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Differential Predictors of African American and Hispanic Parent Retention in a Family-Focused Preventive Intervention*

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Abstract

Similarities and differences in predictors of retention/attendance patterns between African American and Hispanic parent participants ($N = 143$) from a family-focused preventive intervention were examined. Three broad retention pattern groups, nonattenders, variable attenders, and consistent high attenders, and 2 subgroups of the variable attendance group, decreasing low attenders and decreasing high attenders, were identified. In subgroup analyses, 3 significant discriminant functions were evident: 1 function classified Hispanic parents' retention patterns using sociodemographic indicators (e.g., educational attainment, household income) and 2 functions discriminated Hispanic and African American parents' patterns using family-level predictors (e.g., multiple caregivers attending the intervention, perceived barriers to participation). Implications are discussed in terms of strategies for improving methods of retaining participants in family-centered interventions conducted with ethnic minority families.

Keywords

African American families; family intervention; Hispanic families; prevention programs; retention

Over the past two decades, an increasing number of studies have shown that family-centered interventions alter risky family processes, prevent youth problem behaviors, and promote healthy youth behaviors (Kumpfer & Alvarado, 2003). For family-focused preventive interventions to move toward realizing a broad public health impact, several critical research and practice challenges must be addressed (Spath, Kavanagh, & Dishion, 2002). Two of these are (a) developing or adapting interventions to be responsive to the cultural needs of the populations to which they are delivered (Castro, Barrera, & Martinez, 2004) and (b) developing strategies for recruiting, engaging, and retaining participants (Spath & Redmond, 2000).

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The challenges of recruiting, engaging, and retaining participants in preventive interventions are substantial (Spath & Redmond, 2000) and may be greater for minority than for European American (Dumka, Garza, Roosa, & Stoerzinger, 1997) populations. Therefore, culturally competent programs, that is, interventions that are designed, managed, and delivered with a deep knowledge, awareness, and sensitivity to specific cultural nuances and issues of a target group (Castro, 1998), ought to include strategies designed to address these challenges (Catalano et al., 1993). In addition, preventive interventions for diverse groups should be founded on an empirical understanding of how key risk and protective factors operate for specific racial/ethnic groups (Harachi, Catalano, Kim, & Choi, 2001). Knowledge about the factors that differentially predict engagement or retention across diverse populations can also inform the development of science-based interventions for these groups (Castro et al., 2004).

Few studies, however, have investigated ethnic differences in engagement and retention in a comparative study, perhaps because of the rarity of preventive intervention studies that include more than one ethnic minority group. Previous study of engagement and retention from a single family-centered preventive intervention trial demonstrated that ethnicity (African American vs. Hispanic) predicted engagement (Perrino, Coatsworth, Briones, Pantin, & Szapocznik, 2001) and distinguished patterns of parent retention (Coatsworth, Duncan, Pantin, & Szapocznik, in press). The primary motivation for the current study was to extend this work by examining similarities and differences in predictors of retention patterns for African American and Hispanic participants from the same intervention.

Predictors of Retention

Research on engagement and retention in preventive interventions tends to highlight three main classes of significant predictors: sociodemographics, child characteristics, and family characteristics or functioning. Sociodemographic factors shown to predict engagement or retention include race/ethnicity (Gorman-Smith et al., 2002; Perrino et al., 2001), parental education (Spath, Redmond, Kahn, & Shin, 1997), income (McKay, McCadam, & Gonzales, 1996), marital status (Dumka et al., 1997), and family size (Coatsworth et al., in press). Variables indexing child functioning, or parent's perceived need for intervention services based on child functioning (e.g., behavioral problems, academic performance, social competence), have shown mixed ability to predict engagement or retention (Spath & Redmond, 2000). Family-level variables shown to be strong predictors of program engagement or retention include parental motivation or intention to participate (Gross, Julion, & Fogg, 2001; Spath, Redmond, Hockaday, & Shin, 1996), family support for participation (Spath et al., 1996), family organization and communication (Perrino et al.), and the number of caregivers participating (Coatsworth et al.). However, most of this literature is based on European Americans.

