accounted for 27% of the variance among the items and had factor loadings that ranged between .74 and .99. Factor two had an eigenvalue of 2.34 that accounted for 19% of the variance among the items and had factor loadings that ranged between .44 and .90. Factor three had an eigenvalue of 2.89 that accounted for 24% of the variance among the items and had factor loadings that ranged between .59 and .92.

Items in factor one (n = 4) appeared to index conversations around youth's school climate and youth's behavior in school (α = .85); items in factor two (n = 4) indexed

conversations around future career planning and activities conducive to attending college (α = .78). Finally, items in factors three (n = 4) appeared to reflect conversations around the youth's school social involvement; specifically, the youth's relationship with school friends, teachers, and their involvement in school activities and upcoming school events (α = .81).

The scale identified as *school-based involvement* included ten items that followed a four-point Likert scale; interpretation of the scree plot suggested a two factor solution. Parallel analysis indicated three factors, however, one of these factors would have been barely above the eigenvalue >1 threshold and it also had three cross-loading items. EFA was then conducted with two factors. In this solution, item 35 was cross loading in the two factors and was hence removed. In the final solution, factor one had an eigenvalue of 3.02 that accounted for 34% of the variance among the items and had factor loadings that ranged between .61 and 1.01. Factor two had an eigenvalue of 2.94 that accounted for 33% of the variance among the items and had factor loadings that ranged between .64 and .87.

Analyses of items in factor one (n = 4) appeared to index a basic level of parent school-based involvement, mostly composed by practices in which the parent gets acquainted with the school personnel and policies (α = .85). Items in factor two (n = 5) indexed parents' school-based practices that required a higher investment of time and efforts like volunteering at school, establishing connections with other school parents, and understanding the pathways to prepare for college (α = .82).

Table 1

Exploratory Factor Analysis of Homework Involvement Scale

Item	Iteration 1 (n = 17)	Iteration 2 (n = 14)		
	Factor load (ULS)	Factor load (ULS)		
	1	1	2	3
82	-.28			
83	-.02			
84	.42	-.10	**.92**	-.04
85	.55	-.03	**.86**	.17
86	.54	**.61**	.18	-.07
87	.59	**.72**	-.15	.28
88	.55	**.90**	-.12	-.10
89	.65	**.66**	.23	.00
90	.54	.28	.09	**.49**
91	.33	-.08	.02	**.78**
92	.28			
93	.61	.19	**.72**	-.04
94	.53	**.54**	.06	.08
95	.52	.34	**.44**	-.10
96	.52	**.45**	.14	.09
97	.52	**.45**	.21	.01

Table 1, Continued

Item	Iteration 1 (n = 17)	Iteration 2 (n = 14)		
	Factor load (ULS)	Factor load (ULS)		
	1	1	2	3
98	.55	.18	.23	**.47**
Eigen Val.	4.16	3.22	2.65	1.32
Var.	.24	.23	.19	.09
α		.78	.70	.59§

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution. § Factor not included in further analyses due to failure to meet specified criteria.

Table 2

Exploratory Factor Analysis of Monitoring Scale

Item	Iteration 1 (n = 5)
	Factor load (ULS)
	1
137	.45
139	.66

Table 2, Continued

Item	Iteration 1 (n = 5)
	Factor load (ULS)
	1
140	.63
143	.75
144	.48
Eigen Val.	1.84
Var.	.37
α	.62§

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution. § Factor not included in further analyses due to failure to meet specified criteria.

Table 3

Exploratory Factor Analysis of Appropriate Discipline Scale

Item	Iteration 1 (n = 7)	Iteration 2 (n = 6)	Iteration 3 (n = 5)	Iteration 4 (n = 3)
	Factor load (ULS)	Factor load (ULS)	Factor load (ULS)	Factor load (ULS)
	1	1	1	1
128	1.01‡			
129	.92	1.02‡		
130	.70	.68	.13	
131	.22	.14	.44	.38
133	.04	.06	.61	.62
134	.52	.43	.14	
136	-.13	-.13	.64	.69

Eigen Val.	2.71	1.73	1.01	1.01

Table 3, Continued

Item	Iteration 1 (n = 7)	Iteration 2 (n = 6)	Iteration 3 (n = 5)	Iteration 4 (n = 3)
	Factor load (ULS)	Factor load (ULS)	Factor load (ULS)	Factor load (ULS)
	1	1	1	1
Var.	.39	.29	.20	.34
α				.50§

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution. ǂ Ultra-Heywood case. § Factor not included in further analyses due to failure to meet specified criteria.

Table 4

Exploratory Factor Analysis of Structure at Home Scale

Item	Iteration 1 (n = 8)
	Factor load (ULS)
	1
23	.74
24	.80
25	.47
26	.67
27	.77
28	.74
28	.73
30	.49
Eigen Val.	3.77
Var.	.47
α	.82

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution.

Table 5

Exploratory Factor Analysis of Parent-Child Conversations About School Scale

Item	Iteration 1 (n = 14)	Iteration 2 (n = 14)			Iteration 3 (n = 13)			Iteration 4 (n = 12)		
	Factor load (ULS)	Factor load (ULS)			Factor load (ULS)			Factor load (ULS)		
	1	1	2	3	1	2	3	1	2	3
68	.68	.18	.05	**.56**	.16	.02	**.59**	.16	.02	**.59**
69	.79	.01	.02	**.90**	.00	.02	**.92**	.00	.03	**.92**
70	.68	-.01	-.06	**.87**	.01	-.04	**.84**	.01	-.04	**.84**
71	.74	.06	.08	**.73**	.08	.10	**.71**	.08	.10	**.71**
72	.73	.15	**.42**	.30	.14	**.39**	**.33**			
73	.64	.08	**.41**	.27	.11	**.44**	.25	.09	**.44**	.26
74	.89	**.46**	**.45**	.14						
75	.77	.16	**.78**	.02	.16	**.73**	.07	.13	**.73**	.10
76	.74	**.74**	.12	.00	**.74**	.13	.01	**.74**	.12	.00

Table 5, Continued

Item	Iteration 1 (n = 14)	Iteration 2 (n = 14)			Iteration 3 (n = 13)			Iteration 4 (n = 12)		
	Factor load (ULS)	Factor load (ULS)			Factor load (ULS)			Factor load (ULS)		
	1	1	2	3	1	2	3	1	2	3
77	.86	**.87**	-.02	.13	**.84**	-.02	.16	**.85**	-.03	.15
78	.79	**.98**	.00	-.06	**.99**	.01	-.08	**.99**	.02	-.08
79	.77	**.77**	-.01	.12	**.76**	.00	.13	**.76**	.00	.12
80	.65	.11	**.82**	-.10	.13	**.85**	-.12	.08	**.90**	-.10
81	.54	-.22	**.82**	.12	-.21	**.80**	.13	-.20	**.73**	.16
Eigen Val.	7.62	3.68	2.94	3.13	3.32	2.57	3.07	3.22	2.34	2.89
Var.	.54	.26	.21	.22	.26	.20	.24	.27	.19	.24
α								.85	.78	.81

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution.

Table 6

Exploratory Factor Analysis of School-Based Involvement Scale

Item	Iteration 1 (n = 10)	Iteration 2 (n = 10)		Iteration 3 (n = 9)	
	Factor load (ULS)	Factor load (ULS)		Factor load (ULS)	
	1	1	2	1	2
31	.61	**.62**	.08	**.61**	.11
32	.72	**.99**	-.13	**1.01**	-.11
33	.80	**.93**	.01	**.93**	.04
34	.84	**.80**	.17	**.74**	.20
35	.80	**.55**	**.37**		
36	.68	.18	**.63**	.17	**.64**
37	.60	-.11	**.87**	-.11	**.87**
38	.66	.03	**.78**	.03	**.80**
39	.54	-.04	**.71**	-.04	**.71**
40	.75	.20	**.68**	.18	**.67**
Eigen Val.	5.00	3.45	3.11	3.02	2.94
Var.	.50	.35	.31	.34	.33
α				.85	.82

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution.

Relational Components in Conexiones

The scale identified as *parent belongingness in school* included five items that followed a four-point Likert scale. Examination of the scree plot unambiguously suggested a one-factor model with an eigenvalue of 2.59 that accounted for 52% of the variance among the items. The pattern of factor loadings showed items with factor loadings from .44 to .92 on that single factor. This scale continued to index parents' experiences of feeling welcome at their youth's school and a valued member of the school community (α = .72).

The scale identified as *parent endorsement of school* was comprised of four items that followed a four-point Likert scale. Examination of the scree plot unambiguously suggested a one-factor model, however, a warning indicating that an ultra-Heywood case was detected appeared. Factor loading examination confirmed that item 55 "*school staff are doing good things for her/him* (the student)" had a factor loading of 1.00 and a negative variance (U^2 = -7.89) and was hence removed from further analysis. By removing item 55, the ultra-Heywood case warning went away; this last EFA iteration was conducted with the remaining three items. Examination of the scree plot unambiguously suggested a one-factor model with an eigenvalue of 2.32 that accounted for 77% of the variance among the items. The pattern of factor loadings showed items with factor loadings from .63 to .99 on that single factor. This scale continued to index

parents' endorsement of their youth's school and their trust in the school and school staff (α = .80).

