

**Parent-Teacher Communication as a Moderator of the Relationship Between Parents'
Barriers to School Engagement and Satisfaction with School Contact and Support**

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Abstract

Abstract

Family-school communication quality and family engagement are two important building blocks for family-school partnerships. However, previous studies have shown that communication quality and family engagement are hindered by linguistic, socioeconomic, and ethnocultural factors. These factors particularly influence parent satisfaction in early childhood education programs, especially those that are in low-income, publicly funded programs. Data will be drawn from three surveys related to family-school interaction, completed by 307 families from 40 Boston Head Start classrooms. The present study addresses the following research questions: (1) To what extent do parents' reports of barriers to school engagement relate to parent satisfaction with school contact and support? (2) To what extent does the quality of parent-teacher communication relate to parent satisfaction with school contact and support? (3) To what extent does parent-teacher communication quality moderate the relationship between parents' report of barriers to school engagement and their satisfaction with school contact and support, after accounting for demographic covariates (e.g., parents' marital status, gender, educational attainment, and nativity)? Linear regression analyses indicated that communication quality was positively related to parent satisfaction, while total barriers and resource barriers, specifically, are significant negative predictors of parent satisfaction. Moderation analyses showed that communication quality did not moderate the relationship between barriers and parent satisfaction, contrary to hypotheses. Parent demographic characteristics were not significant predictors of parent satisfaction.

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Parent-Teacher Communication as a Moderator of the Relationship Between Parents' Barriers to School Engagement and Satisfaction with School Contact and Support

Preschool classrooms serve as the foundation for many children's early educational experiences (Barnett et al., 2020; Yoshikawa et al., 2013). It is often children's first exposure to a structured environment that encourages socialization and supports critical learning in areas such as math, science, and reading. Research has demonstrated that the quality of preschool education significantly impacts children's academic outcomes and overall development during these formative years (Bassok et al., 2018; Pianta et al., 2016; Yoshikawa et al., 2013). In addition to the quality of the curriculum, other studies have identified the role of parental involvement in enhancing educational outcomes during early development (Fantuzzo et al., 2019; Hara & Burke, 1998). Family engagement, going beyond classroom involvement, like having meaningful communication and active collaboration between families and schools, has a greater impact on a child's educational outcomes than occasional participation in school events or parent-teacher conferences (Hummel et al., 2023, Kim & Sheridan, 2015; Murray et al., 2015). Thus, it is often suggested that effective communication between parents and teachers, like open, honest, and bi-directional dialogue, is key to building strong partnerships that promote children's learning (Fantuzzo et al., 2000; Hummel et al., 2023; Murray et al., 2015).

Schools have initiated efforts to foster stronger school-home connections, recognizing the positive impact on children's development; for instance, many have adopted strategies for encouraging home-based activities, such as assigning parental homework or promoting learning within the home environment (Baker et al., 2016; Dwyer & Hecht, 1992; Kim & Riley, 2014). Findings highlight the importance of family participation in both home and school-based activities, suggesting that aligning home-based strategies with school curriculum goals can

support children's learning (Boonk et al., 2018; Kim & Riley, 2020; McWayne et al., 2004). However, the effectiveness of family-school partnerships is often shaped by broader contextual constraints, including time demands, lack of socioeconomic resources, and language-related communication challenges, which can limit families' opportunities for meaningful engagement (Baker et al., 2016; Fantuzzo et al., 2000; Li et al., 2021).

To address such challenges, fostering family-school connections by promoting relationship building and trust can support collaboration and bi-directional communication between the individuals most proximally involved in a child's development, and create a culturally inclusive environment in early childhood programs (Bronfenbrenner & Morris, 2006; Kim & Sheridan, 2015; McWayne et al., 2022). Supporting open channels for reciprocal communication between preschools and families is another important strategy. In addition to traditional approaches such as parent-teacher conferences, alternative forms of engagement, including joint activities and parent-teacher discussion groups can promote meaningful communication (McWayne et al., 2018). Such approaches may help parents feel empowered to support their children's learning both at school and at home, reinforcing their critical role in their children's education (McWayne et al., 2022). Despite this, few studies have examined how communication quality might be linked to the relationship between parents' barriers to school engagement and their satisfaction with their child's preschool program. Addressing this gap could provide valuable insights to understand how communication between parents and educators can strengthen family-school partnerships and foster positive educational experiences for children and families.

Theoretical Framework

Bronfenbrenner's bioecological model (Bronfenbrenner & Morris, 2006) is valuable for

exploring the interactions between the various settings with which children and families engage, both directly and indirectly, in their everyday lives. This model denotes that children's development is influenced by the proximal interactions between their ecological systems such as the microsystem (families, schools), mesosystem (connections across microsystems), exosystem (early childhood program accessibility), and macrosystems (broader cultural factors or social policies) (Bronfenbrenner & Morris, 2006; Iruka et al., 2020). This study will explore the model's focus on interactions across two primary systems—home and school—, specifically the mesosystem, which examines the connections between these two microsystems as the two most influential environments in a young child's life (Barnett et al., 2020; Christenson & Sheridan, 2001; Kim & Riley, 2014; McWayne et al., 2004).

Given the demographics of the population of this study, it's important to recognize the diversity of human experiences, considering everyday activities and routine, community practices, and language. The *cultural microsystems* model by Vélez-Agosto et al. (2017) places culture as central to all levels of the system surrounding the child, and a core part of the human developmental process. This model is a revision of Bronfenbrenner's bioecological model, recognizing that culture operates within all settings, and emphasizing that the different layers in the model are always constantly transformed and flow into one another (Vélez-Agosto et al., 2017).

Therefore, the aim of this study is not only to better understand how relational aspects of the mesosystem intertwine in an urban preschool context among low-income families, but also to consider how culture plays an integral part in human development, as it binds together these various settings through “the creation of communities of practice that the child participated in or is a part of” (Vélez-Agosto et al., 2017, p. 906). Centering this development-in-context

framework and culture operating as part of the microsystems affecting a child, this study highlights the importance of focusing on home and school as pivotal areas of study for family engagement and children's preschool success.

Family Engagement

Family¹ and parent involvement in preschool classrooms has been studied for decades, particularly focusing on how families can engage with their children's education, such as by encouraging parents to read with their children at home, attend school events, volunteer as classroom helpers, or participate in morning reading circle (Baker et al., 2016; Dwyer & Hecht, 1992; Kim & Riley, 2014). While parent *involvement* typically refers to parents being physically present in the school, parent *engagement* encompasses the multiple constructions of how parents are involved in their children's education, as well as the efforts educational programs make to connect with families (Baker et al., 2016; Ferlazzo, 2011). For instance, Baker et al. (2016), through parent focus groups, found parents expressed a desire for support in engaging with their children's education through activities they could do at home. In the same study, one parent suggested that schools acknowledge and value parental involvement outside of school, like attending sports events or using community resources like the YMCA and the library (Baker et al., 2016). Furthermore, researchers have shifted focus to family engagement by viewing families as partners with the schools, as schools prioritize listening to their worries or concerns, building a foundation of trust and respect. Indeed, researchers have developed theoretical models to understand the relational aspects of family-school connections and how parents and teachers can work together to support a child's education (Kim & Sheridan, 2015). More specifically, Kim

¹ Parent often refers specifically to a child's mother or father, however this paper will refer to "families" to include other caregivers such as grandparents, aunts, uncles, or extended family members, as well as to acknowledge caregivers among diverse family structures, who might be caring for the child.

and Sheridan's (2015) model recognizes two key approaches: *structural engagement*, which refers to the specific activities parents and teachers engage in to support children's learning, and *relational engagement*, which focuses on the quality of the relationship between parents and teachers. The relational approach promotes "two-way communication, trust-building practices, joint engagement and commitment, congruent expectations, mutual goal setting, and collaborative problem solving" (Kim & Sheridan, 2015, p.8). Importantly, structural engagement activities occur within a relational context, and quality communication is an important component as it may mediate the effects on children's behavior (Sheridan et al., 2012). Kim and Sheridan (2015) emphasize that building strong relationships is just as important for achieving educational goals, by focusing first on relational objectives, like building trust and mutual respect, families and school staff can form stronger partnerships. Once that foundation of trust is in place, communication can then shift toward specific strategies for use at home and in school.

Relational Approach

To better understand the focus on the mesosystem, or the relationship between school and the home, this study will also be taking a closer look at the relational approach. The relationship between the home and the school involves parents and educators engaged in the educational and learning process of children (Kim and Sheridan, 2015). Researchers emphasize the importance of strong, respectful, and collaborative relationships between families and educators as a foundation for supporting children's development and learning (Christenson and Sheridan, 2001; Kim and Sheridan, 2015; Sheridan et al., 2012). To have successful parent-teacher relationships, there needs to be an established or developing foundation of bi-directional communication, trust-building, joint engagement and commitment, mutual goal setting, and collaborative problem solving. Taking a relational approach can foster better and stronger family-school partnerships,

because it is not just focused on informing families about their children's education but rather engaging them in meaningful dialogue so that they can feel empowered or feel a sense of ownership of their children's development and the school process (Kim and Sheridan, 2015). Throughout the literature, it has been consistently demonstrated that the quality of preschool education significantly influences children's academic performance and overall development; family-school partnerships play a critical role in enhancing quality (Fantuzzo et al., 2006; Pianta et al., 2016; Yoshikawa et al., 2013).

Family Engagement Outcomes in Preschool Classrooms and Beyond

Family engagement in preschool is a fundamental building block for a child's education and school readiness (Barnett et al., 2020; Fantuzzo et al., 2002). Recognizing the multidimensional nature of family engagement, research has sought to examine how various forms of family engagement relate to children's school outcomes (Fantuzzo et al., 2000, 2002). Home-based involvement has been associated with prosocial behaviors (e.g., positive peer play interactions both at home and at school) (Fantuzzo et al., 2000; McWayne et al., 2004). Frequent home-learning activities are also linked to higher teacher ratings of children's reading and math achievement, overall intellectual functioning, and classroom behavior (Barnett et al., 2020). School-based involvement has also been shown to be important for children's school adjustment (Fantuzzo et al., 2000; McWayne et al., 2004). Parents' volunteer hours, for example, are associated with children's academic motivation, social competence, reductions in problem behaviors, and school readiness (Baker et al., 2016; El Nokali et al., 2011; Fantuzzo et al., 2000). Home-school communication is another critical, yet less studied, aspect of this multidimensional conceptualization of family engagement (as per Fantuzzo et al., 2000). Early childhood education programs, like Head Start, a free, federally funded U.S. program for income eligible

families, promotes family engagement by fostering communication, trust, and respect between parents and teachers (Baker et al., 2016; El Nokali et al., 2011, McWayne et al., 2004), which can be an important foundation for families new to the formal educational system (Ochoa et al., 2023). Literature on the longitudinal effects of family engagement in early childhood education also indicates its significant impact on children's developmental and academic outcomes over time. Family engagement dimensions as evidenced in preschool, such as parent-child reading time, parental expectations, and parents' expressions of affection for their children are significant predictors of language minority students' academic success in third and fifth grades (Fan & Chan, 2001; Li, Nelson, & Shen, 2025; Wilder, 2014).