Ethnic Differences in Participation and Retention

A small number of studies have found differential rates of engagement and retention across racial/ethnic minority participant groups (Dumka et al., 1997; Gorman-Smith et al., 2002; Orrell-Valente, Pinderhughes, Valente, Laird, & Conduct Problems Prevention Research Group, 1999). Only Perrino et al. (2001) examined if predictors operated similarly across the ethnic groups.

Harachi, Catalano, and Hawkins (1997) found that they could recruit ethnically diverse parents (African American, Latino, Samoan, and Native American) into a common program using ethnic-specific strategies. Retention in the intervention varied by ethnicity and ranged from 63.5% for African Americans to 42.2% for Native Americans. The study described attendance barriers (time conflict, change in work schedule) but did not test ethnic-specific predictors.

Orrell-Valente et al. (1999) matched participant ethnicity with the facilitator's to enhance therapeutic engagement and participation. The effect was greater for African American than for European American parents. Stress, parenting satisfaction, parent efficacy, or parent perception of child behaviors were not significant predictors of retention, but the study did not test for differences in these predictors by ethnicity.

Perrino et al. (2001) found that Hispanics were approximately five times more likely to attend at least one of the first three sessions than African Americans. Family organization was strongly related to enhanced engagement for African American families but weakly related to engagement for Hispanics. In contrast, adolescent learning or emotional disability predicted engagement only for Hispanics.

Studies using person-centered analytic techniques have also identified race/ethnicity as an important predictor of retention (Coatsworth et al., in press) and attendance/participation (Gorman-Smith et al., 2002). Gorman-Smith et al. clustered their participants into three groups based on ease of recruitment, attendance, and participation. Results indicated that African American families were more likely than Hispanic/Latinos to be responders (attended regularly and participated fully only after considerable effort by staff) and Hispanic/Latino parents were more likely than African Americans to be joiners (immediately responsive and participated fully). Coatsworth et al. found that ethnicity discriminated non attender, consistent high attender, and variable attender groups. Neither study tested whether predictors operated similarly across the two ethnic groups.

Theoretical Foundations

Conceptually, this study's research questions were informed by an ecodevelopmental framework (Szapocznik & Coatsworth, 1999). This theoretical framework is used most often in studies of risk, protection, and developmental outcome. However, like other conceptual models of human behavior (e.g., Health Beliefs Model; Rosenstock, 1990), the ecodevelopmental framework can be used to organize and examine predictors of intervention engagement and retention. Three aspects of this framework are particularly relevant to the current study. First, it draws from social ecological theory (Bronfenbrenner, 1979) to emphasize how behavior is influenced directly and indirectly by factors and processes in different domains (e.g., family or neighborhood) and at different levels (e.g., microsystem or mesosystem) of the social world. It proposes that behavior is explained best when attention is given to understanding how different factors across domains operate independently, in combination, and interactively. In this study, we examine the relation of retention to factors from three ecological domains (i.e., sociodemographic, child, and family).

Second, the ecodevelopmental framework draws substantially from structural and systems views of the family (Minuchin, 1974) and suggests that indicators of family functioning have the strongest influence on behavior. The framework is also process oriented, so it proposes that although family sociodemographics (e.g., size, composition) are likely to be good predictors of participation, indicators of family systemic functioning (e.g., patterns of organization and interaction) will be better predictors (Perrino et al., 2001). Understanding variations in family structure and functioning may help explain research findings of ethnic differences.