The scale identified as *parent's value and support of education* included six items that followed a four-point Likert scale. Examination of the scree plot unambiguously suggested a one-factor model. EFA also suggested a one-factor model, however, a warning message indicating that the matrix was not positive definite appeared. Flora et al. (2012) indicates that EFA with polychoric correlation matrices are often non-positive definitive. While having a non-positive definite matrix when conducting EFA with Pearson product-moment correlation matrices is problematic, it is not necessarily the case for EFA with polychoric correlation matrices (Flora et al., 2012).

In this solution, the one-factor model had an eigenvalue of 5.06 that accounted for 84% of the variance among the items. The pattern of factor loadings showed items with factor loadings from .73 to .99 on that single factor. This scale continued to index parent's value for their youth's education, their aspirations for their youth's educational future and the importance they give to supporting their youth in achieving a higher education and the youth's future goals (α = .91).

The scale identified as *family-school communication* included six items that followed a four-point Likert scale, however, there were two sets of response anchors. One with a (1) "never" to (4) "often" scale and the other with a (1) "strongly disagree" to (4) "strongly agree" scale. Examination of the scree plot suggested a two factor model, however, one of the factors did not pass the eigenvalue >1 threshold. Examination of item factor loadings clearly showed that two items did not belong to the scale, the ones with a never to often response scale, and were hence removed from further analysis. A new EFA

with four items was conducted; the scree plot unambiguously suggested a one-factor model with an eigenvalue of 2.26 that accounted for 56% of the variance among the items. The pattern of factor loadings showed items with factor loadings from .59 to .95 on that single factor. This scale indexed parents' confidence to talk with school staff about their youth (α = .71).

The scale identified as *problem solving with educators* was comprised of four items that followed a four-point Likert scale. Examination of the scree plot unambiguously suggested a one-factor model with an eigenvalue of 2.34 that accounted for 59% of the variance among the items. The pattern of factor loadings showed items with factor loadings from .39 to .96 on that single factor. This scale continued to index parents' confidence and self-efficacy to work with the school and educators to solve different types of problems that involve their youth and find a positive solution (α = .71).

The scale identified as *parent-teacher relationship* scale was comprised of four items that followed a four-point Likert scale. Although the scree plot clearly suggested a one-factor model, EFA showed a message warning of the presence of an ultra-Heywood case. Item factor loading examination showed that item 66 and then in a second EFA iteration item 67 were the culprits and would have needed to be removed from further analysis. This approach would have yielded this scale with only two items (α = .67; see Table 12) and hence, unreasonable to keep. An alternative approach was implemented to avoid the deletion of this scale, the only one assessing the parent-teacher relationship. Given that both the *family-school communication* (n = 6) and the *problem solving with educators'* (n = 4) scales appeared to tap on aspects of the parent-teacher relationship,

they were combined with the *parent-teacher relationship* scale (n = 4) and subjected to EFA. The results of this EFA are described next.

This *combined scale* initially included 14 items, however, the first EFA iteration showed that items 18 and 19 had factor loadings less than .30 and were hence removed from further analysis. A new EFA with 12 items was conducted; examination of the scree plot suggested a two-factor solution and parallel analyses suggested a three-factor solution. A two factor solution was favored as the three-factor solution showed two cross-loading items between factor one and three and item 66 appeared as an Ultra-Heywood case; all of these items would have needed to be removed from further analysis leaving again one scale with just two items. A final EFA iteration was then conducted with 2 factors; a simple structure with no cross-loading items and no Ultra-Heywood cases was reached. In this solution, factor one had an eigenvalue of 5.37 that accounted for 45% of the variance among the items and had factor loadings that ranged between .45 and 97. Factor two had an eigenvalue of 3.05 that accounted for 25% of the variance among the items and had factor loadings that ranged between .58 and .93.

Analyses of items in factor one (n = 8) appeared to tap on different parent-teacher interactions, some items tapped on aspects of their relationship, some other items tapped on parent's capacity to interact and work with teachers to solve issues that involve their youth. What they appeared to have in common is that these interactions tapped on actions and perceptions that make parent-teacher collaboration feasible. Interestingly the item "*I make an effort to attend to attend parent-teacher conferences when I am available*" belonged to this factor which may indicate that attending these types of events are a part of establishing a collaboration with the youth's teacher (α = .90). Items in factor two (n =

4) appeared to tap more on interactions between the parent and the school as a whole (i.e., teachers, school staff, administrators), specifically they addressed the parents' capacity to voice concerns and self-efficaciously find a positive solution when it comes to issues that involve their youth at school (α = .78).

Table 7

Exploratory Factor Analysis of Parent School Belongingness Scale

Item	Iteration 1 (n = 5)
	Factor load (ULS)
	1
47	.44
48	.79
51	.51
52	.82
53	.92
Eigen Val.	2.59
Var.	.52
α	.72

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution.

Table 8

Exploratory Factor Analysis of Parent Endorsement of School Scale

Item	Iteration 1 (n = 4)	Iteration 2 (n = 3)
	Factor load (ULS)	Factor load (ULS)
	1	1
54	.65	.63
55	1.00ǂ	
56	.98	.97
57	.97	.99
Eigen Val.	3.31	2.32
Var.	.83	.77
α		.80

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution. ǂ Ultra-Heywood case.

Table 9

Exploratory Factor Analysis of Parent's Value and Support of Education Scale

Item	Iteration 1 (n = 6)
	Factor load (ULS)
	1
105	.88
106	.99
107	.95
108	.98
109	.96
110	.73
Eigen Val.	5.06
Var.	.84
α	.91

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution.

Table 10

Exploratory Factor Analysis of Family-School Communication Scale

Item	Iteration 1 (n = 6)	Iteration 2 (n = 4)		
	Factor load (ULS)	Factor load (ULS)		
	1	1	2	3
18	.16			
19	.22			
41	.58		.59	
43	.76		.79	
50	.95		.95	
62	.65		.65	
Eigen Val.	2.31		2.26	
Var.	.38		.56	
α			.71§	

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution. § Factor not included in further analyses due to failure to meet specified criteria.

Table 11

Exploratory Factor Analysis of Problem-Solving with Educators Scale

Item	Iteration 1 (n = 00)
	Factor load (ULS)
	1
44	.67
58	.90
63	.96
126	.39
Eigen Val.	2.34
Var.	.59
α	.71§

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution. § Factor not included in further analyses due to failure to meet specified criteria.

Table 12

Exploratory Factor Analysis of Parent-Teacher Relationship Scale

Item	Iteration 1 (n = 4)	Iteration 2 (n = 3)	Iteration 3 (n = 2)		
	Factor load (ULS)	Factor load (ULS)	Factor load (ULS)		
	1	1	1	2	3
64	.80	.77		.83	
65	.88	.90		.83	
66	1.00ǂ				
67	.99	1.00ǂ			
Eigen Val.	3.40	2.40		1.37	
Var.	.85	.80		.68	
α				.67§	

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution. ǂ Ultra-Heywood case. § Factor not included in further analyses due to failure to meet specified criteria.

Table 13

Exploratory Factor Analysis of Combined Scale

Item	Iteration 1 (n = 14)	Iteration 2 (n = 12)	Iteration 3 (n = 12)	
	Factor load (ULS)	Factor load (ULS)	Factor load (ULS)	
	1	1	1	2
18	.19			
19	.19			
41	.61	.61	**.45**	.22
43	.67	.67	.03	**.83**
44	.69	.69	-.02	**.92**
50	.75	.76	.04	**.93**

Table 13, Continued

Item	Iteration 1 (n = 14)	Iteration 2 (n = 12)	Iteration 3 (n = 12)	
	Factor load (ULS)	Factor load (ULS)	Factor load (ULS)	
	1	1	1	2
58	.83	.84	**.70**	.19
62	.81	.81	**.80**	.05
63	.84	.84	**.74**	.16
64	.81	.81	**.91**	-.07
65	.82	.83	**.79**	.09
66	.82	.82	**.96**	-.11
67	.89	.89	**.97**	-.04
126	.47	.47	.00	**.58**

Table 13, Continued

Item	Iteration 1 (n = 14)	Iteration 2 (n = 12)	Iteration 3 (n = 12)	
	Factor load (ULS)	Factor load (ULS)	Factor load (ULS)	
	1	1	1	2
Eigen Val.	7.02	6.97	5.37	3.05
Var.	.50	.58	.45	.25
α			.90	.78

Note. The last iteration shown is the final solution. ULS = Unweighted Least Squares. Eigen Val. = Eigen Value. Var. = proportion of variance accounted for by the items. α = Cronbach's alpha, internal consistency score of factor in final solution.

