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Father Enrollment and Participation in a Parenting Intervention: Personal and Contextual Predictors

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Abstract

Fathers are an important, though often underrepresented, population in family interventions. Notably, the inclusion of ethnic minority fathers is particularly scarce. An understanding of factors that promote and hinder father participation may suggest strategies by which to increase fathers' presence in studies designed to engage the family unit. The current research examined Mexican origin (MO) fathers' involvement in a family-focused intervention study. Participants included 495 fathers from eligible two-parent MO families with an adolescent child. Individual, familial, and culturally-relevant predictors based on father, mother, and/or child report data were collected through pretest interviews and included in two separate logistic regression analyses that predicted: 1) father enrollment in the study and 2) father participation in the intervention. Results indicated that higher levels of maternal education and lower levels of economic stress and interparental conflict were associated with increased father enrollment in the study. Rates of father participation in the intervention were higher among families characterized by lower levels of interparental conflict, economic stress, and Spanish language use. Results highlight the relevancy of the familial and environmental context to MO fathers' research participation decisions. These findings as well as their implications for future research and practice are discussed.

Introduction

The past several decades have been witness to increasing research interest in fathering. Father involvement has been associated with healthy cognitive development in infancy (Bronte-Tinkew, Carrano, Horowitz, & Kinukawa, 2008), more positive peer behavior in

childhood (Youngblade & Belsky, 1992), better psychosocial adjustment in adolescence (Lamb & Lewis, 2004), and greater academic success in young adulthood (Flouri & Buchanan, 2004). Father involvement in parenting interventions has also been found to positively contribute to program effects on child outcomes (Bagner & Eyberg, 2003; Lundahl, Tollefson, Risser, & Lovejoy, 2008; Tiano & McNeil, 2005; Webster-Stratton, 1985). Regrettably, father inclusion in research and interventions is rare (Firestone, Kelly, & Fike, 1980; Tiano & McNeil, 2005). The current study sought to identify factors that promote and hinder father participation in order to inform effective recruitment strategies for fathers and increase their involvement in parenting programs.

Research on family processes is dominated by studies that focus solely on mothers (Costigan & Cox, 2001). A review by Phares, Fields, Kamboukos, & Lopez (2005) observed that 45% of studies on child development involved mothers only, in contrast to the 2% of studies that included fathers only. Parenting studies often invite the involvement of both parents, but only require the participation of one parent. In these contexts, participation rates among eligible fathers may be less than half of the rates observed among eligible mothers, highlighting mothers as the target for recruitment as fathers assume a supervisory or supportive role to the participating mother (Hops & Seeley, 1992). Father participation in interventions, including prevention programs or therapeutic treatments for children, has been similarly limited (Fabiano, 2007; Phares, Lopez, Fields, Kamboukos, & Duhig, 2005). Prior research has shown that less than half of eligible fathers become involved in Early Head Start programs (Raikes, Summers, & Roggman, 2005) despite previous research that supports the beneficial effects of including fathers in parenting interventions.

Winslow, Bonds, Wolchik, Sandler, & Braver (2009) highlight the need to distinguish between barriers as they relate to two facets of engagement in interventions: initial enrollment and actual participation. Enrollment refers to fathers' agreement to attend the parenting program whereas participation refers to fathers' actual attendance in at least one session of the program. Examining predictors of engagement at both of these levels offers the opportunity to evaluate the success of efforts to recruit fathers and retain their involvement from enrollment to participation in family programs. As a basis for exploring predictors of enrollment and participation, this study was informed by an ecological systems framework (Bronfenbrenner, 1979) that recognizes overlapping contextual and cultural influences that shape person-environment transactions, including engagement in a family-based intervention. Accounting for a variety of factors that span these familial, social, and cultural contexts offers an opportunity to identify the supports and barriers that most strongly impact father research involvement.

Individual or interpersonal factors at the family-level, such as depressive symptoms, marital relations, child behavior, and economic family stress, may influence fathers' enrollment and participation (Hops & Seeley, 1992; Roggman, Boyce, Cook, & Cook, 2002). For example, the sense of hopelessness, diminished activity, and low mood associated with depression may deter fathers from participating in an interactive parenting program. Fathers experiencing conflict with their spouse may also hesitate to engage in a family program that involves couples' communication and cooperation in a group setting. The influence of child behavior problems has been inconsistent; although higher levels of child behavior problems

have been related to increased father participation in treatments that target those problems (Heinrichs, Bertram, Kuschel, & Hahlweg, 2005), observational parenting studies have also shown fathers to be less involved if their children exhibit high levels of externalizing symptoms (Caspi & Moffitt, 1995; Simons, Whitbeck, Conger, & Melby, 1990). Fathers who feel they are to blame for their children's behavior problems may be less likely to enroll or participate in a parenting program during which their parenting "faults" may be identified and corrected.

Within Bronfenbrenner's framework, socioeconomic and occupational factors, including education, income, and fathers' number of hours worked each week, may also impact fathers' decisions to enroll and participate. Studies have found that higher parental education is associated with greater rates of father participation in research and family services (Costigan & Cox, 2001; Raikes et al., 2005; Roggman et al., 2002) while fathers who work greater hours may have less discretionary time to commit to and participate in weekly intervention sessions. Similarly, economic strain may lead fathers to focus their time and attention on financial matters and feel reluctant to assume the additional parenting responsibilities that may be required by participation in family interventions. Lack of transportation and the need for childcare while mothers attend may also present structural barriers to father attendance.