For example, Hispanics often place a high value on *familism*, an orientation toward greater importance of the family than of the individual. Well-functioning Hispanic families also tend to have a strong hierarchical structure with a clearly organized parental subsystem, yet may also rely extensively on large families and an extended kin network (*compadrazgo*) to help manage family needs and to provide material and social support. Hispanic fathers may hold considerable power and can create barriers to engagement and retention unless they are involved in decision-making processes (Pantin, Schwartz, Sullivan, Coatsworth, &

Szapocznik, 2003). Engaging fathers may be especially important, and despite strong beliefs that they are unwilling to participate in interventions, empirical evidence indicates otherwise (Schock, Gavazzi, Fristad, & Goldberg-Arnold, 2002).

In contrast, African American families are more likely to be headed by a single woman, often the biological mother, or the grandmother (Scannapieco & Jackson, 1996). African American families may also rely on extended family networks or “fictive kin” (Kane, 2000) to assist with childrearing and family management. Parents may value privacy, or “keeping family business in the family” (Boyd-Franklin, 2002), which could restrict their willingness to participate actively in an intervention. Hispanic and African American parents who can draw on familial and nonfamilial kinship networks may be more likely to engage and retain in intervention services.

Third, the ecodevelopmental framework emphasizes that culture, broadly defined as common values, attitudes, knowledge, and skills of a group of people (Santisteban, Muir-Malcolm, Mitrani, & Szapocznik, 2002), permeates all levels of the social ecology, influences how families structure and organize themselves, and also how families interact with various systems in the dominant culture. Historically or personally meaningful cultural experiences can have profound effects on the behavior of ethnic group members. For Hispanic immigrant families, immigration stresses and acculturation processes may influence family functioning and engender feelings of marginalization from mainstream social institutions (Santisteban et al.). Processes of acculturation, adaptation to the host culture, and enculturation (i.e., socialization in the values and beliefs of one’s culture of origin) can influence a family’s willingness to seek out and participate in intervention services (Perrino et al., 2001; Santisteban et al., 1996).

Theoretically, acculturation and enculturation may also influence retention for African Americans. Because of a long history of discrimination, African American families often maintain “healthy cultural suspicion” toward participating in activities perceived to represent White mainstream society (Boyd-Franklin, 2002). These beliefs are directed primarily at “White institutions” and can influence the likelihood that African Americans will access or take advantage of opportunities of the dominant society, including enrolling in mental health preventive or treatment services (Boyd-Franklin).

The Current Study

The current study builds upon the work of Perrino et al. (2001) and Coatsworth et al. (in press). Although the three studies were all conducted using a single data set from the Familias Unidas/SEPI intervention study (Pantin et al., 2003), each had a distinctive conceptual or methodological purpose and was founded at least partially on a separate literature. The Perrino et al. study focused on “family engagement” defined as attendance at one of the first three sessions, whereas the current study addresses retention or patterns of attendance across the entire intervention. The purpose of the Coatsworth et al. study was primarily to investigate the person-centered method for classifying individuals into patterns of retention and to test broad predictors in the full sample. The purpose of the current study was to illuminate similarities and differences between African American and Hispanic participants on sociodemographic-, child-, and family-level predictors of intervention retention. Based on tenets of the ecodevelopmental framework, we expect that sociodemographic-, family- and child-level factors will predict retention; that family factors will be the strongest predictors; and that different predictors will emerge as significant for Hispanic and African American participants.

Methods

Participants

One hundred and forty-three families (47 African American and 96 Hispanic) who had been randomly assigned to the intervention condition of a family-centered prevention program were included in the current study. The family intervention was delivered primarily to adult caregivers, so they are the focus of this study. Eighty-nine percent of the African American primary caregivers and 94% of the Hispanic primary caregivers were mothers. The remainder tended to be fathers (African American, 4.3%; Hispanic, 3.1%) or grandmothers (African American, 4.3%; Hispanic, 3.1%). Mean age of the primary caregivers was 40.2 years ($SD = 8.2$), the mean age of the target child was 12.4 years ($SD = 0.8$), and neither differed significantly by ethnicity. Overall, 47% of the children were female, with girls comprising 60% of the African American sample compared to 41% of the Hispanic sample, $\chi^2(1, N = 143) = 4.55, p < .05$.