Table 14

Descriptive Statistics

Variable	Abbreviation	*M*	*SD*	*N*
Tutor approach to homework involvement	HWI 1	2.70	0.67	93
Monitoring approach to homework involvement	HWI 2	3.26	0.65	93
Structure at home	STR HOME	2.94	0.43	94
Parent-child conversations around youth's behavior at school	CONVOS 1	3.54	0.62	94
Parent-child conversations around youth's future career planning	CONVOS 2	3.21	0.69	94
Parent-child conversations around youth's social involvement at school	CONVOS 3	3.46	0.59	94
Basic school based involvement	SBI 1	2.59	0.52	94
Resource intensive school based involvement	SBI 2	2.64	0.51	94
Parent belongingness at school	BELONG	3.05	0.37	94
Parent endorsement of school	ENDORSE	3.16	0.41	94
Parent value and support for education	VALUE ED	3.52	0.43	94
Parent-teacher interaction: closeness and confidence to problem solve with teacher	COLLAB	3.13	0.39	94
Parent-school interaction: parent's self-efficacy to problem-solve with school	EFFICACY	3.08	0.40	94
Youth school engagement	ENGAGE	4.10	0.55	94

Table 15

Bivariate Correlations Between Predictors and Outcome of Interest

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. HWI 1	1.00													
2. HWI 2	**.33****	1.00												
3. STR HOME	**.48*****	**.33****	1.00											
4. CONVOS 1	**.30****	**.25***	**.40*****	1.00										
5. CONVOS 2	**.33****	**.30****	**.44*****	**.47*****	1.00									
6. CONVOS 3	.18	.04	**.36*****	**.51*****	**.47*****	1.00								
7. SBI 1	**.33****	**.30****	**.67*****	**.30****	**.44*****	**.33****	1.00							
8. SBI 2	**.50*****	**.36*****	**.53*****	.18	**.41*****	.17	**.45*****	1.00						
9. BELONG	**.28****	**.25***	**.42*****	.17	.19	**.25***	**.37*****	**.24***	1.00					
10. ENDORSE	**.23***	**.23***	**.38*****	.18	.18	**.22***	**.36*****	**.23***	**.73*****	1.00				
11. VALUE ED	.05	-.02	**.30****	**.31****	.15	.33	.19	-.15	**.27****	**.41*****	1.00			
12. COLLAB	**.21***	.19	**.41*****	**.22***	**.29****	**.25***	**.38*****	.16	**.62*****	**.71*****	**.45*****	1.00		
13. EFFICACY	**.34****	**.20***	**.35****	.19	**.23***	**.22***	**.45*****	**.27****	**.74*****	**.66*****	**.34****	**.54*****	1.00	
14. ENGAGE	.19	**.26***	**.21***	-.02	.19	.12	**.21***	**.22***	.00	-.07	.03	-.13	.05	1.00

Note. *$p < .05$; **$p < .01$; ***$p < .001$

Research Question 2. The second research question asked what specific structural and relational components of family-school connections in the *Conexiones* parents' assessment data were significantly and positively associated with positive students' school engagement? Hypothesis 2a was that only home-based involvement and behavioral support components would be positively and significantly associated to the outcome. Hypothesis 2b was that all relational components would be positively and significantly associated to the outcome. A total of 13 separate unconditional simple regression models were ran (see Table 16 for abbreviated results). An additional 13 multiple regression models adjusted with covariates were also ran (see Table 17 for abbreviated results). For the effects of this dissertation, only adjusted models will be described.

Hypothesis 2a was partially supported. From the practices originally categorized as belonging to the home-based involvement component, only structure at home was significantly and positively associated to youth's school engagement $t(71) = 2.26$, $p < .05$, indicating that a one-unit increase in parent's structure at home corresponded to, on average, a 0.33-point increase in students' school engagement score when adjusting for covariates. Other practices that were included in this home-based involvement component were three different types of parent-child conversations about school, although they were positively associated with the outcome, none of these associations were significant. Practices originally categorized under the behavioral support component, did not pass the specified criteria detailed in the analysis plan section and thus were not included in regression models.

Contrary to the initial hypothesis, homework involvement practices and school-based involvement practices were positively and significantly associated with the outcome. Specifically, every one-unit increase in parents' use of a tutor approach to homework involvement was associated to, on average, a 0.21-point increase in students' school engagement score $t(70) = 2.11$, $p < .05$; and, every one-unit increase in parents' use of a monitoring approach to homework involvement corresponded to, on average, a 0.26-point increase in the same outcome $t(70) = 2.40$, $p < .05$, both, when adjusting for covariates. School-based involvement practices followed a similar pattern. Every one-unit increase in parents' basic school-based involvement was associated to a 0.30-point increase in the youth outcome score $t(71) = 2.37$, $p < .05$, adjusting for covariates; and every one-unit increase on parent's resource intensive school-based involvement corresponded to, on average, a 0.26 increase on the youth school engagement score, also when adjusting for covariates. Contrary to the initial hypotheses, Hypothesis 2b was not supported. none of the relational components identified in the *Conexiones* parents' assessment data was significantly associated with the youth school engagement outcome.

Table 16

Unconditional Univariate Effects of Predictors on Youth School Engagement Among Middle School Students (*N* = 94)

Variable	Parameter estimate				
	Models a: Predictor on outcome, unconditional models				
	b	*SE*	*t*	*p*	R^2
HWI 1	0.15	0.08	1.80	.075	.03
HWI 2	0.22	0.09	2.57	**.012***	.07
STR HOME	0.27	0.13	2.05	**.042***	.04
CONVOS 1	-0.02	0.09	-0.18	.857	.00
CONVOS 2	0.14	0.08	1.83	.070	.04
CONVOS 3	0.11	0.10	1.12	.265	.01
SBI 1	0.22	0.11	2.03	**.045***	.04
SBI 2	0.24	0.11	2.19	**.031***	.05
BELONG	0.01	0.15	0.04	.970	<.00
ENDORSE	-0.09	0.14	-0.63	.532	.00
VALUE ED	0.04	0.13	0.29	.775	.00
COLLAB	-0.19	0.14	-1.31	.195	.02
EFFICACY	0.06	0.14	0.44	.658	.00

Note. The intercept and corresponding parameter estimates for each of the univariate models is not shown. ***$p < .001$, ** $p \leq .01$, *$p < .05$.

Table 17

Adjusted Multivariate Effects of Predictors on Youth School Engagement Among Middle School Students (*N* = 94)

Variable	Parameter estimate				
	Models b: Predictor on outcome, adjusted for covariates				
	b	*SE*	*t*	*p*	R^2
HWI 1	0.21	0.10	2.11	**.038***	.12
HWI 2	0.26	0.11	2.40	**.019***	.14
STR HOME	0.33	0.15	2.26	**.027***	.13
CONVOS 1	0.01	0.10	0.14	.886	.06
CONVOS 2	0.14	0.10	1.49	.140	.09
CONVOS 3	0.15	0.16	1.31	.195	.09
SBI 1	0.30	0.13	2.37	**.020***	.13
SBI 2	0.26	0.12	2.19	**.032***	.12
BELONG	0.15	0.19	0.82	.417	.07
ENDORSE	0.02	0.17	0.12	.903	.06
VALUE ED	0.10	0.16	0.63	.534	.07
COLLAB	-0.17	0.17	-1.00	.322	.08
EFFICACY	0.15	0.17	0.89	.375	.07

Note. ***$p < .001$, ** $p \leq .01$, *$p < .05$. The intercept and corresponding parameter estimates for each of the adjusted multivariate models is not shown. Covariates and corresponding parameter estimates for each of the adjusted multivariate models are not shown.

Research Question 3. The last research question asked what model best predicted positive students' school engagement, a structural components model or a combined structural plus relational components model? The associated hypothesis was that a combined model, structural plus relational components, would be a better predictor of students' positive school engagement than would a model with only structural components. A step-wise multiple linear regression model with predictor blocks was conducted. The final combined model was built progressively by adding blocks of predictors one-step at a time. Model 0 was made up of covariates only that served as control variables for the two subsequent models. Model 1 included the addition of the first block of predictors, the structural components (n = 8). In Model 2, the second block of predictors, the relational components (n = 5), was added, making this the combined model. Although none of these models were significant (see Table 18 for full results), the percentage of variance accounted for in each of these models provides an interesting trend that favors the hypothesis, as is discussed later.

The covariates only model accounted for approximately 6.33% of the total variance in the outcome. Adding the structural components block of predictors to the model increased the R^2 substantially, which was expected, Model 1 accounted for 24.29% of the total variance in the outcome. Finally, adding the relational components block of predictors produced an additional increase in the R^2; this model accounted for 38.25% of the total variance in the outcome. The increase in the R^2 statistic from Model 1 to Model 2 suggests that, indeed, a combined model that includes both structural and relational components provides a better account of youth's school engagement than would a model with only structural components. This trend was supported by the analysis of variance

that showed that including the relational block of predictors to the adjusted structural components model significantly reduced the residual variance ($p < .05$).

Relatedly, the AIC weights comparison, which includes a penalization for models with a large number of parameters, between Model 1 and Model 2 indicated that, indubitably, the combined model had the best possible probability of being the model that best fits the data as it had a 97:3 probability ratio. From a multi-model comparison perspective, the model that displays the best fit to the data is the adjusted, combined structural plus relational predictors model.