The current study evaluates father enrollment and participation in an intervention study among Mexican origin (MO) two-parent families recruited for an efficacy trial of the Bridges to High School Program/*Projecto Puentes a la Secundaria* (Bridges), a family-focused intervention to prevent academic disengagement and mental health problems among middle school students in low-income communities (Gonzales et al., 2012). This efficacy trial provided an ideal opportunity to examine predictors of father enrollment and participation because the intervention explicitly encouraged participation of *both* parents and provided transportation, an evening meal, and childcare to reduce structural barriers to participation. Thus, this study is able to evaluate enrollment and participation of fathers under optimally supportive conditions. The unique focus on MO fathers also is noteworthy. Despite the fact that Hispanic individuals represent the largest and most rapidly expanding ethnic group in the U.S. (U.S. Census Bureau, 2011), they remain a markedly underserved population with considerable health needs (Harachi, Catalano, & Hawkins, 1997). In particular, Hispanic fathers are severely underrepresented in parenting research and interventions though they may exert considerable influence on family functioning (Cabrera & Coll, 2004; Downer, Campos, McWayne, & Gartner, 2008; Parra Cardona et al., 2012).

The current focus on MO fathers also provided an opportunity to examine the influence of cultural context on MO father participation by evaluating the role of familism as a predictor and by testing the moderating effects of family linguistic acculturation. MO fathers' decisions to participate in interventions may be influenced by *familism*, a traditional Hispanic value that prioritizes the family over individual needs, including the provision of emotional support, respect, and loyalty to family members (Knight et al., 2010; Parke et al., 2004). Fathers who strongly endorse familism values may be more likely to participate with their partner in order to promote family unity and receive services designed to benefit their child. Although not specifically focused on fathers, a previous study of family engagement

found that family language (a proxy for family acculturation level) predicted eligible families' initial enrollment in Bridges (greater enrollment among Spanish-speaking families) and moderated the effect of other predictors on family enrollment and attendance in the intervention (Carpentier et al., 2007).

Predictors of two outcomes were examined: 1. *Enrollment* (completion of pretest interview and initial agreement to participate in the intervention) and 2. *Participation* (attendance in at least one intervention session). First, we examined predictors of fathers' enrollment among eligible two-parent families ($n = 495$) that enrolled and completed pre-test assessments prior to randomization to intervention condition. Father report data were not collected from families in which the father did not enroll; thus, predictors of father enrollment were based on mother and child reported data only. Based on ecological systems theory and prior research, predictors of enrollment included: family language, child externalizing, maternal education, economic stress, income, and interparental conflict. Second, we examined predictors of father participation in the intervention among two-parent families with an enrolled father ($n = 197$) that were randomly assigned to the intervention condition (intervention subsample; father report data collected in this subsample). Attendance in at least one intervention session served as our outcome variable in order to predict fathers' participation in any capacity. To predict participation, we applied the aforementioned predictors of father enrollment and included father-report variables of paternal education, depression, hours worked, and familism. Based on previous results that have found predictors of family engagement vary by family language (proxy for acculturation; Carpentier et al., 2007), we explored language as a moderator of each predictor's effect on father enrollment and participation a priori.

We hypothesized higher rates of father enrollment and participation among families characterized by lower levels of interparental conflict, child behavior problems, and economic stress and higher maternal education and income. Additionally, we expected higher rates of participation among fathers who self-reported lower levels of depression and hours worked and higher levels of education and familism. Overall, higher rates of enrollment and participation were anticipated among Spanish-speaking (i.e., less acculturated) families.

Method

Participants

Our full sample represents 495 eligible fathers in two-parent MO families drawn from 598 eligible MO families that enrolled in the efficacy trial (5 father-only and 98 mother-only single-parent families were excluded). All eligible families included an adolescent in the 7th grade who gave his/her assent to participate and completed a pretest interview. Our full sample represents two-parent families in which both mothers and fathers enrolled ($n = 306$; 62%) and families in which only mothers enrolled ($n = 169$; 34%) and only fathers enrolled ($n = 20$; 4%). Father reported data were only collected from the families in which fathers enrolled ($n = 326$; 66%). Mother and child reports of data were available for the full sample. Thus, father report variables were not available to predict father enrollment and only mothers' and children's reports of predictors were used to predict father enrollment. Most

fathers who participated in the study, were biological or adoptive fathers (80%), with step-fathers (18%) and other male relatives (2%) represented as well. Child gender was balanced with 50% males and 50% females. Of these families, 59% selected Spanish as their language for the intervention and 41% selected English.

Our second sample, the intervention subsample, includes 197 eligible two-parent families from the full sample who initially enrolled and were subsequently randomized to the intervention condition. Unlike in our full sample, mother, father, and child report data were available for all families in the intervention subsample. Distributions of biological/adoptive fathers, stepfathers, and other male relatives in this sample were comparable to the full sample (see above). There were slightly more families with adolescent sons than daughters (53% sons, 47% daughters) in the intervention subsample. Approximately 93% of these two-parent families included mothers who also enrolled in the intervention. Of these families, 57% selected Spanish as their family language for the intervention and 43% selected English.

Procedure

Recruitment—A flow chart of father recruitment, enrollment, and participation is depicted in Figure 1. Families were recruited through middle school rosters provided by five schools. A total of 2,036 families were randomly selected from rosters for recruitment. These families were mailed flyers that described the intervention and study, followed by a phone call to parents in the evening to invite participation. Of these families, 957 (47%) were located and deemed eligible based on the following criteria: the 7th grade student was of Mexican descent and not planning to change schools before the intervention began, the family included at least one caregiver of Mexican descent who was willing to participate in the intervention with the adolescent, the family agreed to be randomly assigned to the 9-week intervention or a brief workshop. Parents and adolescents were told that the study's purpose was to strengthen families and help children succeed in school. Both parents in two-parent families were invited to participate, but only one parent's enrollment was required for inclusion. In two-parent families, efforts were made to confirm both parents' agreement to participate or to speak with the second parent if only one had agreed to offer a personalized invitation. Scripted recruitment protocols emphasized father's important role in the family and encouraged his participation in any session, even if he was unable to attend regularly.

A total of 598 eligible families (62%) completed pre-test interviews and selected their dominant family language (Spanish or English), which was used to stratify randomization procedures. After family language was selected, families were randomly assigned to the intervention or control condition within each language subsample. This process was repeated annually in 3 cohorts of families with 7th graders across 3 years. Families randomized to the control condition jointly attended a single 1.5 hour evening workshop. The current study focused on father participation in the active intervention (described below).