On average, households contained three adults ($M = 3.0, SD = 1.62$) and about three children ($M = 2.9, SD = 1.64$). Hispanic households had more adults ($M = 3.3, SD = 1.62$) than African American homes ($M = 2.4, SD = 1.35$); $t(141) = -3.16, p < .01$, but fewer children ($M = 2.5, SD = 1.26$ vs. $M = 3.8, SD = 1.95$); $t(141) = 3.95, p < .001$. Families were also poor, with 79% reporting annual household incomes of less than \$25,000. Hispanics reported significantly higher annual family incomes (median of \$20 – \$25,000) than African Americans (median of \$15 – \$20,000), $\chi^2(8, N = 143) = 15.98, p < .05$. Ninety-four percent of Hispanic families were immigrants and, on average, had lived in the United States for 14.1 years ($SD = 10.3$). Hispanics immigrated mainly from Cuba (38%) or Nicaragua (20%).

Procedures

Families were recruited from three inner-city middle schools in a southeastern city. Handouts describing the preventive intervention and asking parents to contact the investigators if they were interested in participating were sent home with the students. Additional recruitment efforts included presentations at “parents’ nights” and in-home visitations by school personnel. Trained staff visited all families that expressed interest in the study to discuss the project and to conduct a preintervention screening interview (Center for Family Studies, 1996).

Families were randomly assigned to intervention or control conditions. The intervention was delivered in 12 “Parent Support Network (PSN)” groups (8 Hispanic and 4 African American), which met weekly at neighborhood schools or community locations for approximately 9 months. Groups comprised 8 – 12 families each and were led by master’s-level clinicians. Clinicians were matched to group by ethnicity. Hispanic clinicians were bilingual, and in their groups, the intervention activities were conducted almost exclusively in Spanish, as many participants were more comfortable speaking Spanish than English. Content focused on understanding risk and protection in the various contexts of the social ecology (e.g., school, peers, and family) and strengths and weaknesses of the parents’ connections with these. Incentives, including food and sibling care, were offered to encourage attendance. Transportation was not an issue for the majority of families because most resided in nearby neighborhoods. More information about the intervention is available in Pantin et al. (2003).

Assessments occurred prior to randomization and were conducted in the participants’ homes or at another convenient location. Measures were administered in interviews and in the preferred language of the participant. All African American parents completed the assessments in English, whereas 63% of Hispanic parents completed it in Spanish. The Spanish versions of the measures were translated, back translated, and finalized in committee review and discussion.

Measures

Retention—Intervention facilitators logged attendance (1 = *present* and 0 = *not present*) at every session, and attendance data were verified during weekly supervision meetings. Coatsworth et al. (in press) used attendance over the first 30 intervention sessions (broken into first or second set of 15 sessions) to create groups with comparable retention patterns. The current study uses retention patterns based on those created in the prior study (see Results).

Sociodemographic variables—Basic demographic variables included in the study were *ethnicity* (Hispanic or African American), *current marital status* (married or living with someone vs. not), *number of persons living in the home*, *parent educational attainment* (highest grade completed), and *annual household income*, all reported by the parent from the preintervention assessment. Parents also reported their own *nativity* (country of origin) that was used to calculate the percentage of participants in their PSN, who shared that nativity. This variable provided an index of similarity between each parent and other parents in their PSN. *Enculturation* was assessed for African Americans using two subscales from the African American Acculturation Scale (Landrine & Klonoff, 1994): traditional socialization and preference for African American things (e.g., magazines, music, and people) ($\alpha = .83$). Hispanic parents completed the Bicultural Involvement Scale (Szapocznik, Kurtines, & Fernandez, 1980), which derives two scores to index participants' degree of comfort with and involvement in the Hispanic culture (*enculturation*; $\alpha = .91$) and American culture (*acculturation*; $\alpha = .91$). Assessing both acculturation and enculturation for Hispanic families is consistent with current recommendations in the literature (Zane & Mak, 2003).