Finally, it is worth noting a couple of estimates in Model 1 and Model 2 that came out significant. In Model 1, the adjusted, structural components model, the estimate belonging to the parent-child conversations around youth's school climate and behavior predictor was negatively and statistically related to the outcome $t(67) = -0.31$, $p < .05$, indicating that a one-unit increase in these type of parent-child conversations, was associated, on average, with a 0.31-point decrease in students' school engagement score when adjusting for covariates. Although the direction of this relationship cannot be ascertained, it is possible that this estimate is capturing the common situation in which the parent is checking on the student's school climate and behavior because there are already difficulties in these areas. No other estimates were significantly related to the outcome in this model.

In Model 2, the adjusted combined model, the estimate for a monitoring approach to homework involvement $t(58) = 0.29$, $p < .05$ in the structural components block of predictors, and the estimate for parents' value and support for education $t(58) = 0.41$, $p < .05$, in the relational components block of predictors, were positively and significantly

associated with the youth school engagement outcome, suggesting that increases in these parent practices would be accompanied by increases in the youth's school engagement outcome. Parent-child conversations around youth's school behavior continued to be negatively and statistically related to the outcome $t(58) = -0.36$, $p < .05$ in this model. Interestingly, the estimate for the parent-teacher relationship that tapped on their perception of closeness and confidence to problem solve with the teacher was also statistically and negatively associated with the outcome $t(58) = -0.78$, $p < .01$, so that increases in this type of relationship would be associated with decreases in the youth's school engagement outcome. A review of the items that make up this predictor suggested that at least some index the relationship that the parent establishes with the teacher when there are problems that involve the youth.

Table 18

Multi-model Comparison. Adjusted Multivariate Effects of Blocks of Predictors on Youth School Engagement Among Middle School Students (*N* = 94)

Variable	Parameter estimate											
	Model 0: Covariates on outcome				Model 1: Adjusted, structural predictors block				Model 2: Adjusted, combined predictors block			
	b	*SE*	*t*	*p*	*b*	*SE*	*t*	*p*	*b*	*SE*	*t*	*p*
Intercept	**3.77**	1.84	2.05	**.043***	1.72	1.98	0.87	.390	3.55	2.00	1.78	.081
Parent role: Father	0.08	0.37	0.23	.822	0.14	0.38	0.37	.711	0.48	0.37	1.27	0.21
Parent age	-0.00	0.01	-0.17	.868	-0.00	0.01	-0.35	.731	-0.01	0.01	-0.70	.488
Parent ed. level: elementary	0.05	0.17	0.31	.756	-0.18	0.19	-0.95	.347	-0.22	0.18	-1.23	.223
Parent ed. level: secondary	0.02	0.16	0.13	.896	0.00	0.17	0.04	.971	-0.07	0.16	-0.42	.674
Parent ed. level: postsecondary	0.23	0.30	0.75	.455	0.13	0.30	0.43	.670	-0.07	0.30	-0.22	.827
Parent English comfort	-0.05	0.05	-0.89	.377	-0.08	0.05	-1.48	.143	-0.09	0.05	-1.75	.086

Table 18, Continued

Variable	Parameter estimate											
	Model 0: Covariates on outcome				Model 1: Adjusted, structural predictors block				Model 2: Adjusted, combined predictors block			
	b	*SE*	*t*	*p*	*b*	*SE*	*t*	*p*	*b*	*SE*	*t*	*p*
Youth age	0.03	0.15	0.18	.856	0.08	0.15	0.54	.592	-0.05	0.16	-0.31	.762
Female youth	0.20	0.13	1.51	.136	0.20	0.13	1.49	.142	0.061	0.13	0.47	.640
Youth grade: 6th grade	0.14	0.21	0.66	.510	0.23	0.21	1.09	.279	0.12	0.22	0.55	.585
Youth grade: 8th grade	0.20	0.21	0.95	.346	0.26	0.21	1.23	.224	0.39	0.21	1.85	.070
HWI 1					0.12	0.13	0.93	.356	0.09	0.12	0.74	.464
HWI 2					0.22	0.13	1.62	.109	0.29	0.13	2.27	**.027***
STR HOME					0.02	0.23	0.10	.918	-0.01	0.24	-0.05	.960
CONVOS 1					-0.31	0.14	-2.13	**.037***	-0.36	0.14	-2.58	**.012***
CONVOS 2					0.02	0.13	0.16	.875	0.07	0.12	0.59	.559
CONVOS 3					0.25	0.15	1.71	.092	0.23	0.15	1.59	.118

Table 18, Continued

Variable	Parameter estimate											
	Model 0: Covariates on outcome				Model 1: Adjusted, structural predictors block				Model 2: Adjusted, combined predictors block			
	b	*SE*	*t*	*p*	*b*	*SE*	*t*	*p*	*b*	*SE*	*t*	*p*
SBI 1					0.19	0.17	1.08	.285	0.23	0.18	1.34	.187
SBI 2					0.22	0.16	0.14	.890	0.09	0.16	0.57	.569
BELONG									0.23	0.33	0.68	.498
ENDORSE									-0.04	0.30	-0.13	.900
VALUE ED									0.41	0.20	2.09	**.041***
COLLAB									-0.78	0.27	-2.86	**.006****
EFFICACY									0.05	0.27	0.19	.848
AIC weights	154.58				152.50				145.80			

Note. ***$p < .001$, ** $p \leq .01$, *$p < .05$. AIC weight = Akaike Information Criteria weight. Lower AIC values indicate better fit to the model. Model 0 $R^2 = .06$, $F(10, 72) = 0.49$, $p = .894$. Model 1 $R^2 = .24$, $F(18, 63) = 1.12$, $p = .353$. Model 2 $R^2 = .38$, $F(23, 58) = 1.56$, $p = .087$.

CHAPTER IV

DISCUSSION

Today, U.S. public schools are more racially and ethnically diverse than ever. Today, also, more of this racially diverse youth attain higher levels of education. Yet, regrettably, these increases have been met with increases in educational disparities that affect mostly students of color. At each higher level of education, there are fewer and fewer students of color. High school dropout has been identified as a contributing factor to this state of affairs to such an extent that it has been termed a "silent epidemic" (Bridgeland, DiIulio, & Morison, 2006). High School dropout is a critical risk factor for myriad negative outcomes in life that overwhelmingly affect American Indian/Alaska Native, Latina/o, and Black youth. Notably, school engagement has been recognized as an important protective factor for high school completion. Timely interventions that promote youth school engagement can hold promise in putting a halt to the silent epidemic.

Family-school intervention programs emerge as a possible pathway to changing the landscape. Nonetheless, little is known about the composition of such interventions and how effective they are for families and students that belong to historically excluded groups (HEG). This dissertation aimed to identify which structural and relational components of a family-school intervention program were associated with positive school engagement for a specific set of students, Latina/o middle school students. Evidence suggests that different family-school intervention components are effective in improving students' school outcomes on different developmental stages. There is a larger evidence-base that documents the effectiveness of family-school intervention components among

elementary school-aged children than among secondary school-aged children. The middle adolescent age is a critical period for youth who experience changes in all developmental areas and it is critical to identify which components are most effective for the outcomes of interest for this specific age group.

From the minority of studies that include samples of secondary school-aged children, most focus on structural over relational components, leaving large knowledge gaps in the family-school connections (FSC) field. Furthermore, those studies often use traditional models of FSC that overemphasize parent responsibility in students' success and tend to omit the school's critical role and, in consequence, the mesosystemic synergy required to set youth for academic and life success. This dissertation study was designed to begin filling some of those gaps by leveraging data from an intervention development study, *Juntos*. The study developed a culturally specific family–school partnership intervention, *Conexiones*, and tested its promise in improving a set of targeted parents, educators, and students' outcomes. *Conexiones* was specifically designed to enhance Latina/o immigrant parents' and educators' capacities to collaborate with each other and in doing so, finding ways to effectively support Latina/o middle school students' academic and behavioral success.

The present study used complete parent and student dyads (n = 94) baseline assessments data to investigate three interrelated research questions (1) What are *Conexiones* structural and relational components? (2) Which of these components are effective in increasing Latina/o youth school engagement? and (3) What model best predicts school engagement among Latina/o youth, a structural components or a combined structural plus relational components model? This chapter begins with a

discussion of this study's findings. Next, study limitations, strengths, and future directions are addressed. The last section highlights the implications of this study and ends with the study's conclusion.

Conexiones Structural and Relational Components

It was hypothesized that *Conexiones* would have both structural and relational components. To test this hypothesis, exploratory factor analyses were conducted, however, before these statistical analyses were conducted, the literature was reviewed to identify how different structural and relational components were being defined. Kim and Sheridan's Meta-Model of Family-School Connections (2015) was used as a model as it is in itself a synthesis model (aim 1). It provided general definitions of what it understood as structural and relational components and the most common and/or representative structural (e.g., school-based involvement) and relational (e.g., cross-site communication) components in the FSC field. Once the literature was reviewed and working definitions developed for each of the components (aim 2), a face validity, qualitative coding approach was followed to identify construct scales in the *Conexiones* parent assessment battery based on the working definitions developed. A total of 12 construct scales emerged from this qualitative coding, six structural components (Appendix A) and six relational components (Appendix B).