The Bridges intervention—The Bridges intervention consisted of three components: (a) a parenting intervention; (b) an adolescent coping intervention; and (c) a family strengthening intervention. A school liaison helped families apply program skills to school-

related problems. In order to minimize barriers to participation, the intervention was held in the evening outside of typical work hours (<5% declined due to schedule conflicts) at the local middle school where the adolescent was currently enrolled (transportation was also offered to all families). In addition, dinner and childcare were provided. Intervention components were delivered in nine weekly evening group sessions held at the schools and two home visits (pre-intervention and mid-program). The 9 sessions included separate simultaneous 1.25-hour groups for adolescents and parents followed by a .75-hour conjoint family session. All components were designed to optimize cultural competence (for details see Gonzales et al., 2012).

Data collection—Data were gathered during individual interviews with participants in a private area of the home and according to the language of their program assignment. Pretest interviews were conducted after participants provided consent and prior to randomization to condition assignment. Each participant received \$30 per interview. Interviewers read questions aloud to participants and entered the data directly into computers.

Measures

Validated translated versions of the measures were used when available. For measures that were not available in Spanish, questionnaires were translated and back translated by fluent Spanish and English speakers (Foster & Martinez, 1995). All scales were investigated for factorial invariance in relation to language of the interview (English or Spanish), and each met the requirements for strong invariance based on language (Millsap, 2011). The means, standard deviations, range, skewness, and kurtosis for study measures as well as intercorrelations between study variables for the full sample and the intervention subsample are presented in Tables 1 and 2, respectively.

Child externalizing—Children's self-report of externalizing symptoms within the past month was captured by the Youth Self Report (YSR; Achenbach, 1991). Sample items include: "I break rules at home, school, or elsewhere," and "I am mean to others." The 3-point response scale ranges from 0 (not true) to 2 (very true/often true). Responses were compiled into summary scores. In the full sample, 7.7% of the children met the cutoff for clinical levels of externalizing symptoms and in the intervention subsample, 6.6% of children met this cutoff, comparable to rates of 8% found in prior research (Compas, Howell, Phares, Williams, & Giunta, 1989).

Economic stress—Family economic stress was captured by child report on the 10-item economic stress subscale of Multicultural Events Scale for Adolescents (MESA; Gonzales, Tein, Sandler, & Friedman, 2001). Participants were asked about economic strain that occurred over the past three months (e.g., "You had to go without a meal because your family did not have enough money", "Your parents talked about having serious money problems"). Response options included 0 (did not occur) and 1 (did occur), with sum scores representing the count of economically stressors. Because alpha is not an appropriate measure for count scores, test-retest reliability has been previously reported at .81 over a two-week period (Gonzales et al., 1996).

Family income—Mothers reported family income over the past 12 months on a 21-point scale ranging from 1 (less than or equal to \$5,000) to 21 (over \$100,000). The median income (\$30,001-\$35,000) of both samples falls below the median family income among Hispanics in the U.S. (U.S. Census Bureau, 2012a).

Interparental conflict—Mothers' and fathers' report of interparental conflict was assessed using a 6-item scale adapted from the Multidimensional Assessment of Interparental Conflict scales (Tschann, Flores, Pasch, & Marin, 1999). Sample items include: "How many times in the past month did the two of you have an unpleasant disagreement?" and "How often did you disagree about personal habits (e.g., messiness, driving, or eating habits)?" The 5-point response scale ranged from 1 (never) to 5 (almost every day). In our full sample, mother report of interparental conflict was used as father report was limited to families with fathers who enrolled in the study. A composite of mother and father report ($r = .34$; $p < .01$) was used to measure interparental conflict in the intervention subsample as both reports were available in this sample.

Paternal depression—The 20-item Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) was used to collect father self-report of depression over the past month. Sample items include: "You felt lonely," and "You felt that everything you did was an effort." Responses were given on a 4-point scale ranging from 0 (rarely or none of the time) to 3 (most or all of the time). Item scores were summed into an overall score with a possible range from 0 to 60. Higher scores indicated greater depressive symptoms. About 20% of the intervention subsample reached the cutoff score (16) for at least mild depression, similar to levels of depression observed in the general population (21%; Radloff, 1977).

Familism—The extent to which fathers endorsed *familism* values was captured by self-report on the 18-item familism subscale of the Mexican American Cultural Values Scale (MACVS; Knight et al., 2010). Sample items include: "Family provides a sense of security because they will always be there for you," and "It is always important to be united as a family." Response options range from 1 (strongly disagree) to 5 (strongly agree) with higher summary scores reflecting stronger *familism* values.

Maternal and paternal education—Mothers and fathers self-reported their highest level of education. Responses ranged from 0 (did not attend school) to 20 (completed advanced degree, i.e., MD, JD, DDS, PhD). About 44% of mothers in the full sample and 58% of mothers and 47% of fathers in the intervention subsample received a high school diploma or equivalent and above, which is lower than the average among Hispanics in the U.S. (61%; U.S. Census Bureau, 2012b).

Fathers' average hours of work—Fathers reported their average number of work hours per week over the past 12 months. In the intervention subsample, father work hours ranged from 0 to 120 average hours per week, with a mean and median of 50 hours.

Family language—Family language, a proxy for acculturation, was based on family's selection of either English or Spanish as their dominant family language. Family language was coded into a binary variable (0 = Spanish, 1 = English).

Father enrollment—A binary variable was created to represent father enrollment (0 = did not enroll, 1 = enrolled). This represents initial agreement to participate in the intervention as well as completion of the pretest interview. Approximately 66% of the eligible fathers in two-parent families in our full sample enrolled in the study.