Although studies have found that family engagement in early childhood education is associated with positive outcomes for children's learning, educational achievement, and behavior, there are myriad barriers for engagement, especially among lower-income, immigrant parents unfamiliar with the school system (Fantuzzo et al., 2000; McWayne et al., 2022; Orozco et al., 2008). Such barriers may include lack of time from families due to work commitments and inflexible work schedules, language barriers, or limited understanding of how they can contribute to their child's education (Baker et al., 2016; Li et al., 2021; Yap & Enoki, 1995). When families are actively involved in their children's learning, both at home and in school, it serves as a protective factor for families from low-income backgrounds, who may be at higher risk for educational disparities due to systemic inequities, and ultimately be a barrier for those family school partnerships (Bronfenbrenner & Evans, 2006). More closely, exploring barriers to engagement may offer insights into the specific challenges families face as well as the opportunities for creating stronger connections across school and home.

Satisfaction with the ECE Experience

Parent satisfaction with their child's early childhood education program is an important indicator of parent engagement. In other words, when parents feel satisfied with their child's educational environment, teacher interactions, and overall school climate, they are more likely to remain actively involved in their child's learning through involvement in their child's early childhood program; however, satisfaction with ECE programs can depend on parents' socioeconomic status, employment, and marital status (Bassok et al, 2018; Fantuzzo et al., 2006, Kaya et al., 2025). Demographic factors appear to relate to how parents evaluate and prioritize preschool features. This may be particularly the case for low-income families, served in programs like Head Start or publicly funded ECE programs, who may have fewer financial resources but place a greater value on practical supports (Bassok et al, 2018; Fantuzzo et al., 2006; Kim & Fram, 2009). For example, low-income families, with limited flexibility in choosing an ECE program, may express satisfaction with their current program not necessarily because it meets all their needs, but because of factors like affordability, location, and convenience (Bassok et al., 2018; Chaudry et al., 2011; Fantuzzo et al., 2006). Families from higher socioeconomic backgrounds often have greater access to more quality programs and tend to evaluate them based on curriculum and enrichment opportunities (Chaudry et al., 2011).

Alongside socioeconomic status, other demographic factors, such as marital status, education level, and nativity shape parental satisfaction with their child's early education program. Married parents or parents with partners often experience greater support in managing childcare demands, whereas single parents, particularly low-income working mothers, face additional economic and time constraints (Chaudry et al., 2011; Presser, 2003). Low-income working mothers are more likely to hold part-time or temporary jobs, work nontraditional hours, and rely on family members for additional childcare, all of which can intensify stress and reduce

overall satisfaction (Chaudry et al., 2011; Presser, 2003). Mothers with higher levels of education and income are more likely to prioritize their childcare decisions around features related to small group sizes, reliable care, or learning activities aimed at increasing school readiness (Kim & Fram, 2009). Parent nativity may also play a role in influencing parents' satisfaction with their child's ECE program, as immigrant parents often struggle to navigate an unfamiliar child-care system, or are unaware of available local child-care options, particularly formal, center-based early childhood education programs (Matthews & Jang, 2007). That is to say, research is still limited on how nativity or immigrant status is related to parent satisfaction, including parents' experiences and access to information about childcare and early education.

Bassok et al. (2018) investigated how parents' satisfaction with preschools were related to program features, such as curriculum quality, teacher qualifications, and family engagement practices, and found that 70% of parents were "very satisfied" with their program and reported being "very likely" to choose their program again. Given the strong emphasis on family and teacher interaction in programs like Head Start, parents may be more likely to rate their satisfaction higher, compared with families in other early childhood settings. Additionally, some programs may require more training and involvement of families, including asking families to share their feelings of satisfaction and their experiences with communication with the school and program, leading to heightened partnership with families (Fantuzzo et al., 2006; Janssen et al., 2021). Regardless of the childcare settings, effective communication, including trust, collaboration, between the early childhood educator and families likely serves to bolster parents' satisfaction with their children's learning environment, and results in stronger parent-school relationships.

Barriers to Family Engagement

Barriers for family engagement may look different across populations and ecological levels. Differences in cultural beliefs, socioeconomic status (SES), immigration status, language, levels of education, and access to resources between families and educators can pose challenges to families and children in their desires for involvement (Baker et al., 2016; Chrispeels & Rivero, 2001; Li et al., 2021; Wander et al., 2007). Cultural beliefs, for instance, shape families' views on education and influence their perceptions of their role in the school environment and motivation to participate (Chrispeels & Rivero, 2001; Mendez et al., 2010; Yap & Enoki, 1995). Some families view their primary responsibility as ensuring that their children have basic needs such as food, clothing, and shelter. At the same time, they emphasize the importance of their children getting a *buena educación*, a Spanish term for good education or manners, that is broader than the concept of a "good education" in English, constructed by their own cultural norms and expectations (Chrispeels & Rivero, 2001; McWayne & Melzi, 2014). Ironically, some parents who hold educational institutions in such high regard may feel it is inappropriate to interact with educators or question school events, where parents only support school events by attending open houses and parent-teacher conferences because they view them as demanding their response (Chrispeels & Rivero, 2001; Yap & Enoki 1995). Some parents may be reluctant to initiate communication and contact with school staff, viewing such actions as challenging the authority or decisions of educational experts (Yap & Enoki 1995). Therefore, cultural models of parental involvement often differ from the dominant expectations within U.S. schools, and as a result, these culturally rooted approaches are frequently undervalued or overlooked by the school system (Andrews, 2013). For instance, Latino parents, including Mexican parents, view parent involvement in terms of nurturance and the transmission of cultural values to their children, which differs from traditional school-based definitions of parental involvement in the U.S.

(Andrews, 2013; Lopez et al., 2001). In other words, not all families share the same cultural models and scripts for school engagement but learning about parents' prior experiences and understanding of school systems may aid in building collaborative and effective relationships between educators and families (Li et al., 2023).

In addition to cultural beliefs, families' social background variables such as their SES, immigration status, and primary language can also influence parents' individual values and beliefs, as well as their engagement practices (Kim et al., 2020; Mendez et al., 2010; Yap & Enoki, 1995). Family demographics like parents' marital status and lower SES are associated with lower levels of school involvement (Zill, 1996). In addition, immigrant families or families from minority ethnic and racial backgrounds often experience conflict with their child's school because of factors like limited English proficiency, unfamiliarity with the country's educational system, and social isolation from mainstream society (Chrispeels & Rivero, 2001; Li, 2006).

Communication Quality to Bridge the Gap

One way that schools can gain access to information about barriers affecting families' engagement is through the promotion of high-quality communication. Studies emphasize the importance of communication between parents and teachers, particularly regarding the method and quality of that communication and partnership (Chrispeels & Rivero, 2001; Epstein & Sheldon 2002; Redding, 1992). Successful schools prioritize parent-teacher communication, where schools actively seek and value parents' input, and support parents' concerns regarding their children's intellectual and social development (Chrispeels & Rivero, 2001; Epstein & Sheldon 2002; Fantuzzo, 2000; Redding, 1992). However, while existing research often assesses the frequency of contact between parents and teachers, it tends to overlook the characteristics of communication itself (Murray et al., 2015).

Communication between parents and teachers evolves as children transition from preschool to primary school and is considered to have a significant role in student development (Murray et al., 2015). Several communication methods, including face-to-face meetings, phone calls, emails, and digital platforms, are being utilized, keeping in mind the preferences and effectiveness of these methods can change as children grow and their developmental needs shift (Hummel et al., 2023; Murray et al., 2015). In one study it was found that timely communication with parents and direct phone calls are associated with improved student attendance (Epstein & Sheldon 2002). Murray et al. (2015) found that parents who communicated more frequently with educators and rated educator communication effectiveness higher, were more actively involved in their child's early childhood and school settings; similarly, they highlighted that supportive relationships and respectful communication are key features of high-quality early childhood services and schools.

Indeed, researchers argue that the quality of communication may be even more crucial than the method or frequency as it can build a foundation of trust and respect (Ferlazzo, 2011; Hummel et al., 2023). Parents' trust in their children's preschool is viewed as a key element of effective parent-teacher communication and is dependent on child and family characteristics (Hummel et al., 2023). For instance, children's behavioral disorders and their family's language predict parents' trust in their child's preschool (Hummel et al., 2023). Communication characterized by openness and regular updates is a key factor in fostering trust between parents and preschool educators (Epstein & Sheldon 2002; Fantuzzo et al., 2007; Hummel et al., 2023). Prioritizing building strong, effective communication channels between parents and teachers can improve both family engagement and child development (Kim & Sheridan, 2015; Murray et al., 2015). Measuring the quality of parent-teacher communication as well as parents' satisfaction

with their contact with early childhood education professionals could provide insight into the effectiveness of school-parent partnership efforts.

Present Study

The present study examined the association between parents' report of barriers to school engagement and their satisfaction with school contact and support, and explored whether parent-teacher communication quality moderates this relationship, after accounting for demographic covariates such as parents' marital status, gender educational attainment, and nativity status. To explore parent barriers closely, the study investigated the association of three specific parent barriers: program and context barriers, cultural and relational barriers, and resource barriers, and their association with parent satisfaction with school contact and support. The following research questions were addressed:

1. To what extent do parents' reports of barriers to school engagement relate to parent satisfaction with school contact and support?
 - a. To what extent do program and context barriers relate to parent satisfaction with school contact and support?
 - b. To what extent do cultural and relational barriers relate to parent satisfaction with school contact and support?
 - c. To what extent do resource barriers relate to parent satisfaction with school contact and support?
2. To what extent does the quality of parent-teacher communication relate to parent satisfaction with school contact and support?
3. To what extent does parent-teacher communication moderate the relationship between parents' report of barriers to school engagement and their satisfaction with school contact

and support, after accounting for demographic covariates (e.g., parents' marital status, gender, educational attainment, and nativity)?

- a. To what extent does parent-teacher communication moderate the relationship between program and context barriers and parents' satisfaction with school contact and support, after accounting for demographic covariates (e.g., parents' marital status, gender, educational attainment, and nativity)?
- b. To what extent does parent-teacher communication moderate the relationship between cultural and relational barriers and parents' satisfaction with school contact and support, after accounting for demographic covariates (e.g., parents' marital status, gender, educational attainment, and nativity)?
- c. To what extent does parent-teacher communication moderate the relationship between resource barriers and parents' satisfaction with school contact and support after accounting for demographic covariates (e.g., parents' marital status, gender, educational attainment, and nativity)?