Each of these scales were then subjected to exploratory factor analysis (aim 3). These analyses yielded a total 19 factors, 13 of which passed the specified criteria for an acceptable construct scale. This meant that not all of the components identified by Kim and Sheridan (2015) were identified in *Conexiones*, and vice versa, not all components identified in *Conexiones* were included in Kim and Sheridan's (2015) model. Regarding

the four structural components of FSC proposed by Smith et al. (2020), homework involvement, home-based involvement, and school-based involvement components were all identified in *Conexiones* and, as it was conjectured, all three emerged as multidimensional constructs. The behavioral support was the only structural component that was not identified in *Conexiones*, hence the effectiveness of this component on school engagement among secondary school-aged students still needs to be addressed.

In this study, homework involvement had two dimensions: one was called tutoring approach to homework involvement and the other, monitoring approach to homework involvement. Home-based involvement had four dimensions: structure at home and three different types of parent-child conversations about the youth's school. In the school-based involvement component, two dimensions emerged: basic- and resource-intensive school-based involvement. Lastly, the dimensions categorized under the behavioral support component, monitoring and appropriate discipline, did not qualify as acceptable construct scales, thus, behavioral support was the only structural component that was not identified in *Conexiones*. Given that there were in fact items that indexed this component in *Conexiones*, this absence could be explained by difficulties in the scale construction of these constructs (both of these scales had very low alpha reliability scores) and/or lack of clarity of some of these items. For instance, items intended to assess the use of contingent reinforcement strategies are unwieldly and could have been misunderstood by participants. The issue of quality of items will be addressed more extensively in the limitations section of this study.

Regarding the four relational components originally proposed by Smith et al. (2020), only collaboration and parent-teacher relationship were identified in *Conexiones*.

Interestingly, one new relational component not described by Smith et al. (2020) emerged: parent-school relationship. Two dimensions appeared to go well under this emerging component: parent school belongingness and parent school endorsement. The parent-teacher relationship component ended up having just one dimension: parent value and support for education. This dimension was retained under this component based on Kohl et al. (2000) three dimensional model of parent-teacher relationship; these authors suggested that the quality of parent-teacher relationships could be assessed as a function of the quality of their relationship, the educator perception of parent value of education, and parent satisfaction with the child's school. Nonetheless, a closer examination of these items and considering Hill & Tyson's (2009) definition of home-based involvement (i.e., parent high academic expectations and value for education), parent value and support of education appears to make more sense as an additional dimension of the structural component, home-based involvement in *Conexiones*. Lastly, the collaboration component ended up with two dimensions: parent-teacher collaboration and parent self-efficacy to problem-solve with school. Notably, components indexing the communication patterns between parent and teachers, cross-site communication and bi-directional communication, were absent in *Conexiones*. The latter was not measured in *Conexiones* and the former was combined with other scales in order to avoid discarding items that assessed the parent-teacher relationship.

Overall, and as expected, the structural components were more easily identified in *Conexiones* than the relational components. Drawing clear boundaries between some of the relational components proved to be a challenging task and, to certain extent, artificial. For instance, it was undeniable that items in the collaboration component were also

tapping on the parent-teacher relationship. In addition, the differentiation between some components appeared to be unnecessary. For example, Smith et al. (2020) proposed cross-site communication and bi-directional communication as different relational components; they defined the first as communication in either one of two directions, school-to-home or home-to-school and the second as two-way exchanges between parent and teacher. Potentially, it would be more useful to merge these two components into one - "communication" - and describe that these practices (i.e., dimensions) could include one-way communications that provide information and two-way communications that serve the purpose of finding common ground between parents and teachers.

Furthermore, it is important to consider that communication and parent-teacher relationship appear to be among those components that experience a change in frequency and/or in effectiveness with the transition of students from elementary to middle school. As Hill and Tyson (2009) note, middle school teachers instruct substantially more students than elementary school teachers, consequently, students have many more teachers and their parents have many more adults with whom to communicate. Hence, the secondary school context poses a challenge, even for the most motivated teacher and the most involved parent, to establish effective back-and-forth communication and deep, high-quality relationships with each and every one of the student's parent and student's teachers, respectively.

Although some *Conexiones* items that appeared to tap on the relational components and/or dimensions could be improved in clarity and specificity, the difficulty in isolating relational components in *Conexiones* was not completely due to item flaws. The conceptualization of relational components is a fairly new development in the FSC

field. Kim and Sheridan's Meta-Model of FSC (2015), the first model that attempts to parse out the relational components of FSC, appeared less than ten years ago. In contrast, for instance, Epstein's model (1995, 2010) of *School, Family, and Community Partnerships* that has been influential in the development and conceptualization of traditional parent involvement models (i.e., structural approach to FSC), has been evolving since at least the early 80s.

In this sense, more work is needed in the FSC field to continue to refine what is and is not understood as a relational component, what constitutes its possible dimensions and how components differentiate from each other. This study provided some insights regarding some elements that can be considered when identifying effective and relevant structural and relational components of family-school interventions, the purpose of the practice, the age group of the student target population, and the educational context (i.e., early education, elementary education, secondary education, etc.).

Conexiones Components Associated with Youth School Engagement

Research question two intended to provide evidence regarding the effectiveness of specific structural and relational components on school engagement outcomes for secondary school-aged students (aim 4). Based on the literature, it was hypothesized that only home-based involvement practices and behavioral support practices in the structural components would be positively and significantly associated with the outcome. Provided that the practices under the behavioral support component did not qualify as acceptable construct scales, the specific relationship between behavioral support and youth school engagement was not tested, hence it remains an unanswered question. Some suggestions to explore this relationship are proposed in the future directions section. As predicted,

structure at home, a dimension categorized under the home-based involvement component, was significantly and positively associated with youth's school engagement outcome. Evidence suggests that when homes and schools are more alike, when there is cross-setting consistency, students behave better and perform better academically (Epstein & Sheldon, 2006; Kim & Sheridan, 2015). Although a large part of the evidence of the importance of cross-setting consistency for child outcomes comes from preschool and elementary educational contexts, this study provides evidence that parents who implement practices that increase the home's structure also benefit middle-school youth.

Contrary to the hypothesis and the literature, this study did not find evidence for the positive association between parent-child conversations around school and/or education and youth school engagement. Hill & Tyson (2009) found that families that discuss, plan, and prepare for the youth's academic future see the largest increases in students' academic achievement. This null finding was surprising, especially given that one of the parent-child conversations scales identified in *Conexiones* revolved around youth's future career planning; the other two measured youth's social involvement and school climate, both theoretically related to students' school engagement (Bradshaw et al., 2014; Wang & Holcombe, 2010). A possible but unlikely reason could be that parent–child conversations about school and future career planning has an effect on students' academic achievement, but not specifically on students' school engagement. Given the positive relationship between academic achievement and school engagement (Bridgeland et al., 2006), this is improbable.

The participants' average response in these scales indicate that parents are indeed having these conversations with their youths at a frequency of "sometimes," which is the

second highest level of endorsement, hence, it may be that there is an additional variable that could be in the way of the expected direct effect for this particular sample. An important element to consider, that might qualify as a history effect, is that the *Juntos* study took place during the campaign and presidential election of Mr. Donald Trump, which was plagued by a strong anti-immigrant and anti-Mexican sentiment. It could be possible that even though parents were having conversations with their youth about different aspects of school that are presumed to be related to their level of school engagement, variables such as levels of students' school belonging, student-teacher relationships, students' wellbeing and mental health, among others, were exerting a stronger influence on their engagement levels. It could also be that parents having more of these types of conversations with their youth were in response to the difficult school climate at the time, which in turn was affecting students' school engagement.

Another unexpected finding was that both types of homework involvement practices and both types of school-based involvement practices were positively and significantly associated with youth school engagement. The literature presents mixed-findings in terms of associations with academic achievement in relation with both of these components (Boonk et al., 2018; Hoover-Dempsey et al., 2001; Seginer, 2006). Hoover-Dempsey et al., (2001) and Boonk et al. (2018) suggested that the inconsistent finding could be due to inconsistent operationalization of the construct from study to study. This reason could also explain this study's findings. Due to the *Conexiones* target population, Latina/o immigrant parents and their middle school student, items assessing parents' practices were carefully developed attending to the specific needs and strengths of this population.

In this sense, when the items of these scales are reviewed through that lens, these findings are not as surprising. For instance, the dimension basic school-based involvement entailed practices that made the parent acquainted with school personnel and school policies. These may appear as too basic, hence the name. Nonetheless, when the language barrier (Daniel-White, 2002; Peña, 2000; Turney & Kao, 2009) and the lack of experience navigating the U.S. educational system (Cross et al., 2019; Peña, 2000) are taken into consideration, these taken-for-granted practices can have a positive effect in students' school engagement. This rationale also applies to the more resource intensive school-based involvement dimension, where parents connect with other parents to gain knowledge and access to additional resources that can support their students. This study provides evidence that when school-based involvement is defined as getting to know the educational system and accessing additional resources for students via tapping into parent support networks and school organizations, it is effective at increasing youth school engagement for students from HEGs.