Father participation—A binary variable represented father participation in the intervention (0 = did not attend any sessions, 1 = attended at least one session). Approximately 80% of the fathers in the intervention subsample attended at least 1 of the 9 intervention sessions. Father participation was related to mother participation; fathers participated without mothers in only 13 families (7%). Among fathers who attended at least 1 session, average attendance was about 5 sessions.

Analytic Strategy

Logistic regression in Mplus version 6.1 (Muthén & Muthén, 2010) was used to test predictors of each binary outcome of interest: father enrollment and father participation. Our first model examined family language, child externalizing, maternal education, economic stress, family income, and mother report of interparental conflict as predictors of father enrollment in our full sample. A priori tests of the moderation effects of family language were tested for each predictor. All continuous predictors were mean centered at zero before interaction terms were created, as recommended by Aiken and West (1991). Family language by interparental conflict was the only significant interaction term in the prediction of father enrollment ($B = 0.97$, $SE = 0.34$, $\beta = 0.22$, $p < .01$). All other interactions terms were not significant (all p -values $> .16$) and were excluded from analysis in order to increase the statistical power in the final models.

Our second model predicted father participation from all the aforementioned predictors from the previous model (family language, child externalizing, maternal education, economic stress, and family income) as well as several father report variables as father report data were available for all participants in the intervention subsample. Father report variables included: paternal education, paternal depression, fathers' average number of hours worked per week, and fathers' *familism*. In addition, mother report of interparental conflict was replaced with a composite of mother and father report of interparental conflict. A priori tests of moderation examined interaction terms between family language and all predictors following the steps described above. All interactions terms were non-significant (all p -values $> .27$) and were subsequently excluded from our analyses. Full information maximum likelihood (FIML) in Mplus was used to handle missing data in all analyses.

Results

The first model showed overall significant prediction of father enrollment ($R^2 = 0.08$, $p < .01$) including significant effects of several predictors (see Table 3). Results indicated higher maternal education and lower economic stress were associated with fathers' enrollment. Family income was not significantly associated with father enrollment. The interaction between family language and mother report of interparental conflict remained significant in the final model. Probing of the interaction revealed that lower levels of interparental conflict

predicted father participation in the study among Spanish-speaking families, but not English-speaking families. Child behavior did not emerge as a significant predictor.

The second model predicted father participation in the intervention from the aforementioned predictors of enrollment as well as fathers' reports of variables (see Table 3). This model demonstrated overall significant prediction ($R^2 = 0.28, p < .01$). We found a marginally significant effect of family language, with greater participation among Spanish-speaking families than English-speaking families. Consistent with the first model, lower economic stress significantly predicted father participation. Combined mother and father report of interparental conflict also had a significant effect on father participation, with less conflict predicting more father participation. Child behavior, maternal and paternal education, family income, paternal depression, fathers' average number of hours worked, and familism were not significant predictors of father participation, above and beyond the other model variables. Although not the focus of the current study, parallel analyses were run with the number of sessions attended by fathers as the outcome and showed a significant effect of economic stress ($b = -0.56, \beta = -0.18, SE = 0.22, p = .01$).

Discussion

There are significant contextual challenges in recruiting and retaining minority populations in preventive interventions (Baumann, Domenech Rodríguez, & Parra-Cardona, 2011). This study examined the predictors of fathers' initial enrollment and subsequent participation in a family-based intervention among two-parent MO families. Among two-parent families that enrolled in the intervention and completed pre-test interviews, 66% of eligible fathers agreed to enroll and results demonstrated that fathers were more likely to enroll in families experiencing lower economic stress and with higher maternal education. Enrollment was also predicted by lower levels of interparental conflict; however, this finding emerged among Spanish-speaking families only. Among enrolled fathers who were randomly assigned to the intervention condition, 80% participated by attending at least one session, and this participation was predicted by lower levels of economic stress and decreased interparental conflict. Family language exerted a marginally significant effect on fathers' participation, suggesting more participation among Spanish-speaking families. Our study indicates that an ecological systems framework is useful to identify the barriers and supports across various contexts (e.g., individual, familial, and cultural) that impact fathers' decisions to participate in family research and interventions. The current study applied this framework to a minority population; however, the result may generalize to non-MO families. Future studies may benefit from continuing to apply this framework to other father populations.

Examining predictors of fathers' enrollment in a family intervention (Model 1) revealed a greater likelihood of enrollment among fathers whose partners had attained higher education. Such an effect may follow from greater encouragement of father participation by more educated mothers (Raikes et al., 2005; Roggman et al., 2002). In the current study, mothers may have been especially motivated by the program's focus on promoting school success. Although lower interparental conflict also predicted father enrollment, this effect was moderated by family language; lower conflict was related to higher rates of enrollment among Spanish-speaking (less acculturated) MO families, but not English-speaking MO

families. Interparental conflict has been found to disrupt MO fathers' ability to effectively carry out their paternal role and engage in quality fathering (Cabrera, Shannon, & La Taillade, 2009; Formoso, Gonzales, Barrera, & Dumka, 2007). Our findings suggest that among less acculturated MO families in particular, interparental conflict may also negatively impact fathers' involvement in family interventions. Conversely, fathers from less acculturated MO families with minimal marital discord emerged as the most motivated to participate in a family-focused program that emphasized strong familial bonds and the role of parents in promoting positive youth development.

Lower economic stress emerged as a significant predictor of both father enrollment and participation, in contrast to the lack of significant prediction by family income. Prior research has also found that financial hardship among MO families exerts a stronger influence on various components of paternal involvement than actual family income (Coltrane, Parke, & Adams, 2004), highlighting the considerable impact of economic difficulties on the paternal role. Among MO men, financial contributions represent a particularly important form of paternal involvement in the family context (Coley, Morris, & Hernandez, 2004); fathers from families experiencing financial problems may prioritize the attainment of their family's basic needs (i.e. food, shelter) over involvement in a family intervention.