There were several hypotheses for this study. First, a negative association was expected between parents' reports of barriers to school engagement and their satisfaction with school contact and support, such that fewer barriers was hypothesized to relate to higher satisfaction. It was expected that this pattern would hold for each of the three types of barriers: program context barriers, cultural and relational barriers, and resource barriers. Second, a positive association was expected between quality of parent-teacher communication and parent satisfaction with school contact and support, such that higher perceptions of communication quality with the teacher would be associated with higher satisfaction. Lastly, it was expected that parent-teacher communication would moderate the relationship between parents' report of barriers to school

engagement and their satisfaction with school contact and support; that is, when communication quality scores were high, the negative relationship between parents' reported barriers and satisfaction would be weaker, whereas when communication quality scores were low, the negative relationship between parents' reported barriers and satisfaction would be stronger. This pattern was also expected to vary in relation to parents' marital status, gender, educational attainment, and nativity; however, these demographic associations were considered exploratory, as there is limited prior literature to support the hypothesis.

Method

Procedures

Data were drawn from a larger project, the Readiness through Integrative Science and Engineering (RISE) Project (McWayne et al., 2020) conducted in partnership with Head Start programs in Boston, MA. With a particular focus on families of preschool-aged children from culturally diverse, low-income backgrounds, the RISE Project aimed to create a series of surveys to assess parents' and teachers' views on family engagement (Ochoa et al., 2020). A variety of measures were collected from families at the time of this study. Data collection was approved by the university's Institutional Review Board. Specifically, for this study four surveys were collected in the Fall of 2018: the Parent-Barriers to Family Engagement survey (P-BAR), the Family-Teacher Communication (P-COM) scale, the Parent-School Contact and Support (P-SUP) scale, and a demographic questionnaire. Multilingual research assistants were available at the Head Start centers to assist with any questions and offered to read survey items aloud to participants when necessary (Li et al., 2021). All caregivers received a \$50 gift card for their participation in the larger study.

Participants

To be eligible to participate in this study, the child needed to be enrolled in the Head Start program. Participants were recruited from 40 classrooms in 10 Head Start sites in a large northeastern city. Participants were a parent or an individual who identified as the primary caregiver of their Head Start child ($N=355$). To be included in the analyses, each participant must have had all three surveys completed: the perceived barriers to school engagement (P-BAR) ($n=24$ did not), the parent-teacher communication (P-COM) survey ($n=11$ did not), and the parent-school contact and support (P-SUP) ($n=9$ did not). Some participants overlapped: missing P-BAR and P-COM ($n=2$), P-BAR and P-SUP ($n=1$), P-BAR, P-COM, and P-SUP ($n=1$). Therefore, the analytic sample included data from 307 participants, representing 13.5% missing data. Two hundred six participants completed the English versions, whereas 101 participants completed the Spanish-versions. Among the participants, 56.4% identified as Hispanic. The majority of caregivers were parents (i.e., mother or father; 95.4%) and were female (83.7%). Caregivers reported educational attainment, such that 31.6% obtained a high school diploma or equivalent, 27% reported some college or 2-year college degree, 13% completed a 4-year college degree or a higher degree, 27.7% did not complete high school. Overall, participants were ethnoracially diverse: 28.3% Black or African American, 27.4% White, 4.9% Multiracial, 2.3% Asian, 1.0% American Indian/Native American/Native Alaskan, 0.3% Native Hawaiian or Other Pacific Islander, 35.2% reported Other.

Measures

Demographics

Primary caregivers filled out a brief demographic questionnaire in the language of their choice (e.g., English or Spanish) and reported some background information. Surveys were translated into Spanish and were back-translated into English and verified by a team of graduate-

level multilingual students. Multilingual research assistants were also available at the centers to answer questions and offered to read items to participants when needed. Caregivers reported their children's birthdate, gender, country of birth, and their relationship to the child.

Additionally, information about primary caregivers' age, gender, marital status, formal education level, race/ethnicity, primary home language, and country of birth were obtained (see Table 1).

The Barriers to Family Engagement (P-BAR) Scale

The Barriers to Family Engagement (P-BAR) scale (Ochoa et al., 2020) is a 15-item instrument designed to assess various barriers that families may encounter when attempting to engage in their children's school activities. The scale evaluates three distinct factors: Program and Context Barriers, Cultural and Relational Barriers, and Resource Barriers (Ochoa et al., 2020). Participants respond to each item with a "Yes" or "No" to indicate whether they have experienced the particular barrier in their interactions with the educational system. Example items for Program and Context Barriers include, "Low program commitment to family engagement" "Not enough staff training in working with families," for Cultural and Relational Barriers, "Language differences between families and staff," "Cultural and Socioeconomic differences between families and staff" and for Resource Barriers, "Families might not be as familiar with the education system," "Parents do not have convenient transportation." To calculate the scores for each participant, the total of their responses was summed. The maximum score for the Program and Context Barriers is 6; Cultural and Relational Barriers is 5; Resource Barriers is 4; the lowest score for each scale is 0, where Yes=1 and No=0. All three factors of the P-BAR have been found to be internally consistent. Internal consistency coefficients (Cronbach's alphas) for the scale were found to be: .91 overall, .87 for Program and Context Barriers, .82 for Cultural and Relational Barriers and .73 for Resource Barriers (Ochoa et al., 2020). Raw sum

scores were transformed into t-scores using the area conversion conducted with a large culturally diverse validation sample of Head Start caregivers ($N=824$).

Family-Teacher Communication (P-COM) Scale

The Family-Teacher Communication (P-COM) scale (Ochoa et al., 2020) is a 12-item instrument designed to assess parents' perceptions of the quality of their communication with their child's teacher. Participants rate each item on a 4-point scale, with response options: 1 = Not at All, 2 = A Little, 3 = Often, 4 = All the Time. The P-COM scale consists of two dimensions: Method and Quality. The method dimension addresses the types of communication used, while the quality dimension reflects parents' perceptions of the nature of communication. For purposes of this study, only the quality scale will be analyzed. Example items for the quality dimension include: "I feel my child's teachers pay attention to my suggestions." "My child's teachers have asked questions about my child." To calculate the scores for each participant, a sum score representing the total of their responses (8-items total) for communication quality was calculated. The maximum score for the communication quality subset is 32, and the lowest possible score is 8. Internal consistency (based on Cronbach's alphas) for the communication quality scale was found to be adequate ($\alpha = 0.80$). Raw scores were transformed into t-scores using area conversion with a sample ($N = 390$) of English- and Spanish-speaking Head Start caregivers. The P-COM scale (Ochoa et al., 2020) has been found to be related to classroom engagement in a similar Head Start sample, though within a more ethnoculturally diverse population than is represented in the present study (Ochoa et al., 2024; Ochoa et al., 2020).

Parent-School Contact and Support (P-SUP) Scale

The Parent-School Contact and Support (P-SUP) scale is a 12-item instrument designed to assess parents' perceptions of support and interaction with their child's preschool program.

The P-SUP scale was developed based on previous work conducted by Fantuzzo et al. (2006), yielding three dimensions: Teacher Contact Experiences, Classroom Contact Experiences, and School Contact Experiences. Participants rated each item on a 4-point scale, with response options 1 = Very Dissatisfied, 2 = Dissatisfied, 3 = Satisfied, 4 = Very Satisfied. Example items include, “Support for our family’s language and culture,” “Workshops or training opportunities offered,” and “Contact I have had with principal/administrators.” (Ochoa et al., 2020). To calculate the scores for each participant, the total of their responses was summed. The maximum score for the parent-school contact and support measure is 48, and the lowest possible score is 12. Internal consistency (Cronbach’s alpha) for the total scale score with this sample was found to be .92. Raw sum scores were transformed into t-scores using area conversion with a sample ($N=271$). This study used the P-SUP scale, adapted from Fantuzzo et al. (2006). The scale has been previously validated in early childhood education programs, particularly within Head Start, similar to the present study. Fantuzzo et al. (2006) focused on pre-kindergarten, kindergarten, and first grade settings, in contrast to the present study, which only examined pre-kindergarten Head Start families. The scale was found to correlate with several other constructs, including children’s social-emotional development, academic readiness, and teacher-rated behavior (Fantuzzo et al., 2006).

Analysis Plan

First, preliminary data checks were conducted to determine the suitability for bivariate correlation analyses. Next, relationships among variables were examined by conducting bivariate correlations. Specifically, Pearson’s r correlation was used for continuous variables, i.e., parents’ report of barriers to school engagement (P-BAR), family-teacher communication quality (P-COM), and parent satisfaction with school contact and support (P-SUP). T-scores were available

only for the individual barrier subscales, and not for the Total Barrier score; the Total Barrier score was analyzed using its raw summed value. By conducting a Pearson's r correlation coefficient, it estimated the strength and direction of the association between the predictor variables and the outcome variable.

Secondly, preliminary data checks were performed to determine the suitability for multiple regression analysis: checked the residuals, ensured normal distribution of continuous variables, ensured that the relation between the outcome and predictors were approximately linear, confirmed that the variables were not highly collinear, and identified any extreme outliers. Once these basic conditions were met and correlational analyses were examined, a simultaneous multiple regression analysis was conducted to assess whether parent-teacher communication (P-COM) moderated the relations between parents' report of barriers to school engagement (P-BAR) and parent satisfaction with school contact and support (P-SUP). Specifically, P-SUP was regressed on P-BAR and P-COM and their interaction term (P-BAR \times P-COM), while demographic covariates were controlled. The analysis was conducted separately using the Total Barriers score and then including each of the barriers to school engagement: Cultural and Relational, Program and Context, and Resource Barriers. Three hundred six participants was determined as a sufficient sample size for reliable statistical analyses (Allison, 1999).

Results

Preliminary Analysis

Before conducting regression analyses, several preliminary analyses were conducted to determine the suitability of the data. Descriptive statistics for parent-teacher communication quality, parents' report of barriers to school engagement, and parents' satisfaction with their school contact and support were examined, including means, standard deviations, skewness and

kurtosis, as presented in Table 2. Communication Quality ($M=47.22$, $SD=9.75$) had a skewness of $-.445$ and kurtosis of $.436$. The Total Barriers score ($M= 5.14$, $SD= 4.71$) had a skewness of $.638$ and kurtosis of $-.829$. Resource Barriers ($M= 50.07$, $SD= 9.21$) had a skewness of $.029$ and kurtosis of -1.243 . Cultural and Relational Barriers ($M=51.40$, $SD=8.59$) had a skewness of $.545$ and kurtosis of -1.273 . Program and Context Barriers ($M=52.92$, $SD=8.31$) had a skewness of $.354$ and kurtosis of -1.445 . Parent-School Contact and Support ($M= 49.36$, $SD= 9.97$) had a skewness of $-.804$ and kurtosis of 1.074 . Given that the final sample size was $N=307$, the skewness and kurtosis values are much smaller than 3 times the standard error (50 to ± 300). The statistical values for each measure were close to zero, indicating that they represent a near-normal distribution.