Contrary to the second hypothesis, none of the relational components present in *Conexiones* were significantly associated with the outcome. This finding is not as surprising given the dearth of empirical evidence available in the literature. Only communicational practices, one-way school-to-home communication, bi-directional communication, and, with some caveats, collaboration, were associated with students' academic outcomes (Smith et al., 2020). Given that the components indexing communication practices were not identified in *Conexiones*, it remains an unanswered question if one-way and/or two-way communication practices are associated with students' school engagement among middle school students. Regarding the other

relational components, this study's finding suggests that practices indexing parent-teacher relationship, parent-school relationship, and collaboration were not associated with students' school engagement.

Three main possible explanations to the null findings are discussed. The first is related to the argument that there is more work needed to properly define what are and are not relational components and, hence, it is possible that the scales identified in *Conexiones* are actually indexing constructs that are not associated with school engagement. Although the alpha reliability scores of these scales range from acceptable to very good, this metric does not indicate if the construct being measured is actually the construct intended to be measured. Additional construct validity studies such as convergent and discriminant validity are required to provide a reasonable conclusion (Boateng et al., 2018).

A second alternative explanation is that relational components are not directly associated with students' school engagement, but that they play a role in the effectiveness of structural components in family-school interventions. This was alluded to by Kim & Sheridan (2015) who suggested that the relational approach creates the context for developing effective collaboration between parents and teachers who can then implement evidence-based structural components that can enhance students' outcomes. Finally, a third possible explanation could be that for first generation Latina/o immigrant parents the relationship they have with the school and educators is not as salient for student school engagement given the protective influence of different cultural and contextual factors such as strong family ties (Cavanaugh et al., 2018) and high educational expectations for their children (Suizzo et al., 2012). The literature however indicates that

this protective effect tends to wears down in future generations in part due to the deleterious effects of discrimination in the receiving context (Cobb, Martinez, et al., 2020; Cobb, Schwartz, et al., 2020).

Best Model Predicting School Engagement

The last research question was designed to test Kim & Sheridan's (2015) Meta-Model of FSC main thesis, that the most effective approach to increase family-school connections, and hence, students' outcomes, is one that brings together structural and relational components (aim 5). Accordingly, it was hypothesized that a combined structural plus relational components model would be a better predictor of students' positive school engagement than would a model with only structural components. An adjusted multiple regression model with two blocks of predictor was conducted. Results indicated that neither model significantly predicted the outcome. Although the hypothesized model as a whole had low explanatory power, from a multi-model comparison perspective, the combined structural plus relational components model accounted for a higher percentage of the variance in the outcome (38%), than the structural components only model (24%), hence, it had better relative explanatory power.

This relative superior explanatory power was probably not due to the increased number in predictors, from 18 predictors in the structural components model to 23 predictors in the combined model, as there were already 10 covariates to start with in the demographic only model. The Akaike Information Criteria (AIC) weights, that include a penalization for model complexity (Burnham & Anderson, 2002) still indicated that the combined model fit the data better. Myriad factors could contribute to null model findings; these are briefly covered in the limitations section of this study.

This study was designed to respond to Kim and Sheridan's (2015) call for research that helps determine the interventions components designed to strengthen family-school relationships and the potential for stronger effects on children's outcomes with a combined approach. Although there is a dearth of empirical evidence in the FSC field testing the direct effect of relational components on students' outcomes, the Home-School collaboration empirical literature suggests that relational practices such as home-school communication and collaboration drive the positive effects on students' academic achievement of family-school intervention programs (Cox, 2005). This study provides preliminary evidence that the inclusion of relational components of FSC to the more common structural components in family-school intervention programs are an avenue worthwhile of further exploration, especially for interventions that target families from HEGs.

Study's Strengths, Limitations, and Future Directions

The current study main strengths were its theory-driven and theory-testing approach; the isolation of structural and relational components in a family-school intervention program; and the target population, Latina/o parents and their secondary school-aged students. Based on this study's findings, a couple of recommendations regarding identifying and studying structural and relational components are presented. Next, other study's limitations and future directions are summarized regarding measurement and statistical conclusions.

Intervention components. This study highlights the importance and need of updating the definitions of the different structural and relational components based on the student's educational context and the characteristics of the population of interest. For

instance, having close and frequent communication between parents and teachers in the early and elementary education contexts can be very important to ensure students' success, however, attempting to keep these practices in the secondary school context can become a burden for both parents and teachers and counterproductive for student outcomes. This, however, does not mean that the parent-teacher relationship is no longer an important element for students' success, but that successful parent-teacher relationships look different in each of these educational contexts. Qualitative methodologies are probably best suited to identify the most relevant aspects of effective parent-teacher relationships in each educational context; future studies should consider incorporating such methodologies to develop adequate measures of structural and relational components, adapted to the specific educational context.

Relatedly, components' definitions need to vary depending on the target population characteristics. Although it may be unfeasible to develop specific definitions and measures that attend to each intersectional identity of the target population, when it comes to family-school partnerships, it does make sense to develop parallel definitions of each of the relevant components for families who have experienced the U.S. educational system and for families who are new to the U.S. educational system. For instance, this study provided evidence of the importance of parents' school-based involvement practices when they are defined as getting acquainted with the U.S. educational system for Latina/o middle school students' school engagement; such practices may not be relevant for students and families that have several generations of experience in the school system. Intervention studies that aim to increase family-school partnerships should

incorporate a differential approach that targets the specific experience with the U.S. educational system that families and students have.

A large evidence base suggests that the implementation of behavioral supports at home have a positive effect in child's behavior (Leijten et al., 2019; Martinez & Eddy, 2005; Simonsen et al., 2008). Correspondingly, there is also evidence that suggests that behavioral supports implemented at school have positive effects on students' behavior (Lassen et al., 2006; Noltemeyer et al., 2019). Nonetheless, it is unclear if one, behavioral supports implemented by parents at home would generalize to other contexts such as school, and two, if increased behavioral supports at home would have an effect on different student outcomes (i.e., school engagement and/or academic achievement). Given that this is a particular area in which there is not a large evidence base in the FSC field, future studies should develop measures that adequately assesses dimensions of behavioral supports, that is, that at least include clear behavioral expectations, contingent reinforcement strategies, and consistent discipline to test these questions with sufficient refinement.

Measurement. The *Conexiones* parent assessment battery is both a strength and a limitation of this study. In order to best fit the aims and target population of the *Juntos* study, the team leading the battery development process implemented item and scale adaptations of some existing measures guided by face validity which may have unknowingly affected the factor structure of some scales. Furthermore, in the face of the absence of existing measures assessing important *Juntos* study constructs, the assessment development team also developed items and scales thought to tap into those constructs.

Given this approach, it was decided to conduct exploratory factor analysis to identify the factor structure of the data, which is a strength of the present study.

Item and scale development is a more complex endeavor than usually assumed (Boateng, et al., 2018), hence a couple of recommendations follow. *Conexiones* parent assessment battery items were sometimes too lengthy because they included several examples, which can trigger participants' social desirability bias; some items asked for more than one thing at a time which may have reduced the specificity of the item and hence their clarity. In addition, some items read awkwardly because they were not formulated following Spanish grammar rules. To prevent such issues, it is important that a native Spanish speaker is involved in the battery assessment development, however, it is important to consider that Spanish varies region by region so pilot testing the batteries with individuals from the target population is crucial to ensure that items would be understood by the average member of the target population.

A final set of issues with the *Conexiones* parent assessment battery items was the low variability in participants' responses. Most participants' responses were left skewed, suggesting that most participants' answers tended towards the highest options of the scales. At least two factors could have influenced this issue. First, only two response anchors choices were used in the *Conexiones* parent assessment battery, *strongly disagree* to *strongly agree*, and *never* to *frequently*, both in a one to four scale. This was likely intended to reduce participant and assessor burden, however, some items called for a different response anchor to make more sense. Also, in ordinal scales, a one to four scale usually does not provide a large enough range for participants to choose the right answer for them, instead, at least a one to five should be used.

Statistical Conclusions. First, this study ignored the nested structure of the data. As indicated in Chapter II, the *Juntos* study recruited its sample from six different schools. Future studies using this dataset should use the appropriate statistical models that effectively account for the nested structure of the data. Although the *Juntos* study used a longitudinal design, the present study used a cross-sectional design, hence, no causal relationships should be drawn from this study's findings. In addition, this study's finding should be considered in the light of the demographic characteristics of the parent sample, mostly Mexican immigrant mothers. Although some of the experiences reflected in this study's sample can also be experienced by other Latina/o populations living in the U.S., there is great diversity among Latina/o immigrant populations in the U.S. and generalizing this study's findings to other Latina/o immigrant populations should be done with extreme care.