A similar set of predictors emerged in analyses predicting fathers' participation in at least one intervention session (Model 2). As in the prediction of father enrollment, we found effects related to interparental conflict and family language. Whereas interparental conflict was related to lower father *enrollment* among Spanish-speaking families only, interparental conflict predicted lower father *participation* in the intervention for both English- and Spanish-dominant families. This may suggest a more robust influence of the spousal relationship on fathers' participation in the intervention. Although prior research has shown that problematic marital and interpersonal relations negatively impact fathering (Belsky et al., 1991; McHale, Waller, & Pearson, 2012; Ngu & Florsheim, 2011), our results show that interparental relations are also important predictors of fathers' family service utilization. Conflict between parents may lead fathers to withdraw from the family and discourage their motivation to become involved in a family-focused intervention. The possible inhibiting effects of maternal gatekeeping on father involvement in parenting also may be exacerbated in the context of interparental conflict. Even apart from maternal gatekeeping, traditional gender roles that support maternal responsibility for parenting may further increase father's withdrawal in the face of interparental conflict. Family language in fact moderated father enrollment and although family language did not moderate any of the predictors' effects on father participation, results indicated a marginal main effect of language. Contrary to our hypothesis, father report of familism did not predict participation. While it is possible that familism is a better predictor of fathers' initial enrollment than actual participation, the data to test this effect were unavailable.

Child externalizing did not predict father enrollment or participation above and beyond the other predictors. Previous studies found that fathers who accept offers of parent training are more likely to report child behavior problems than fathers who decline (Heinrichs et al., 2005). However, the Bridges program was a broad intervention to promote positive youth

development and did not necessarily target adolescent behavior problems. In contrast to some previous research and theories (e.g. Costigan & Cox, 2001; Dumka, Garza, Roosa, & Stoerzinger, 1997; Roggman et al., 2002), we also found no significant effects of individual-level father predictors on participation, including paternal education, depression, and hours worked. This pattern of results may reflect the strength of family-focused predictors beyond individual-level factors and child behavior.

Limitations

There were several limitations in the current study. Sample sizes were relatively small, particularly in the intervention subsample. Power analyses indicated that the current study lacked statistical power to detect small effects in the first model (power = .60) and second model (power = .20). Father report data were unavailable in the full sample, which restricted our ability to test father-focused variables as predictors of father enrollment. Additionally, due to the nature of our sample, which was comprised of fathers of adolescents in two-parent MO families, our results may not generalize to other household structures (e.g., divorced, step-parent, etc.), ethnic groups, or fathers of younger/older children. Results may also be specific to family-based preventive interventions and may not apply to other forms of family services or programs. Father participation in the intervention was represented by a binary outcome, given the current study's interest in a broad assessment of father participation/non-participation. However, such a measure does not capture the complexity of attendance patterns. Future studies that examine predictors of systematic attendance and attrition patterns may further advance this literature and offer a method to evaluate how fathers receive intervention content. Models of fathering are dynamic; other variables not tested by the current study, including maternal gatekeeping and child attitudes toward father participation, may also influence father enrollment and participation in research. Finally, both models accounted for relatively small variance in father enrollment (8%) and participation (28%). However, we believe our significant findings provide a strong basis for future studies of father participation in family research and interventions to build upon.

Implications & Future Directions

There are several avenues through which our findings may inform future family and intervention research with fathers. Rates of father enrollment and participation in the current intervention are higher than previously reported (Raikes et al., 2005). Thus, these findings offer promising evidence that a majority of fathers are willing to engage if their participation is explicitly valued and encouraged. Although it is not possible to identify which specific strategies were most effective, our efforts to reach out to fathers, communicate the importance of their participation, and reduce potential participation barriers may be useful to both researchers and practitioners who work with fathers. Additionally, it is important for researchers and interventionists to acknowledge economic stress as a particularly important barrier to father engagement in family interventions. Despite our efforts to reduce barriers to participation of low-income parents, economic stress reduced father involvement. Additional strategies to overcome this barrier should be considered, including greater flexibility in the timing of the intervention or alternative modalities, such as internet-based delivery. However, it may be the case that the attendance of one parent is a necessary reality for many economically stressed families. The role of interparental conflict in fathers' engagement and

participation in family oriented preventive interventions appears important. Future research needs to develop effective messages to recruit fathers experiencing interparental conflict into family interventions that have the potential to increase the parenting alliance and perhaps reduce this conflict and its impact on the family system. Finally, although we found that high interparental conflict was a barrier to fathers' participation, our conflict measure assessed verbal disagreements between parents, not interpersonal violence. Future studies are needed to distinguish the extent to which domestic violence within the home may contribute to this finding.

Despite widespread acceptance of the importance of the paternal role, there remains a substantial discrepancy in the rates at which mothers and fathers are engaged in family process research. Within the context of a family-focused intervention for MO families, results of the current study suggest that fathers' decisions to enroll and participate may be influenced by qualities of the family and cultural context, including maternal education, interparental conflict, family economic stress, and family linguistic acculturation. Thus, efforts to engage fathers in family research may be improved by attention to the broad context in which men enact and express the paternal role.