Additionally, data were checked visually for normality and outliers. The histogram for Communication Quality (Figure 1) follows somewhat of a normal curve and is mostly skewed towards the right of the graph. The p-p plot for Communication Quality (Figure 2) follows the ideal diagonal line. The box-plot (Figure 13) indicates two outliers for this variable, indicating that they are significantly different from the rest of the data points. After computing the z-scores, there is one outlier with z-score of -3.81646 , respectively, based on the z-score cut off, <-3 and >3 . The histogram for Total Barriers (Figure 3) follows somewhat of a normal curve and is mostly skewed towards the right of the graph. The p-p plot for Total Barriers (Figure 4) follows the ideal diagonal line. The boxplot (Figure 14) indicates no outliers. After computing the z-scores, there are no outliers, based on the z-score cut off of <-3 and >3 .

The histogram for Resource Barriers (Figure 5) follows somewhat of a normal curve and is mostly skewed towards the left of the graph. The p-p plot for Resource Barriers (Figure 6) follows the ideal diagonal line. The box-plot (Figure 13) indicated no outliers. After computing

the z-scores, there are no outliers, based on the z-score cut off of <-3 and >3 . The histogram for Cultural and Relational Barriers (Figure 7) follows somewhat of a normal curve and is mostly skewed towards the left of the graph. The p-p plot for Cultural and Relational Barriers (Figure 8) follows the ideal diagonal line. The box-plot (Figure 13) indicates no outliers. After computing the z-scores, there are no outliers, based on the z-score cut off of <-3 and >3 . The histogram for Program and Context Barriers (Figure 9) follows somewhat of a normal curve and is mostly skewed towards the left of the graph. The p-p plot for Program and Context Barriers (Figure 10) follows the ideal diagonal line. The box-plot (Figure 13) indicates no outliers. After computing the z-scores, there are no outliers, based on the z-score cut off of <-3 and >3 .

The histogram for Parent Satisfaction with School Contact and Support (Figure 11) follows somewhat of a normal curve and is mostly skewed towards the left of the graph. The p-p plot for Satisfaction (Figure 12) follows the ideal diagonal line. The box-plot (Figure 13) indicates two outliers for Satisfaction. After computing the z-scores, there are three outliers, with z-scores of -3.94932 , -3.94932 , and -3.94932 , based on the z-score cut off of <-3 and >3 .

Based on this preliminary analysis, the data appear to be relatively normal, with only a few outliers present. The analyses were run with and without the outliers to ensure no significant change in the data. Although these outliers do not significantly affect the overall data, they suggest the need for caution when proceeding with multiple regression analyses.

Correlations Between Predictors and Outcome Variables

Bivariate correlations for all study variables are reported in Table 3. In line with study hypotheses, the three types of barriers, based on parent report, correlated positively with one another (range $r = .553$ to $.848$, $p \leq .01$). There was a statistically significant negative relationship between Communication Quality and Cultural and Relational Barriers ($r = -.136$, $p \leq .05$). There

was also a statistically significant negative relationship between Parent Satisfaction with School Contact and Support and all three dimensions of barriers, including total barrier score (range $r = -.198$ to $-.292$, $p \leq .01$). There was also a statistically significant negative relationship between Total Barriers and Parent Satisfaction ($r = -.227$, $p \leq .01$). Finally, there was a statistically significant positive relationship between Communication Quality and Parent Satisfaction ($r = .401$, $p \leq .01$). All other bivariate correlations were statistically non-significant.

Linear Regression Analysis with Total Barriers

Total Barriers and Communication Quality, accounting for demographic variables, explained 20.0% of the variation in parents' report of satisfaction with school contact and support, $F(6, 295) = 12.264$, $p < .001$ (see Table 4). On average, a person with a score of zero on both the total barriers score and communication quality ratings is predicted to have a total satisfaction score of 35.598, $p < 0.001$. Holding communication quality ratings constant, a one-unit increase in the total barriers score, accounting for demographics, is associated with a 0.44-point lower score on ratings of parent satisfaction with school contact and support, $p < 0.001$, indicating a negative relationship. A one-standard deviation higher score on the total barriers score is associated with a 0.20-standard deviation lower satisfaction rating. Holding the total barriers score constant, a one-unit higher score on communication quality ratings is associated with a 0.38-point higher score on ratings of parent satisfaction with school contact and support, $p < 0.001$. A one-standard deviation higher score on communication quality ratings is associated with a 0.37-standard deviation higher satisfaction rating. Overall, Communication Quality positively predicted Parent Satisfaction ratings, and Total Barrier scores were also significant predictors of Parent Satisfaction. Parent demographic characteristics were not significant predictors of Parent Satisfaction, contrary to the hypotheses.

Linear Regression Analyses with Separate Barriers

When including each of the dimensions of barriers separately with communication quality, the model explained 22.9% of the variation in parents' report of their satisfaction with school contact and support, $F(8, 293) = 10.908, p < .001$ (Table 5). A person with a score of zero on all barriers and communication quality ratings, accounting for covariates, is predicted to have a total satisfaction score of 45.761, $p < 0.001$. Holding communication quality ratings constant, a one-unit higher score on resource barriers' ratings is associated with a 0.24-point lower score on ratings of parent satisfaction with school contact and support, $p < 0.01$. A one-standard deviation higher score on Resource Barriers is associated with a 0.22-standard deviation lower satisfaction rating. Holding all barriers' ratings constant, a one-unit higher score on communication quality ratings is associated with a 0.38-point higher score on ratings of parent satisfaction with school contact and support, $p < 0.001$. A one-standard deviation higher score on communication quality ratings is associated with a 0.37-standard deviation higher satisfaction rating. Overall, Communication Quality positively predicts Parent Satisfaction, and Resource Barriers are significant negative predictors of Parent Satisfaction. Again, parent demographic characteristics were not significant predictors of Parent Satisfaction.

Moderation Analysis: Communication Quality as a Moderator

A hierarchical linear regression analyses was conducted to examine whether Communication Quality moderated the relationship between Total Barriers and Parent Satisfaction. When the interaction term between Total Barriers and Communication Quality was added, the model still explained 20.2% of the variance in Satisfaction, $F(7,294) = 10.600, p < .001$, indicating that the inclusion of the interaction did not improve the model (Table 6). The main effect of Communication Quality remained significant ($b = .410, p < .001$), whereas the

main effect of Total Barriers was no longer significant ($b = .016, p = .978$). The interaction between Total Barriers and Communication Quality was not statistically significant ($b = -0.010, p = .407$), indicating that Communication Quality did not moderate the relationship between Total Barriers and Satisfaction. This pattern was consistent across all barriers examined: Resource Barriers, Cultural and Relational Barriers, Program and Context Barriers. For each barrier type, the interaction with Communication Quality was nonsignificant, demonstrating that Communication Quality did not moderate the relationship of any barrier on Satisfaction (Table 7). When parent demographic characteristics were added to the model, the interaction remained non-significant.

Discussion

Early childhood education programs are essential parts of children's educational success. In early development, children benefit most when parental involvement extends beyond occasional school attendance to ongoing, collaborative partnerships and meaningful communication with educators (Hummel et al., 2023, Kim & Sheridan, 2015; Murray et al., 2015). Research has demonstrated that high quality communication between families and teachers is essential for building effective partnerships to support young children's early learning success in preschool classrooms (Chrispeels & Rivero, 2001; Epstein & Sheldon 2002; Fantuzzo, 2000; Redding, 1992). Similarly, studies have demonstrated that parents who are more satisfied with their child's school are more likely to participate in the classroom, and this is important because parent satisfaction does not just result from engagement, it can also help drive it (Kaya et al., 2025). Existing literature demonstrates that linguistic, socioeconomic, and ethnocultural disparities often act as obstacles to strong parent-teacher communication and engagement, a challenge that is especially seen in low-income settings. Few studies have considered whether

the quality of communication is linked to the association between parents' barriers to school engagement and their overall satisfaction with their child's preschool program. To gain a more comprehensive understanding of parent engagement in preschool settings, it is important to examine how parent satisfaction is shaped by their perceived barriers and the quality of communication they experience with educators. Such insights can help clarify how family-school partnerships can be strengthened to promote positive educational experiences for children and families, ultimately supporting children's academic success.

The purpose of this study was to examine how parents' perceived barriers to engagement and the quality of communication with educators relate to their satisfaction with early childhood education programs, to better understand how family-school partnerships can be strengthened to support children's learning and development. Importantly, parent satisfaction with their child's early childhood education program is an important indicator of the quality of teacher-family relationships, the effectiveness of classroom practices, and the overall support families perceive within the educational environment (Fantuzzo et al., 2006). Research shows that when parents feel satisfied with their child's educational environment, teacher interactions, and overall school climate, they are more likely to maintain active involvement in their child's learning (Galindo & Sheldon, 2012; Janssen et al., 2021; Fantuzzo et al., 2006). However, satisfaction levels may vary based on factors such as socioeconomic status, marital status, parent education, and parent nativity, all of which shape how families experience and evaluate early childhood programs. These satisfaction ratings reflect parents' perceptions of how well programs meet their child's and family's needs and offer valuable insight into the effectiveness of family-school interactions in shaping parents' overall views of program quality.

Key findings emerged from the present study. First, consistent with study hypotheses, communication quality significantly and positively predicted parent satisfaction ratings. In addition, Barriers (Total or Resource barriers) were significant predictors of satisfaction. Contrary to hypotheses, however, demographic factors were not significant predictors of satisfaction. These findings contribute to literature by supporting prior research showing that communication quality in preschool settings is closely linked to parent engagement. The literature consistently shows that strong communication is a key predictor of positive family-school relationships and higher levels of satisfaction (Epstein & Sheldon 2002; Fantuzzo et al., 2007; Hummel et al., 2023). The present study extends this work by highlighting that barriers, particularly resource-related barriers, also play a significant role in shaping parents' satisfaction, suggesting that some challenges like time, transportation, or access to child care remain an influential factor in how parents perceive and engage with early childhood education programs (Kim & Fram, 2009; Matthews & Jang, 2007), even among a sample where all families meet income eligibility requirements for participation in Head Start.

Based on the findings, however, communication quality emerged as the strongest predictor of parent satisfaction than either parents' perceived barriers or their demographic characteristics, demonstrating the central role of effective interactions in shaping parents' perceptions of early childhood programs (Kim & Sheridan, 2015; Li et al., 2023). This has important implications, as communication is a modifiable feature of early childhood programs; this will be discussed more below. Moreover, this suggests that, even in the presence of challenges (barriers) to engagement, parents place substantial value on meaningful, consistent communication with educators.