Finally, there are a couple of factors that may have contributed to some of this study's null findings. One, *Juntos* was a feasibility pilot study and, from the outset, had a small sample size. Originally, the *Juntos* research team settled on a power convention of .80 and an alpha level of .05 to assess the study's power. Based on the statistical analyses selected, it was identified that the sample size needed to be at least $n = 114$ students. The current study required complete parent-dyad data and hence it included only 94 students. A small sample size affects the study's power to reject the null hypothesis. In addition, having too many predictors, as is this study's case in the multi-model comparison research question, can further reduce the study's power.

Given the theoretically driven hypothesis, it was not reasonable to take out predictors. Due to the large number of predictors, the Benjamini-Hochberg (1995)

procedure would have been appropriate, however, post-hoc power analysis indicated that this study had a power of .50, which was too low to conduct this correction. Future studies interested in investigating the effects of structural and relational components in family-school interventions should implement further data reduction strategies to reduce the number of predictors. In addition, reducing the number of covariates is recommended and, as an alternative approach, conducting moderation analyses with some of the variables thought to affect the component-student outcome relationship is advised instead.

Study's Implications

The current study highlights that there is still much work that needs to be done in terms of adequately isolating and assessing structural and relational family-school interventions components, and furthermore, assessing them in relevant ways for the target populations. Accordingly, it is crucial that measurement development follow rigorous processes to ensure appropriate construct validity and reliability; regrettably, rigorous measurement studies are costly. Given the potential benefits families, students, educators and even the FSC field as a whole could yield from incorporating more nuanced ways of identifying and operationalizing family-school interventions components, funding institutions should consider increasing the mechanisms to pursue more measurement research.

Lastly, in terms of implications for family-school interventions, it is important that interventions that work with parents who belong to HEGs capitalize on their assets and make visible to school staff members the "invisible" ways they support the academic achievement of their children to promote effective and equitable family-school

relationships. For instance, high parents' expectations regarding their children's staying in school and the value they give to education have been reported as a type of parent practice used by caregivers from HEGs (Flowers, 2015; Gross et al., 2020; Jeynes, 2010; Rubie-Davis et al., 2010). Capitalizing in parents' values and their aspirations for their children can be a way to develop stronger and more effective FSC and hence better outcomes for students from HEGs.

Conclusion

The present study is one of the first to attempt to isolate structural and relational components in a family-school intervention program and to compare two contesting models in the FSC field. It provided evidence regarding the effectiveness of some structural family-school intervention components with the caveat that these components were operationalized attending to the students' educational context and the characteristics of the target population. Additional study findings highlight the need to continue working towards developing more clear operationalizations of relational family-school intervention components. Although relational components explain some of the variability in the outcome of interest, its role in FSC models may be less direct than initially theorized, hence, it is an avenue worth exploring in future research.

APPENDICES

APPENDIX A

PARENT PRACTICES SCALES

- **Homework Involvement (17 items)**

Esta sección tiene que ver con su participación en ayudar a su joven con la tarea. Por favor, conteste la frecuencia con la que ha hecho lo siguiente para ayudarle a su hija/o con la tarea en los <u>últimos tres meses</u>…

(1) Nunca
(2) Raramente
(3) A veces
(4) A menudo

82 Mi joven ha tenido la plena responsabilidad de completar su tarea; no me involucro. **R** -.28
83 Dejé de intentar (de ayudarlo con su tarea). **R** -.02
84 Me aseguré de que tenga un cierto tiempo para hacer la tarea
85 Me aseguré de que él / ella tenga un cierto lugar para hacer la tarea
86 Me senté con mi joven mientras él / ella hacía su tarea
87 Me hice disponible para mi joven cuando tenía preguntas sobre su tarea
88 Ayudé a mi joven cuando estaba atascado/a en una tarea
89 Ayudé a mi joven a prepararse para los exámenes haciéndole preguntas sobre el tema, etc.
90 Le di a mi joven incentivos como privilegios especiales, regalos especiales, etc.
91 Utilicé consecuencias, castigos, acciones disciplinarias
92 Le recordé a mi joven que hiciera su tarea .28
93 Comprobé con mi joven para asegurarme de que él / ella hiciera su tarea
94 Comprobé y corregí la tarea de mi hija/o
95 Comprobé con la maestra/o para asegurarme que mi joven terminó su tarea
96 Le ayudé a mi joven acceder a otros recursos (biblioteca, materiales de arte, laboratorio de computación, etc.)
97 Le ayudé a mi joven practicar habilidades (lectura, revisión, problemas de práctica, etc.)
98 Limité el ruido y/o las distracciones mientras hacia su tarea

- **Monitoring (5 items)**

Las siguientes preguntas son sobre los amigos/as de tu joven. Por favor, háganos saber que tan verdad son las siguientes declaraciones para usted.

(1) Fuertemente en desacuerdo
(2) En desacuerdo
(3) De acuerdo
(4) Fuertemente de acuerdo

137 A menudo hablo con mi joven acerca de sus planes para el día siguiente
139 A menudo hablo con mi joven acerca de sus amigos
140 Conozco muy bien a los amigos de mi joven.
143 Por lo general yo sé con quién está mi joven
144 Sé lo que hace mi joven y dónde va cuando no está en casa

- **Appropriate Discipline (7 items)**

¿Qué tan ciertas son las siguientes declaraciones para usted acerca de su capacidad para comunicarse positivamente con su joven sobre el establecimiento de límites y consecuencias?

(1) Fuertemente en desacuerdo
(2) En desacuerdo
(3) De acuerdo
(4) Fuertemente de acuerdo

128 En casa, estamos de acuerdo con reglas claras sobre lo que mi joven puede y no puede hacer.
129 Mi joven sabe cómo voy a responder cuando hace algo malo cosas que no me gustan o lo que está en contra las reglas de la casa).
130 Cada vez que mi joven hace algo mal, yo le respondo con una consecuencia específica (por ejemplo, una disciplina específica, quitándole privilegios, etc.)
131 Cuando mi joven hace algo mal, le grito o le insulto. **R**
133 Cuando mi joven me desafía al no hacer lo que le pido, yo renuncio. **R**
134 Cuando mi joven está aprendiendo un nuevo comportamiento (por ejemplo: ser más responsable, estudioso/a u organizado/a), reconozco su progreso con, por ejemplo, un abrazo, una sonrisa o un pequeño regalo.
136 Cuando le doy una amenaza o advertencia a mi joven, frecuentemente no lo llevo a cabo. **R**

- **Structure at Home (8 items)**

En esta sección se hacen preguntas sobre el apoyo que usted brinda a su joven con cosas como fijación de metas y participación en actividades en la comunidad o en la escuela. ¿Cuánto está de acuerdo o en desacuerdo con lo siguiente acerca de su apoyo con su joven en estas áreas durante los <u>últimos tres meses</u>*?*

(1) Fuertemente en desacuerdo
(2) En desacuerdo
(3) De acuerdo
(4) Fuertemente de acuerdo

Los <u>últimos tres meses</u>, he tomado medidas para apoyar a mi joven a...
23 … desarrollar un plan para estudiar y hacer la tarea.
24 … encontrar formas de involucrarse en las actividades escolares.
25 … encontrar maneras de involucrarse en actividades de voluntario/a en la comunidad.
26 … hacer metas para el año escolar.

27 … cumplir fechas de limite.
28 … participar en papeles de liderazgo en la escuela o comunidad.
29 … enfocarse en hacer lo mejor posible.
30 … desarrollar un horario para completar la tarea y los proyectos escolares a tiempo.

- **Parent-Child Conversations About School (14 items)**

Esta sección tiene que ver con conversaciones que tal vez usted tiene con su joven sobre aspectos de la vida escolar. Utilizando la escala proporcionada, conteste con qué frecuencia; en los últimos tres meses, usted ha tenido una conversación con su joven sobre…

(1) Nunca
(2) Raramente
(3) A veces
(4) A menudo

68 … sus amistades en la escuela.
69 … su participación en actividades escolares.
70 … eventos que van a pasar en la escuela.
71 … sus profesores.
72 … las cosas que aprende en clase.
73 … cómo contribuye al salón de clase.
74 … cómo va en sus clases.
75 … sus futuros objetivos de carrera y educación (incluso los objetivos a corto plazo).
76 … desafíos que surgen en la escuela (como intimidación, agresión, acoso, racismo, peleas, etc.)
77 … sus actitudes sobre la escuela.
78 … su comportamiento en la escuela .
79 … las cosas que suceden en la escuela (el ambiente escolar en general).
80 … la importancia de prepararse para futuras trayectorias educativas o de carrera, como la planificación universitaria y / o pensando acerca de la escuela técnica o comercial, etc.
81 … su involucro en actividades extracurriculares en la escuela y en la comunidad como en papeles de liderazgo, haciendo trabajo voluntario en la comunidad, deportes, etc.

- **School-Based Involvement (10 items)**

Esta sección tiene que ver con su relación con la escuela de su joven, el sistema educativo, los maestros, los administradores y el personal. Responda que tan en acuerdo o en desacuerdo esta con cada declaración y si ha tomado medidas activas en estas áreas.