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References

- Achenbach, TM. Manual of the Child Behavior Checklist/4-18 and 1991 Profile. Burlington, VT: University of Vermont Department of Psychiatry; 1991.
- Aiken, LS., West, SG. Multiple regression: Testing and interpreting interactions. Newbury Park, CA: Sage; 1991.
- Bagner DM, Eyberg SM. Father involvement in parent training: When does it matter? *Journal of Clinical Child and Adolescent Psychology*. 2003; 32(4):599–605. [PubMed: 14710469]
- Belsky J, Youngblade L, Rovine M, Volling B. Patterns of marital change and parent-child interaction. *Journal of Marriage and the Family*. 1991; 53(2):487–498.
- Bronfenbrenner, U. The ecology of human development: Experiments by nature and design. Cambridge, MA: Harvard University Press; 1979.
- Bronte-Tinkew J, Carrano J, Horowitz A, Kinukawa A. Involvement among resident fathers and links to infant cognitive outcomes. *Journal of Family Issues*. 2008; 29(9):1211–1244. DOI: 10.1177/0192513X08318145
- Cabrera, NJ., Coll, CG. Latino fathers: Uncharted territory in need of much exploration. In: Lamb, ME., editor. *The Role of the Father in Child Development*. 4th. Hoboken, NJ: Wiley; 2004.
- Cabrera NJ, Shannon JD, La Taillade JJ. Predictors of coparenting in Mexican American families and links to parenting and child social emotional development. *Infant Mental Health Journal*. Special Issue: Development of infants and toddlers in ethnoracial families. 2009; 30(5):523–548. DOI: 10.1002/imhj.20227
- Carpentier FD, Mauricio A, Gonzales NA, Millsap R, Meza C, Dumka L, Genalo M. Engaging Mexican origin families in a school-based preventive intervention. *The Journal of Primary Prevention*. 2007; 28(6):521–546. DOI: 10.1007/s10935-007-0110-z [PubMed: 18004659]
- Caspi, A., Moffitt, TE. The continuities of maladaptive behavior: From description to understanding in the study of antisocial behavior. In: Cicchetti, D., Cohen, D., editors. *Developmental*

- Psychopathology, Risk, Disorder, and Adaptation. Vol. 2. New York: John Wiley & Sons; 1995. p. 472-511.
- Coley RL, Morris JE, Hernandez D. Out-of-school care and problem behavior trajectories among low-income adolescents: Individual, family, and neighborhood characteristics as added risks. *Child Development*. 2004; 75(3):948–965. DOI: 10.1111/j.1467-8624.2004.00716.x [PubMed: 15144496]
- Coltrane S, Parke RD, Adams M. Complexity of father involvement in low-income Mexican American families. *Family Relations*. 2004; 53(2):179–189. DOI: 10.1111/j.0022-2445.2004.00008.x
- Compas BE, Howell DC, Phares V, Williams RA, Giunta CT. Risk factors for emotional/behavioral problems in young adolescents: A prospective analysis of adolescent and parental stress and symptoms. *Journal of Consulting and Clinical Psychology*. 1989; 57(6):732–740. doi:<http://dx.doi.org.ezproxy1.lib.asu.edu/10.1037/0022-006X.57.6.732>. [PubMed: 2600244]
- Costigan CL, Cox MJ. Fathers' participation in family research: Is there a self-selection bias? *Journal of Family Psychology*. 2001; 15(4):706–720. DOI: 10.1037/0893-3200.15.4.706 [PubMed: 11770476]
- Downer J, Campos R, McWayne C, Gartner T. Father involvement and children's early learning: A critical review of published empirical work from the past 15 years. *Marriage & Family Review*. 2008; 43(1–2):67–108. DOI: 10.1080/01494920802010264
- Dumka LE, Garza CA, Roosa MW, Stoerzinger HD. Recruitment and retention of high-risk families into a preventive parent training intervention. *The Journal of Primary Prevention*. 1997; 18(1):25–39. DOI: 10.1023/A:1024626105091
- Fabiano GA. Father participation in behavioral parent training for ADHD: Review and recommendations for increasing inclusion and engagement. *Journal of Family Psychology*. 2007; 21(4):683–693. DOI: 10.1037/0893-3200.21.4.683 [PubMed: 18179340]
- Firestone P, Kelly MJ, Fike S. Are fathers necessary in parent training groups? *Journal of Clinical Child Psychology*. 1980; 9(1):44. doi: 10.1080/15374418009532943
- Flouri E, Buchanan A. Early father's and mother's involvement and child's later educational outcomes. *British Journal of Educational Psychology*. 2004; 74(2):141–153. DOI: 10.1348/000709904773839806 [PubMed: 15130184]
- Formoso D, Gonzales NA, Barrera M, Dumka LE. Interparental relations, maternal employment, and fathering in Mexican American families. *Journal of Marriage and Family*. 2007; 69(1):26–39. DOI: 10.1111/j.1741-3737.2006.00341.x
- Foster SL, Martinez CR. Ethnicity: Conceptual and methodological issues in child clinical research. *Journal of Clinical Child & Adolescent Psychology*. 1995; 24(2):214. doi: 10.1207/s15374424jccp2402_9
- Gonzales NA, Dumka LE, Millsap RE, Bonds McClain D, Wong JJ, Mauricio AM, Kim SY. Randomized trial of a broad preventive intervention for Mexican American adolescents. *Journal of Consulting and Clinical Psychology*. 2012; 80(1):1–16. DOI: 10.1037/a0026063 [PubMed: 22103956]
- Gonzales, NA., Gunnoe, MJ., Jackson, KM., Samaniego, RY. Validation of a multicultural events scale for urban adolescents. Presented at the Biennial Conference of the Society for Community Research and Action; Chicago, IL. 1996.
- Gonzales NA, Tein JY, Sandler IN, Friedman RJ. On the limits of coping interaction between stress and coping for inner-city adolescents. *Journal of Adolescent Research*. 2001; 16(4):372–395. DOI: 10.1177/0743558401164005
- Harachi TW, Catalano RF, Hawkins JD. Effective recruitment for parenting programs within ethnic minority communities. *Child & Adolescent Social Work Journal*. 1997; 14(1):23–39. DOI: 10.1023/A:1024540829739
- Heinrichs N, Bertram H, Kuschel A, Hahlweg K. Parent recruitment and retention in a universal prevention program for child behavior and emotional problems: Barriers to research and program participation. *Prevention Science*. 2005; 64(4):275–286. DOI: 10.1007/s11121-005-0006-1
- Hops H, Seeley JR. Parent participation in studies of family interaction: Methodological and substantive considerations. *Behavioral Assessment*. 1992; 14(3–4):229–243.