The findings also underscore the importance of considering the different types of barriers: Resource Barriers, Cultural and Relational Barriers, and Program and Context Barriers, because each may influence satisfaction in distinct ways (Li et al., 2023, Ochoa et al., 2024). For instance, resource-related barriers, such as limited time or access to transportation, may function differently than relational barriers, such as feeling unwelcomed or misunderstood by school staff. In this study resource barriers still played a meaningful role in parent satisfaction ratings, suggesting that reducing resource barriers, such as offering flexible times for classroom involvement, providing translation services, and supporting transportation, might enable more parents to engage meaningfully with their children's early education (Matthews & Jang, 2007). Similarly, it is possible that parents interpret high-quality communication as a sign of overall program responsiveness and support. Teasing apart these specific barriers can help educators design more targeted strategies to support parent engagement and enhance family-school partnerships.

Demographic variables did not predict parent satisfaction scores in the present study, in contrast to hypotheses and what one might expect based on the existing literature. One possibility is that because the sample participants are all from a low-income background, we are observing a truncation of variance effect; had there been more income variability among the families surveyed, perhaps certain demographic characteristics might have mattered more. Despite the lack of demographic findings, the overall results suggest that parents' satisfaction depends on both effective communication and the ability to overcome concrete resource barriers. Building on this finding, recognizing families' unique strengths and encouraging consistent two-way communication, can strengthen family-school partnerships and support children's learning and development (McWayne et al., 2004; McWayne et al., 2022). In practice, strategies such as

adopting family-teacher discussion groups or investing in culturally responsive communication training for educators may help promote more inclusive and effective engagement (McWayne et al., 2020; Vélez-Agosto et al., 2017).

These findings can be interpreted within a bioecological and cultural framework. The present findings align with Bronfenbrenner's bioecological model, which emphasizes how broader social and economic contexts shape mesosystem relationships, like in family-school engagement (Bronfenbrenner & Morris, 2006). Practical barriers such as work schedules and financial stress reflect influences at the exosystem and macrosystem levels, constraining parents' opportunities for involvement even when motivation is high (Bronfenbrenner & Morris, 2006; Iruka et al., 2020). At the same time, parent satisfaction appears to be more directly shaped within the mesosystem, where home-school connections and day-to-day interactions between families and educators occur. Extending this interpretation, Vélez-Agosto's Cultural Microsystems Model highlights the role of communication as a process of navigating cultural microsystem expectations and differences embedded across ecological levels (Vélez-Agosto et al., 2017). Within this framework, culturally responsive communication can foster trust and strengthen parent-teacher relationships, even in the presence of structural barriers. Together, these models underscore the importance of attending not only to contextual constraints but also to the quality and cultural responsiveness of communication when supporting parent engagement and satisfaction.

Lastly, contrary to the moderation hypothesis, Communication Quality did not moderate the relationship between barriers and parent satisfaction, meaning that while barriers were sometimes significant predictors, the strength of their association with satisfaction did not vary depending on levels of Communication Quality. In other words, parents' communication quality

is strongly related to parents' satisfaction regardless of the barriers they may face to their school-based engagement. The lack of moderation may also reflect limited variability in barriers within this low-income sample. Conceptually, the lack of a significant moderating effect may indicate that, although theory suggests communication quality should function as a moderator, this effect may not have been seen given the study's demographic context or measurement approach. In this sample, which consisted largely of female caregivers, the absence of male caregivers may have reduced variability in family dynamics that the moderator was intended to capture. Additionally, parents in this context may prioritize immediate resource-related concerns (e.g., financial stability, childcare, or access to services) over the constructs measured, limiting the moderator's significance. Measurement issues may also have played a role, particularly given the use of language-based surveys that may not have been culturally or linguistically equivalent across participants. Even when surveys are translated, nuances in communication, cultural norms, and interpretation may not fully transfer, potentially weakening the moderator's ability to function as intended. Together, these cultural, linguistic, and contextual factors may have constrained the moderator's relevance, helping explain why the expected moderation effect was not observed in this sample.

Limitations and Implications for Research and Practice

Some limitations of this study should be acknowledged. First, there is the potential for source and method bias as the present study was a cross-sectional, concurrent study of the relations between these variables that relied solely on parent report. In the future, considering teacher reports may be helpful in understanding teachers' perceptions of parent barriers and their perception of communication quality and how that, in turn, is associated with parents' satisfaction. Second, the study focuses exclusively on an urban Head Start sample, which limits

the generalizability of this study's findings to broader populations, such as children from non-urban areas or other local preschool educational programs. Collecting data from a wider-range of preschool classrooms, including urban, suburban, private, and public settings could help to test the generalizability of these results to a more diverse set of parents and teachers. Finally, analyzing the data from one time point, rather than across the school year, restricts the ability to examine how the observed relationships evolve over time. Incorporating short-term predictive or longitudinal data in future research would allow for a more nuanced understanding of the dynamic relationships built between parents and teachers.

Despite this study's limitations, implications for improved practice may be suggested. For future practice, early childhood programs may want to invest in professional development that focuses on culturally responsive communication, relationship-building, and understanding family needs to support teachers in creating stronger, more meaningful family-school partnerships (McWayne et al., 2006). Moreover, the study suggests improvements to make early childhood programs more accessible for low-income families would be beneficial. Programs, like Head Start, already provide some supports to reduce everyday resource barriers for families, such as translation or interpretation services and assistance with child transportation (HeadStart, n.d.). However, gaps remain in consistently offering flexible meeting times, transportation for parent participation, and tailored supports for families with unique needs (Hummel et al., 2023; Murray et al., 2015), which, if addressed, could make it easier for all parents to stay connected to their children's teachers and their learning.

Future Directions and Conclusion

Future research could examine how communication and parent barriers change over time. A longitudinal approach would help show whether strong communication early on leads to

greater parent engagement later in their child's education, or whether certain barriers become more challenging as children move through preschool. It would also be valuable for researchers to conduct interviews or focus groups with families to identify specific barriers they face and to better understand their nuanced experiences that shape satisfaction and engagement. Having such qualitative data would allow parents to describe their experiences in their own words and could offer a much richer contextualized picture of their home and school life experiences than surveys alone (Matthews & Jang, 2007; Wilkinson et al., 2018). This kind of work can help us understand the day-to-day realities behind parents' satisfaction, concerns, and needs. Finally, including teacher perspectives in future studies could add important insight. Teachers may see different barriers, or interpret them differently, than parents (Mistry et al., 2022). Comparing what parents and teachers report could reveal where misunderstandings occur and where communication practices could be strengthened (Li et al., 2023). By understanding parent-teacher partnerships from both informants' perspectives, we would come closer to a truly reciprocal understanding that could guide schools in building stronger, more supportive relationships between low-income families and early childhood programs.

The results point to a different set of factors shaping parents' perceived satisfaction of early childhood programs. Both communication quality and resource barriers are significant predictors of parent satisfaction, which indicates that parents' experiences with their child's program depend not only on the practical supports available to them but also on the quality of the relationships they build with educators. This underscores that satisfaction is shaped by how families feel in the school environment, whether they feel welcomed, understood, and supported, in addition to whether logistical barriers are addressed. From the literature, a relational approach seems to be one of the most effective ways to engage families in early childhood settings (Kim &

Sheridan, 2015). The findings support taking a relational approach to strengthen family-school partnerships, emphasizing the idea that family engagement is bi-directional and grows out of ongoing, trust-based, and respectful exchanges between families and educators (Kim & Sheridan, 2015; Sheridan et al., 2012). When families and teachers consistently communicate, collaborate, and share responsibility for children's learning, parents are more likely to feel satisfied and stay engaged over time and throughout their children's educational experiences (Christenson and Sheridan, 2001; Kim and Sheridan, 2015; Sheridan et al., 2012).

Looking ahead, future research could explore how these relational processes unfold longitudinally, as parent-teacher relationships naturally change across the preschool years. It may also be beneficial to incorporate teacher perspectives to understand how educators perceive barriers and communication challenges, and how these perceptions align, or differ, from parents' experiences. This broader, more multi-sided approach could provide a deeper understanding of how best to support family engagement in diverse early childhood settings.

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Table 1*Demographic Characteristics of Participating Primary Caregivers (N= 307)*

Demographic characteristic	Percent of Sample
Relationship to child	
Parent	95.4
Stepparent	0.7
Other (Grandparent, sibling, foster parent)	3.3
Parent sex	
Female	83.7
Male	15.6
Marital status	
Single	31.3
Single, in a relationship (not living together)	10.7
Married	31.6
Living together (not married)	15.0
Widowed/separated/divorced	10.4
Employment status	
Employed	62.3
Unemployed	37.5
Race/Ethnicity	
Black Non-Hispanic	20.5
White Non-Hispanic	13.4
Asian Non-Hispanic	2.3
Hispanic	57.0
Other Non-Hispanic	6.8
Education status	
Less than high school	27.7
High school/GED	31.6
More than high school	40.0
Born in the US	
Born in the US	44.6
Not born in the US	55.0
Survey Language	
English	67.1
Spanish	32.9

Table 2
Descriptive Statistics

	N	Mean	Median	Mode	Min	Max	SD	Variance	Skewness	SE Skewness	Kurtosis	SE Kurtosis
Communication Quality	307	47.22	48.00	63	10	63	9.754	95.136	-.445	.139	.436	.277
Barriers (Total Score)	307	4.34	3.00	0	0	15	4.471	19.990	.760	.139	-.630	.277
Resource Barriers	307	50.07	49.00	40	40	66	9.212	84.861	.287	.139	-1.243	.277
Cultural and Relational Barriers	307	51.40	44.00	44	44	68	8.588	73.758	.545	.139	-1.273	.277
Program and Context Barriers	307	52.92	55.00	45	45	67	8.312	69.088	.354	.139	-1.445	.277
Satisfaction with School Contact and Support	307	49.36	51.00	62	10	62	9.965	99.302	-.804	.139	1.074	.277

Table 3*Bivariate Correlations Among Predictor and Outcome Variables*

Variable	1	2	3	4	5	6
1. Total Barriers	-					
2. Resource Barriers	.805 **	-				
3. Cultural and Relational	.848**	.553**	-			
4. Program and Context Barriers	.910**	.687**	.686**	-		
5. Communication-Quality	-.087	-.081	-.136*	-.052	-	
6. Parent Satisfaction with School Contact & Support	-.227**	-.292**	-.198**	-.222**	.401**	-

** $p \leq .01$.* $p \leq .05$.**Table 4***Linear Regression Predicting Parent Satisfaction with School Contact and Support*

Variable	<i>b</i> (SE)	<i>B</i>
Total Barriers	-.442 (.121)***	-.199***
Communication Quality	.376 (.054)***	.368***
Parent Gender (Female vs Male)	-.837 (1.436)	-.031
Marital Status (Single vs Partner)	.172 (1.064)	-.009
Education (More than HS vs Less than HS)	1.528 (1.217)	.070
Nativity Status (Foreign-born vs US-born)	1.304 (1.081)	.066
Constant	32.598 (2.919)***	
R ²	.200	
Adjusted R ²	.183	
<i>F</i>	12.264 ***	

Note. $N = 303$; *b* = unstandardized regression coefficient with standard error in parentheses; *B* (Beta) = standardized regression coefficient.