(1) Fuertemente en desacuerdo
(2) En desacuerdo
(3) De acuerdo
(4) Fuertemente de acuerdo

En general, hago un esfuerzo para...
31 … conocer el personal y la administración de la escuela

32 … conocer al menos uno de los maestros de mi joven
33 … entender las reglas y pólizas de la escuela
34 … informarme sobre mis derechos como padre
35 … aprender sobre el sistema educativo en este estado
36 … entender la diferencia entre obtener un GED, graduarse con un diploma estándar de la escuela secundaria, o con un diploma de una secundaria internacional o con un diploma de Bachillerato Internacional.
37 … involucrarse en las actividades escolares, en el salón de clase, y/u otras maneras (por ejemplo, organizaciones de padres, trabajo voluntario, etc.)
38 … tener conversaciones con los otros padres para obtener información o aprender acerca de los recursos en la escuela.
39 …contactar los otros padres para obtener apoyo.
40 …entender la trayectoria hacia la preparación a la universidad y para una carrera

APPENDIX B

PARENT RELATIONSHIP WITH SCHOOL SCALES

- **Parent Belongingness in School (5 items)**

*La siguiente sección hace preguntas acerca de cómo se siente acerca de la escuela como padre y como miembro de esta comunidad escolar***.**

(1) Fuertemente en desacuerdo
(2) En desacuerdo
(3) De acuerdo
(4) Fuertemente de acuerdo

Como madre/padre de esta escuela, siento que soy…

47 …parte de una comunidad con el personal de la escuela y los otros padres.
48 …tratado/a con respeto, sabiendo que mis opiniones son importantes.
51 …dedicada/o en creando un ambiente exitoso para todos los jóvenes.
52 …feliz de que mi joven asista a esta escuela.
53 …bienvenido/a en la escuela de mi joven.

- **Parent Endorsement of School (4 items)**

Esta sección le pregunta por su confianza en ciertos aspectos de esta escuela. Utilizando la escala, por favor conteste cuánto está de acuerdo o en desacuerdo con las siguientes afirmaciones.

(1) Fuertemente en desacuerdo
(2) En desacuerdo
(3) De acuerdo
(4) Fuertemente de acuerdo

Como madre/padre en esta escuela, estoy segura/o de que…

54 … esta escuela es un buen lugar para mi joven.
55 … el personal de la escuela de mi joven está haciendo cosas buenas por ella/el.
56 … la gente en la escuela de mi joven es confiable.
57 … la escuela de mi joven hace un buen trabajo preparando a los jóvenes para sus futuros.

- **Parent's Value and Support of Education (6 items)**

(1) Fuertemente en desacuerdo
(2) En desacuerdo
(3) De acuerdo
(4) Fuertemente de acuerdo

Para mi es importante…

105 … que mi joven se gradúe de la escuela secundaria.
106 … que mi joven continúe su educación después de la secundaria
107 … saber cuáles son las metas que tiene mi joven para su futuro

108 … ayudar a mi joven a hacer planes y dar pasos hacia sus metas para el futuro
109 … buscar información para ayudarle a mi joven a alcanzar sus metas futuras
110 … ayudar a mi joven a comenzar a prepararse para la educación superior, incluso mientras esté en la escuela intermedia

- **Family-School Communication (6 items)**

Esta sección pregunta acerca de la frecuencia con la que ha tenido contacto con los maestros y el personal de la escuela en los últimos tres meses.

(1) Nunca
(2) Raramente
(3) A veces
(4) A menudo

18 ¿Cuántas veces ha tenido algún contacto con los maestros de su joven u otro personal de la escuela?
19 ¿Cuántas veces se ha reunido con algún otro personal de la escuela? (consejero, director, secretaria de la escuela, enfermera, etc.)

(1) Fuertemente en desacuerdo
(2) En desacuerdo
(3) De acuerdo
(4) Fuertemente de acuerdo

En general, hago un esfuerzo para...
41 … asistir a la conferencia de padres y maestros cuando esté disponible.
En general, estoy segura/o de que…
43 …puedo comunicar mis preguntas y preocupaciones con los maestros y el personal de la escuela.
Como madre/padre de esta escuela, siento que soy…
50 … capaz de hablar con maestros o administradores sobre grandes preocupaciones relacionados con mi joven.
Como madre/padre en esta escuela, estoy segura/o de que…
62 … puedo tener una conversación honesta y respetuosa sobre mi joven con su maestro.

- **Problem Solving with Educators (4 items)**

Esta sección le pregunta por su confianza en ciertos aspectos de esta escuela. Utilizando la escala, por favor conteste cuánto está de acuerdo o en desacuerdo con las siguientes afirmaciones.

(1) Fuertemente en desacuerdo
(2) En desacuerdo
(3) De acuerdo
(4) Fuertemente de acuerdo

En general, estoy segura/o de que…

44 …puedo trabajar con la escuela para encontrar una solución positiva si surge un conflicto o un problema que involucre a mi joven en la escuela.

Como madre/padre en esta escuela, estoy segura/o de que…

58 … puedo encontrar ayuda para mi joven si él / ella está batallando en una clase.

63 …puedo trabajar con un maestro para resolver cualquier problema que tenga mi joven en la escuela.

126 Si mi joven tiene problemas en la escuela, sé cómo conseguirle la ayuda que él / ella necesita

- **Parent-Teacher Relationship (4 items)**

Esta sección hace preguntas sobre sus sentimientos acerca de los maestros en esta escuela. Utilizando la escala, por favor conteste cuánto está de acuerdo o en desacuerdo con las siguientes afirmaciones.

(1) Fuertemente en desacuerdo
(2) En desacuerdo
(3) De acuerdo
(4) Fuertemente de acuerdo

En esta escuela, siento que hay por lo menos un maestro…

64 … que se preocupa por mi joven.

65 … quien está interesado en conocerme.

66 … con quien me siento/a cómodo/a hablando sobre mi joven.

67 … de quien puedo hacer preguntas o hacer sugerencias sobre mi joven.

- **Combined scale: Relationship with teachers and relationship with school (14 items)**

Opciones de respuesta:
(1) Fuertemente en desacuerdo
(2) En desacuerdo
(3) De acuerdo
(4) Fuertemente de acuerdo

En general, hago un esfuerzo para...

41 … asistir a la conferencia de padres y maestros cuando esté disponible.

En general, estoy segura/o de que…

43 …puedo comunicar mis preguntas y preocupaciones con los maestros y el personal de la escuela.

44 …puedo trabajar con la escuela para encontrar una solución positiva si surge un conflicto o un problema que involucre a mi joven en la escuela.

Como madre/padre de esta escuela, siento que soy…

50 … capaz de hablar con maestros o administradores sobre grandes preocupaciones relacionados con mi joven.

Como madre/padre en esta escuela, estoy segura/o de que…

58 … puedo encontrar ayuda para mi joven si él / ella está batallando en una clase.

62 … puedo tener una conversación honesta y respetuosa sobre mi joven con su maestro.

63 …puedo trabajar con un maestro para resolver cualquier problema que tenga mi joven en la escuela.

En esta escuela, siento que hay por lo menos un maestro…

64 … que se preocupa por mi joven.

65 … quien está interesado en conocerme.

66 … con quien me siento/a cómodo/a hablando sobre mi joven.

67 … de quien puedo hacer preguntas o hacer sugerencias sobre mi joven.

126 Si mi joven tiene problemas en la escuela, sé cómo conseguirle la ayuda que él / ella necesita

APPENDIX C

STUDY'S OUTCOME SCALE

- **Students' School Engagement (9 items)**

This short section has to do with how you feel about being in school. Use the scale below to answer how often you do the following…

(1) Never
(2) Rarely
(3) Some of the time
(4) Most of the time
(5) All of the time

83 I pay attention in class.
84 When I am in class, I just act like I'm working. **R**
85 I follow the rules at school.
86 I get in trouble in school. **R**
87 I feel bored in school. **R**
88 I feel excited about what I am learning at school.
89 I like being at school.
90 I am interested in the work at school.
91 My classroom is a fun place to be.

APPENDIX D

MULTIVARIATE MODEL: RELATIONAL BLOCK OF

PREDICTORS ON OUTCOME

Adjusted Multivariate Effects of Relational Components on Youth School Engagement Among Middle School Students (N = 94)

Variable	Parameter estimate			
	Bonus model: Adjusted, relational predictors block			
	b	*SE*	*t*	*p*
Intercept	4.90	1.97	2.48	**.015***
BELONG	0.48	0.33	1.44	.155
ENDORSE	0.02	0.31	0.05	.957
VALUE ED	0.24	0.18	1.38	.173
COLLAB	-0.68	0.28	-2.38	**.023***
EFFICACY	0.12	0.26	0.47	.638
AIC weight		154.58		

Note. ***$p < .001$, ** $p \leq .01$, *$p < .05$. Bonus model $R^2 = .16$, $F(15, 67) = 0.87$, $p = .597$.

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