- Knight GP, Gonzales NA, Saenz DS, Bonds DD, Germán M, Deardorff J, Updegraff KA. The Mexican American Cultural Values Scale for adolescents and adults. *The Journal of Early Adolescence*. 2010; 30(3):444–481. DOI: 10.1177/0272431609338178 [PubMed: 20644653]
- Lamb, ME., Lewis, C. The development and significance of father-child relationships in two-parent families. In: Lamb, ME., editor. *The Role of the Father in Child Development*. 4th. Hoboken, NJ: Wiley; 2004.
- Lundahl BW, Tollefson D, Risser H, Lovejoy MC. A meta-analysis of father involvement in parent training. *Research on Social Work Practice*. 2008; 18(2):97–106. DOI: 10.1177/1049731507309828
- McHale J, Waller M, Pearson J. Coparenting interventions for fragile families: What do we know and where do we need to go next? *Family Process*. 2012; 51(3):284–306. DOI: 10.1111/j.1545-5300.2012.01402.x [PubMed: 22984970]
- Millsap, RE. *Statistical approaches to measurement invariance*. New York: Routledge; 2011.
- Muthén, LK., Muthén, BO. *Mplus user's guide (version 6)*. Los Angeles, CA: Muthén & Muthén; 2010.
- Ngu L, Florsheim P. The development of relational competence among young high-risk fathers across the transition to parenthood. *Family Process*. 2011; 50(2):184–202. DOI: 10.1111/j.1545-5300.2011.01354.x [PubMed: 21564060]
- Parke RD, Coltrane S, Duffy S, Buriel R, Dennis J, Powers J, Widaman KF. Economic stress, parenting, and child adjustment in Mexican American and European American families. *Child Development*. 2004; 75(6):1632–1656. DOI: 10.1111/j.1467-8624.2004.00807.x [PubMed: 15566370]
- Parra Cardona JR, Domenech-Rodriguez M, Forgatch M, Sullivan C, Bybee D, Holtrop K, Bernal G. Culturally adapting an evidence-based parenting intervention for Latino immigrants: The need to integrate fidelity and cultural relevance. *Family Process*. 2012; 51(1):56–72. DOI: 10.1111/j.1545-5300.2012.01386.x [PubMed: 22428711]
- Phares V, Fields S, Kamboukos D, Lopez E. Still looking for Poppa. *American Psychologist*. 2005; 60(7):735–736. DOI: 10.1037/0003-066X.60.7.735 [PubMed: 16221013]
- Phares V, Lopez E, Fields S, Kamboukos D, Duhig AM. Are fathers involved in pediatric psychology research and treatment? *Journal of Pediatric Psychology*. 2005; 30(8):631–643. DOI: 10.1093/jpepsy/jsi050 [PubMed: 15772363]
- Radloff LS. The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*. 1977; 1(3):385–401. DOI: 10.1177/014662167700100306
- Raikes H, Summers J, Roggman L. Father involvement in Early Head Start programs. *Fathering: A Journal of Theory, Research, and Practice about Men as Fathers*. 2005; 3(1):29–58. DOI: 10.3149/fth.0301.29
- Roggman LA, Boyce LK, Cook GA, Cook J. Getting dads involved: Predictors of father involvement in Early Head Start and with their children. *Infant Mental Health Journal*. 2002; 23(1-2):62–78. DOI: 10.1002/imhj.10004
- Simons RL, Whitbeck LB, Conger RD, Melby JN. Husband and wife differences in determinants of parenting: A social learning and exchange model of parental behavior. *Journal of Marriage and Family*. 1990; 52(2):375–392.
- Tiano JD, McNeil CB. The inclusion of fathers in behavioral parent training: A critical evaluation. *Child & Family Behavior Therapy*. 2005; 27(4):1–28. DOI: 10.1300/J019v27n04_01
- Tschann JM, Flores E, Pasch LA, Marin BV. Assessing interparental conflict: Reports of parents and adolescents in European American and Mexican American families. *Journal of Marriage and Family*. 1999; 61(2):269–283. DOI: 10.2307/353747
- U.S. Census Bureau. Hispanic Population of the United States. 2011 Oct 27. Retrieved from <http://www.census.gov/population/www/socdemo/hispanic/census.html>
- U.S. Census Bureau. Income, expenditures, poverty, and wealth. 2012a. Retrieved from <http://www.census.gov/compendia/statab/2012/tables/12s0697.pdf>
- U.S. Census Bureau. Educational attainment in the United States: 2009 (No P20-566). 2012b. Retrieved from <http://www.census.gov/prod/2012pubs/p20-566.pdf>

- Webster-Stratton C. The effects of father involvement in parent training for conduct problem children. *Journal of Child Psychology and Psychiatry*. 1985; 26(5):801–810. DOI: 10.1111/j.1469-7610.1985.tb00593.x [PubMed: 4044724]
- Winslow E, Bonds D, Wolchik S, Sandler I, Braver S. Predictors of enrollment and retention in a preventive parenting intervention for divorced families. *The Journal of Primary Prevention*. 2009; 30(2):151–172. DOI: 10.1007/s10935-009-0170-3 [PubMed: 19283483]
- Youngblade LM, Belsky J. Parent-child antecedents of 5-year-olds' close friendships: A longitudinal analysis. *Developmental Psychology*. 1992; 28(4):700–713. DOI: 10.1037/0012-1649.28.4.700