* $p < .01$, ** $p < .05$, *** $p < .001$; (SE) = standard error

Table 4*Linear Regression Predicting Parent Satisfaction with School Contact and Support*

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Constant	32.598 (2.919)***	
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<i>F</i>	12.264 ***	

Note. *N*= 303; *b*= unstandardized regression coefficient with standard error in parentheses; *B* (Beta)= standardized regression coefficient.

* *p* < .01, ** *p* < .05, *** *p* < .001; (SE) = standard error

Table 5*Linear Regression Predicting Parent Satisfaction with School Contact and Support Controlling for Demographic Characteristics*

Variable	<i>b</i> (SE)	<i>B</i>
Resource Barriers	-.236 (.077) *	-.220 *
Cultural and Relational Barriers	.033 (.084)	.028
Program and Context Barriers	-.093 (.099)	-.078
Communication Quality	.378 (.054) ***	.370 ***
Parent Gender (Female vs Male)	-.994 (1.424)	-.037
Marital Status (Single vs Partner)	-.266 (1.049)	-.013
Education (More than HS vs Less than HS)	1.363 (1.197)	.061
Nativity (Foreign-born vs US-born)	1.364 (1.068)	.069
Constant	45.761 (4.900) ***	
R ²	.229	
Adjusted R ²	.208	
<i>F</i>	10.908 ***	

Note. *N*= 303; *b*= unstandardized regression coefficient with standard error in parentheses; *B* (Beta)= standardized regression coefficient.

* *p* < .01, ** *p* < .05, *** *p* < .001; (SE) = standard error

Table 6

Linear Regression Predicting Parent Satisfaction with School Contact and Support Controlling for Demographic Characteristics with Communication Quality as a Moderator

Variable	<i>b</i> (SE)	<i>B</i>
Total Barriers	.016 (.565)	.007
Communication Quality	.410 (.068) ***	.402 ***
Parent Gender (Female vs Male)	-.818 (1.437)	-.030
Marital Status (Single vs Partner)	-.153 (1.065)	-.008
Education (More than HS vs Less than HS)	1.490 (1.219)	.067
Nativity (Foreign-born vs US-born)	1.312 (1.082)	.066
Total Barriers x Communication Quality	-.010 (.012)	-.210
Constant	30.927 (3.433) ***	
R ²	.202	
Adjusted R ²	.183	
<i>F</i>	10.600***	

Note. *N*= 303; *b*= unstandardized regression coefficient with standard error in parentheses; *B* (Beta)= standardized regression coefficient.

* *p* < .01, ** *p* < .05, *** *p* < .001; (SE) = standard error

Table 7

Linear Regression Predicting Parent Satisfaction with School Contact and Support Controlling for Demographic Characteristics with Communication Quality as a Moderator

Variable	<i>b</i> (SE)	<i>B</i>
Resource Barriers	.015 (.438)	.014
Cultural and Relational Barriers	.468 (.389)	-.405
Program and Context Barriers	-.516 (.540)	-.432
Communication Quality	.653 (.365)	.640
Parent Gender (Female vs Male)	-1.150 (1.437)	-.042
Marital Status (Single vs Partner)	-.337 (1.056)	-.017
Education (More than HS vs Less than HS)	1.366 (1.203)	.062
Nativity (Foreign-born vs US-born)	1.479 (1.076)	.074
Resource Barriers x Communication Quality	-.005 (.009)	-.331
Cultural and Relational Barriers x Communication Quality	-.010 (.008)	-.569
Program and Context Barriers x Communication Quality	.009 (.011)	.569

Constant	33.602 (17.301)
R ²	.234
Adjusted R ²	.205
<i>F</i>	8.068***

Note. $N= 303$; b = unstandardized regression coefficient with standard error in parentheses; \mathbf{B} (Beta)= standardized regression coefficient.

* $p < .01$, ** $p < .05$, *** $p < .001$; (SE) = standard error

Figure 1

Histogram of Family-Teacher Communication (Quality) Scores

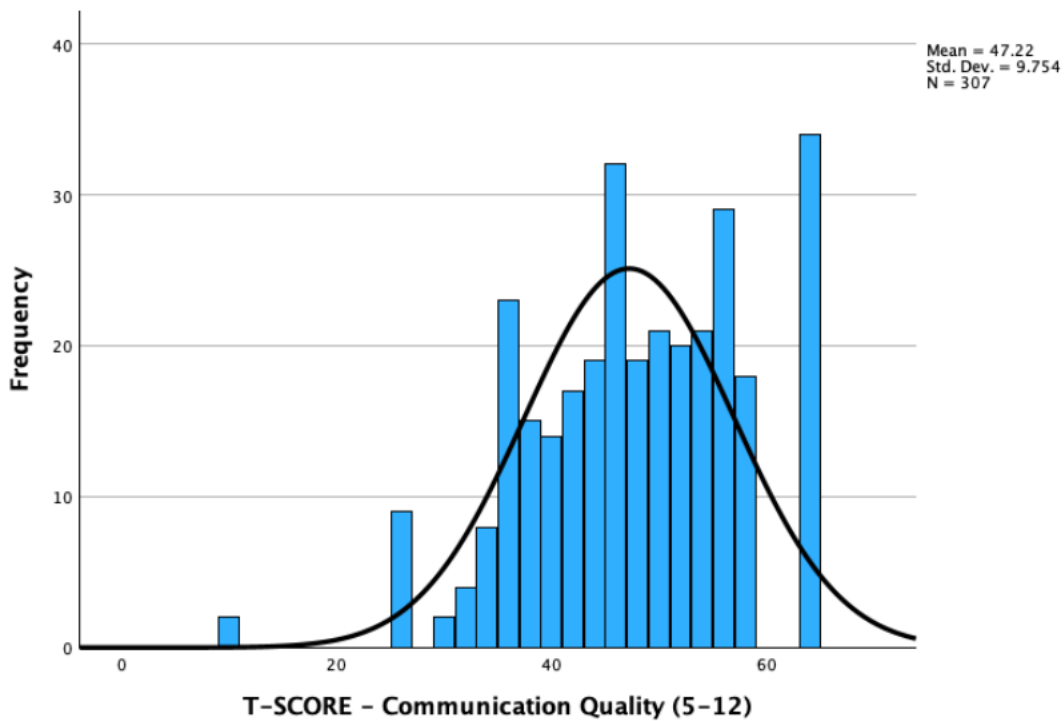


Figure 2

P-P Plot of Family-Teacher Communication (Quality) Scores

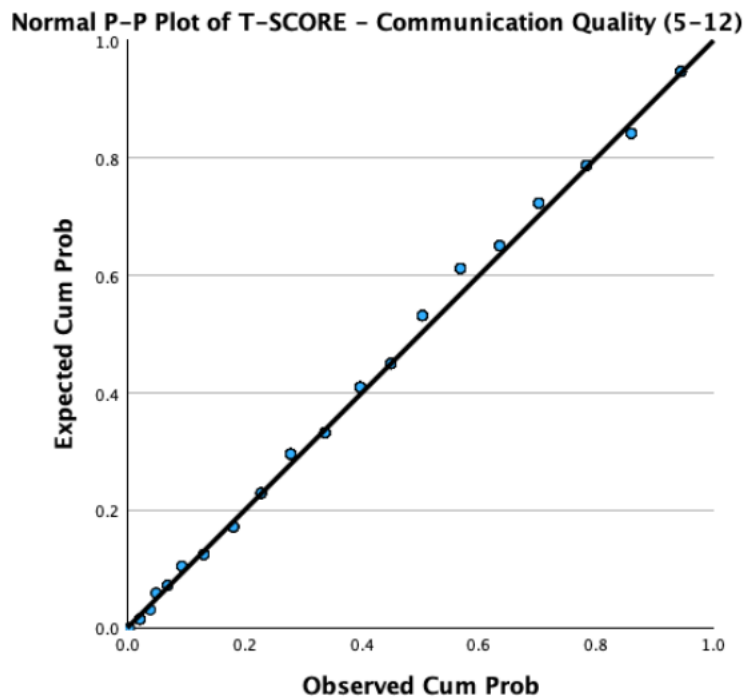


Figure 3
Histogram of Total Barriers to Family Engagement Scores

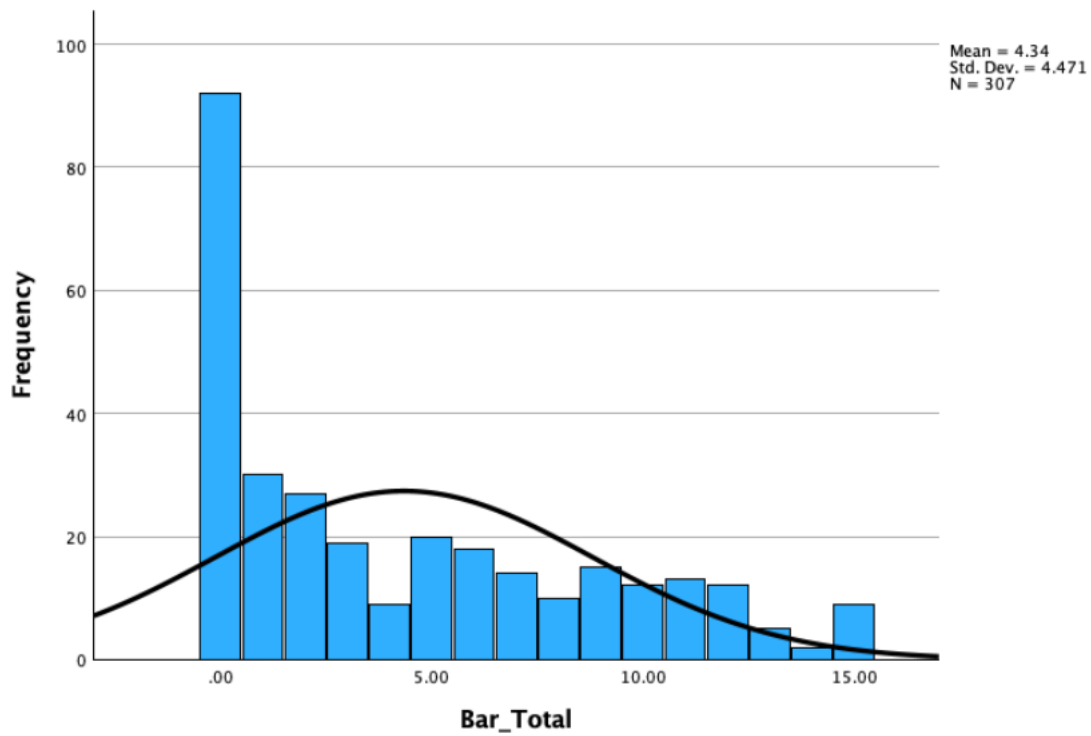


Figure 4
P-P Plot of Total Barriers to Family Engagement Scores

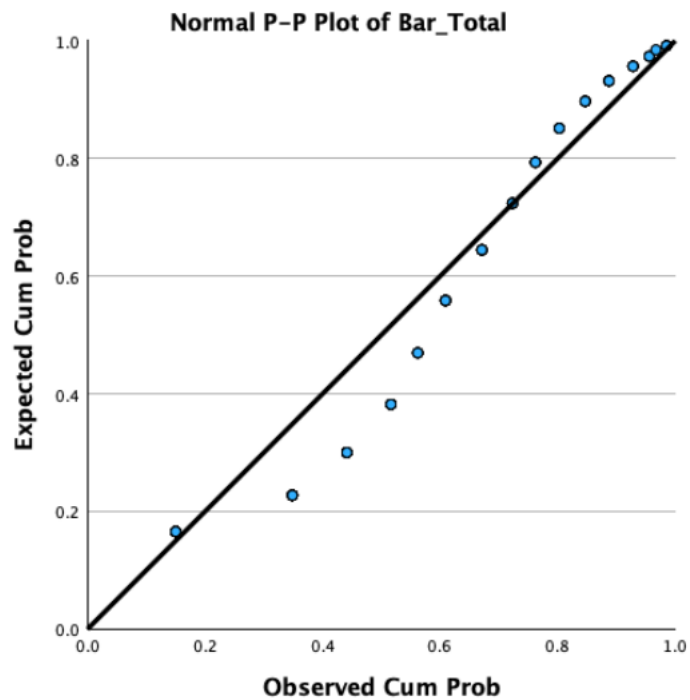


Figure 5

Histogram of Resource Barriers to Family Engagement Scores

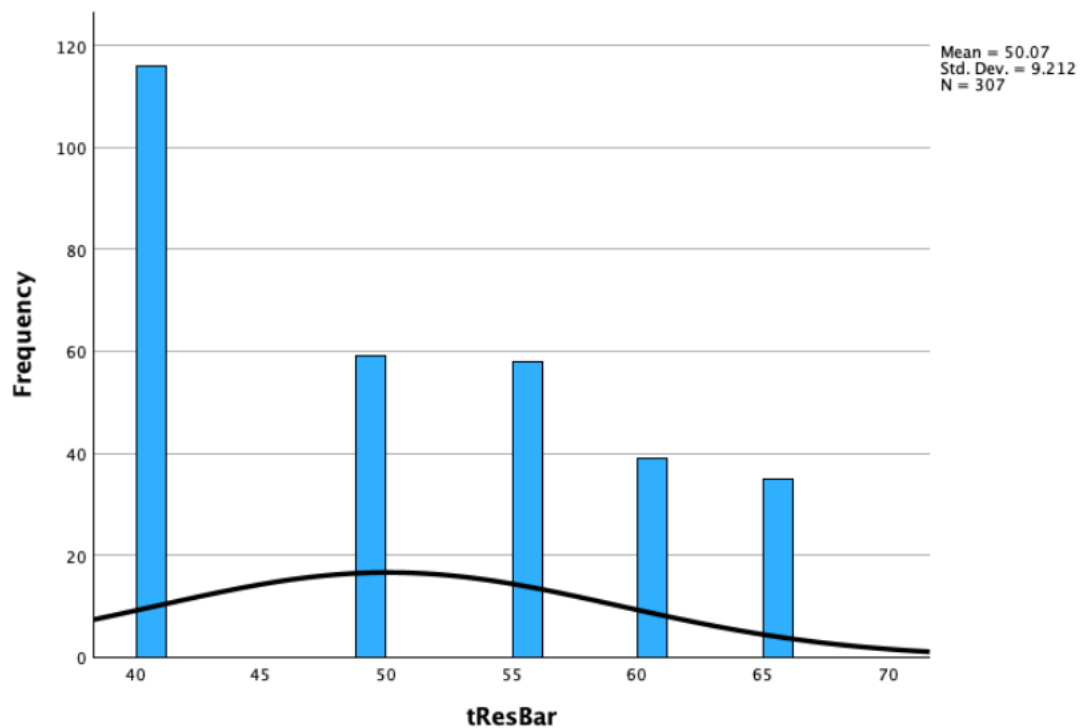


Figure 6.