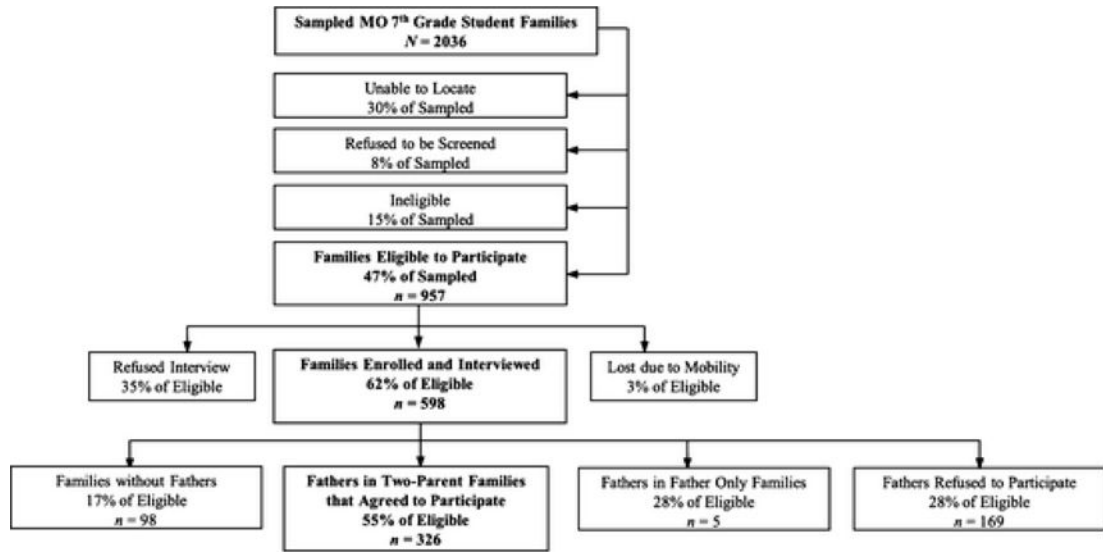


Figure 1.

Table 1

Intercorrelations between study variables for full sample.

Sample 1	1	2	3	4	5	6	7
1. Father enrollment	---						
2. Family language	-.02	---					
3. Child externalizing	-.01	.04	---				
4. Maternal education	.12**	.43**	-.02	---			
5. Economic stress	-.12**	.09	.26**	.03	---		
6. Family income	>-.01	.06	.07	.12**	>-.01	---	
7. Interparental conflict (M)	-.06	.24**	.03	.10*	.14**	.02	---
N	495	494	494	474	494	464	456
Min	0	0	0	0	0	1.00	1.00
Max	1	37.00	18.00	6.00	21.00	4.17	4.17
Mean	---	8.61	9.79	1.03	9.04	1.66	1.66
SD	---	6.96	3.61	1.23	12.22	0.63	0.63
Skewness	---	1.37	-0.56	1.30	0.79	1.17	1.17
Kurtosis	---	2.00	-0.20	1.35	0.64	1.07	1.07

Note. Father enrollment (0 = not enrolled; 1 = enrolled), Family language (0 = Spanish, 1 = English), M = mother report. Participation and family language were represented by binary variables. Correlations, means, and standard deviations calculated using FIML in Mplus (N= 495).

* $p < .05$,

** $p < .01$.

Table 2

Intercorrelations between study variables for intervention subsample.

Sample 1	1	2	3	4	5	6	7	8	9	10	11
1. Father participation	---										
2. Family language	-.267**	---									
3. Child externalizing	-.002	.086	---								
4. Maternal education	-.178*	.376**	.050	---							
5. Paternal education	-.081	.394**	.110	.363**	---						
6. Economic stress	-.259**	.123	.245**	.023	0.169**	---					
7. Family income	.035	.088	.063	0.192*	0.075	-0.096	---				
8. Interparental conflict (C)	-.252**	.421**	.061	0.268**	0.177*	0.083	-0.024	---			
9. Paternal depression	-.061	.072	.029	0.043	-0.043	0.133	0.101	0.366**	---		
10. Average hours of work	-.103	.048	-.001	0.076	-0.012	-0.050	0.075*	0.162*	0.045	---	
11. Familism	.098	-.282**	-.103	-0.314**	-0.292**	0.030	-0.058	-0.079	0.009	0.043	---
N	197	197	197	183	197	197	178	195	197	191	197
Min	0	0	0	1.00	0	0	1.00	1.00	0	0	3.25
Max	1	1	37.00	17.00	16.00	5.00	21.00	3.33	52.00	120.00	5.00
Mean	---	---	8.28	10.18	9.85	0.82	9.03	1.56	9.92	49.67	4.55
SD	---	---	6.71	3.28	3.47	1.08	12.22	0.50	7.50	15.25	0.32
Skewness	---	---	1.26	-0.61	-0.58	1.51	0.88	1.00	1.64	0.35	-0.83
Kurtosis	---	---	1.85	>-0.01	-0.25	1.91	1.10	0.55	4.98	4.65	0.82

Note. Father participation (0 = did not participate; 1 = participated). Family language (0 = Spanish, 1 = English). M = mother report, C = combined mother and father report. Correlations calculated using FIML in Mplus (N = 197).

* $p < .05$,

** $p < .01$.

Table 3

Logistic regression results from enrollment and participation models.

Enrollment (Full sample; N = 495)	B	SE	β	p-value	OR
Family language	-0.27	0.24	-0.07	.266	0.77
Child externalizing	0.01	0.02	0.04	.511	1.01
Maternal education	0.11	0.03	0.21	.001	1.12
Economic stress	-0.21	0.08	-0.15	.006	0.79
Family income	-0.04	0.03	-0.08	.159	0.96
Interparental conflict (M)	-0.60	0.22	-0.20	.007	0.55
Family language X Interparental conflict	0.95	0.34	0.21	.005	2.58
Participation (Intervention subsample; N = 197)	B	SE	β	p-value	OR
Family language	-0.97	0.52	-0.22	.060	0.38
Child externalizing	0.03	0.03	0.10	.315	1.03
Maternal education	-0.100	0.08	-0.15	.212	0.91
Paternal education	0.09	0.07	0.15	.209	1.10
Economic stress	-0.64	0.18	-0.32	<.001	0.53
Family income	<0.01	0.06	<0.01	0.999	1.00
Interparental conflict (C)	-0.90	0.46	-0.21	.049	0.41
Paternal depression	0.03	0.03	0.09	.339	1.03
Average hours worked	-0.01	0.01	-0.08	.436	0.99
Familism	0.51	0.65	0.08	0.43	1.67

Note. M = mother report, B = raw estimate, SE = standard error, β = standardized estimate, OR = odds ratio.