P-P Plot of Resource Barriers to Family Engagement Scores

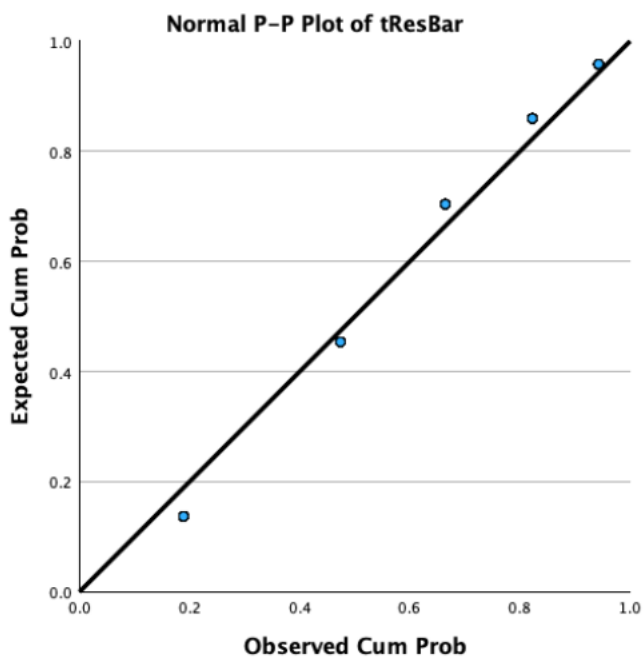


Figure 7

Histogram of Cultural and Relational Barriers to Family Engagement Scores

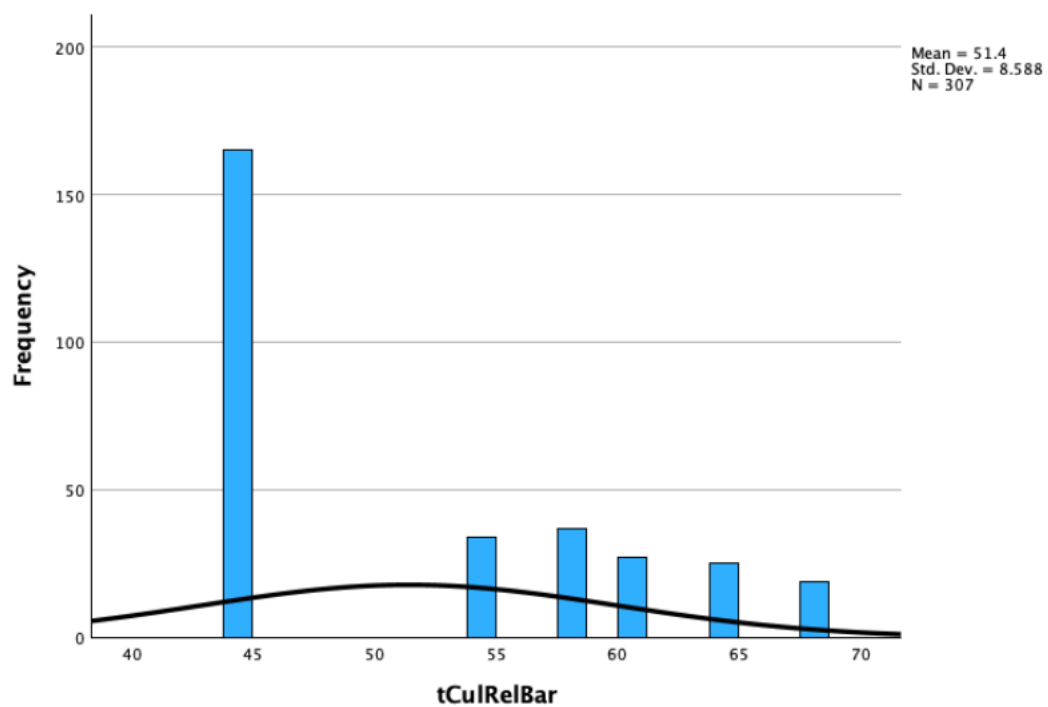


Figure 8

P-P Plot of Cultural and Relational Barriers to Family Engagement Scores

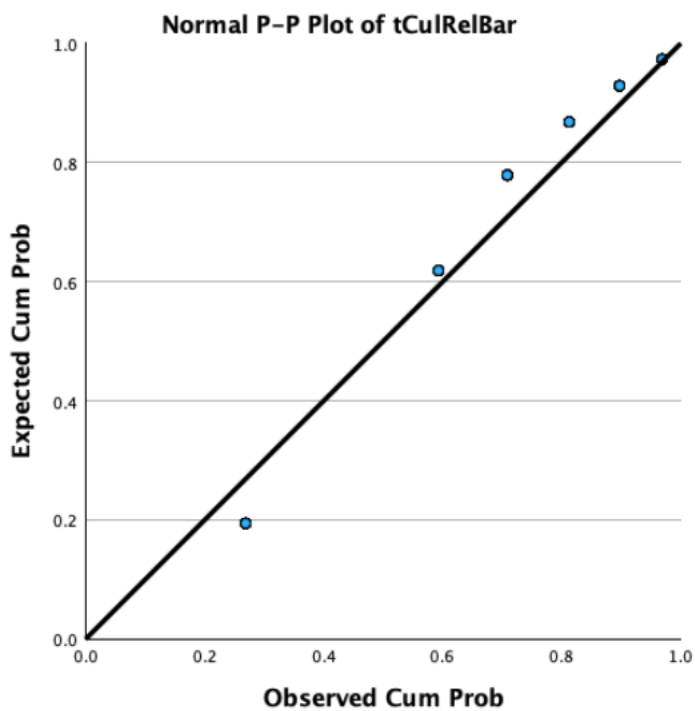


Figure 9

Histogram of Program and Context Barriers to Family Engagement Scores

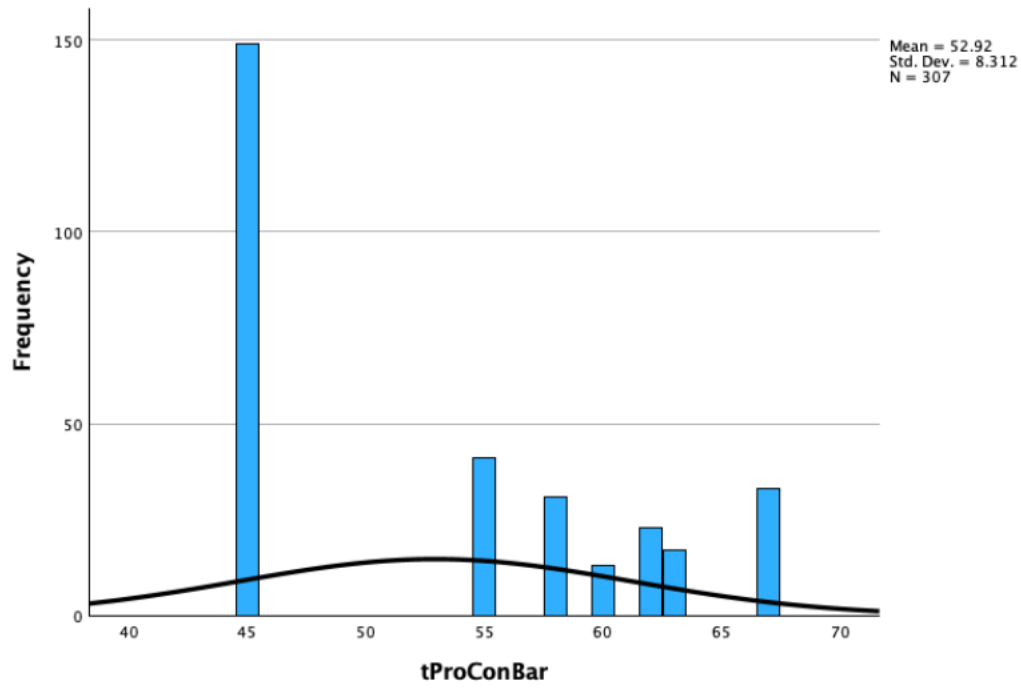


Figure 10

P-P Plot of Program and Context Barriers to Family Engagement

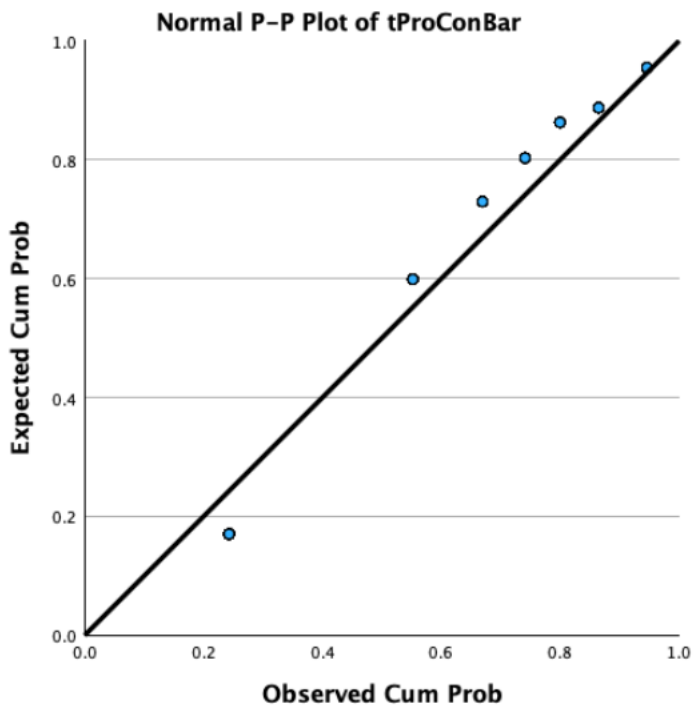


Figure 11
Histogram of Parent Satisfaction with School Contact and Support Scores

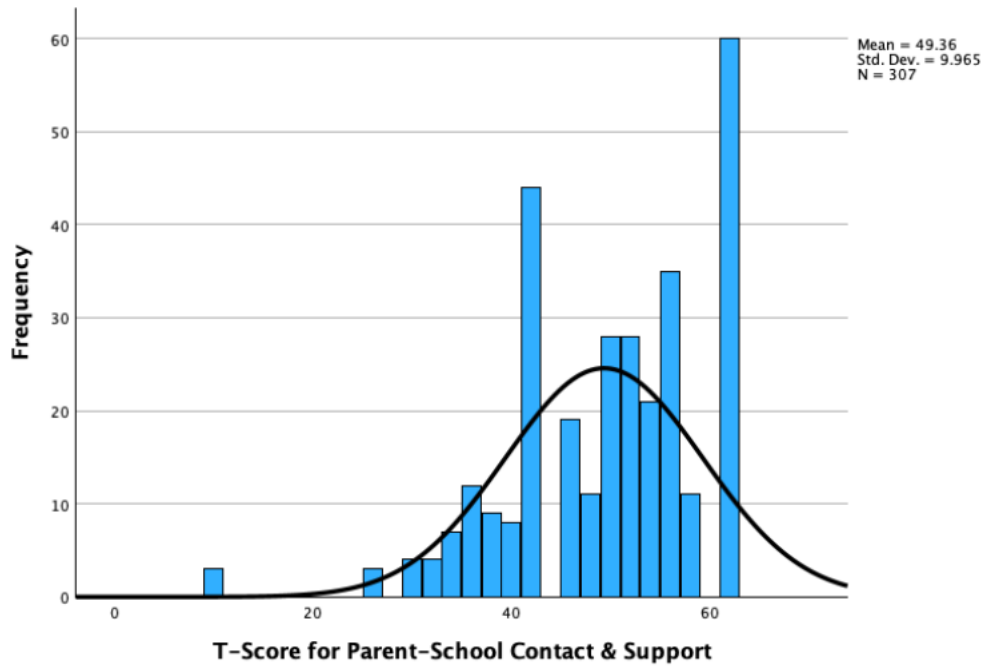


Figure 12
P-P Plot of Parent Satisfaction with School Contact and Support Scores

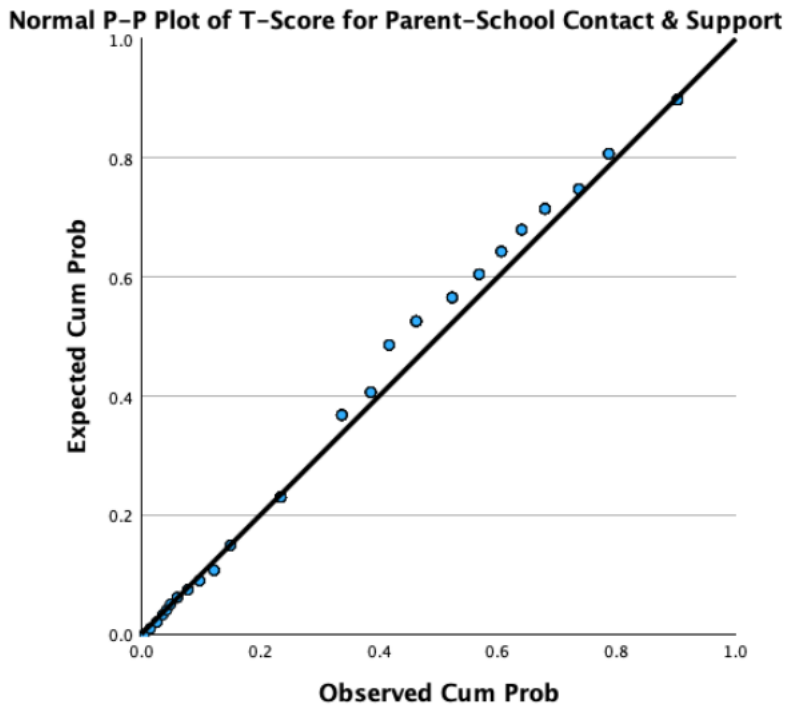


Figure 13
Box-plot of Parent-Teacher Communication Quality, Resource Barriers, Cultural and Relational Barriers, Program and Context Barriers, and Parent Satisfaction with School Contact and Support Scores

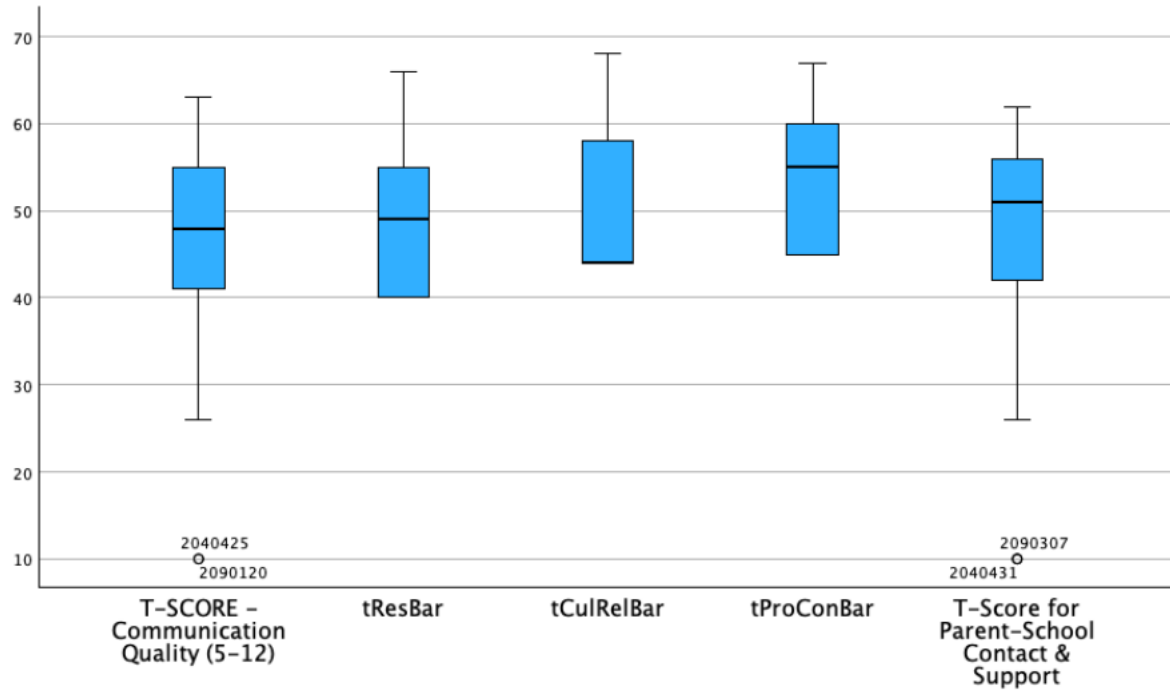


Figure 14
Box-plot of Total Barrier Scores