Child-level variables—Five child-level variables were included in the study. *Social competence* ($\alpha = .72$) was indexed as the composite variable of two parental report scales: the popularity subscale of the Interpersonal Competence Scale (Cairns, Leung, Gest, & Cairns, 1995; three items) and the competence in peer relationships from the Adolescent Competence Scale (Coatsworth, 1992; four items). *Child aggression* ($\alpha = .83$) was the sum of the aggression scale from the Interpersonal Competence Scale (Cairns et al., 1995; three items) and the behavior problem scale from the Adolescent Competence Scale (Coatsworth; four items). *Academic competence* was indexed using parent report from the Adolescent Competence Scale (Coatsworth; five items, $\alpha = .84$). *Adolescent disability* (1 = *disability*; 0 = *no disability*) was indexed by a single parental report item documenting whether the adolescent carried a diagnosis of a learning and/or an emotional disability.

Family-level variables—Six family-level variables were included in this study, of which five were variables or composites created from the preintervention screening interview (Center for Family Studies, 1996). *Barriers to participation* assessed the extent to which problems with transportation, child care, or work schedule/finances would interfere with participation. Parents rated three items on Likert-type scales (1 = *no barrier* to 5 = *very significant barrier*). Data were highly skewed, so items were dichotomized (0 = *no barrier*; 1 = *barrier*) and summed to form a single score ranging from 0 to 3. *Parental intention and motivation to participate* was a summed composite of four ratings (5-point scales; $\alpha = .65$) reflecting caregivers' expressed support for the program, perceptions of how beneficial the program would be, perceptions of how comfortable they would feel participating in the groups, and perceptions of how much effort they would make to attend group sessions despite other obligations. *Perceived family stress* ($\alpha = .66$) was created as a 3-item composite of caregiver perceptions of the severity of their family's stress, screeners' perceptions of the severity of the family's stress, and screeners' perceptions of the chronicity of the stress, all rated on 5-point scales (1 = *low* to 5 = *high*).

Family opposition was a 2-item composite of parents' ratings of how much opposition to the intervention they might confront from other family members and parents' ratings of how

difficult it would be to participate if a family member did not want them to do so ($r = .55$). *Family organization* was computed as the composite of two ratings that assessed the extent of family organization and order (vs. disorganization/chaos) within the family. The screener rated the degree of organization and order in the home during the screening interview, and what it would be like on “a typical day.” The sixth family variable was a dichotomous indicator of whether *multiple caregivers attended intervention* sessions. A code of “0” was given if only one caregiver attended, whereas a code of “1” was given if more than one caregiver ever participated.

Results

Analytic Strategy

All the analyses were conducted using SPSS version 11.0 and proceeded in two phases. First, each variable was examined for missing data and then intra-ethnic group correlations among independent variables were examined to check for multicollinearity. Second, a series of discriminant function analyses (DFA) with follow-up contrast tests addressed the study’s primary aim; to investigate similarities and differences in predictors of retention patterns by ethnicity.

Phase I: preliminary analyses—Missing data were imputed using the expectation-maximization method, a two-step, maximum likelihood iterative procedure. The expectation step finds the distribution for the missing data based on the known values of observed variables. The maximization step involves substituting expected values for the missing data based on the distribution found in the first step. These two steps continue iteratively until the estimates do not change noticeably. In the present study, six variables contained missing data: four were missing 1 case (0.7%), one was missing 7 cases (5%), and one was missing 20 cases (14%).

Following imputation, correlations among the predictors were computed separately for each ethnic group. Variables showed only minimal levels of collinearity. For African Americans, the strongest association was between current marital status and annual household income ($r = .52, p < .01$). The strongest correlation for Hispanic families was between family stress and family organization ($r = .33, p < .01$).

Phase II: discriminating retention pattern groups by ethnicity—To address the study’s main research questions, we conducted a series of DFA. Separate within-ethnic group analyses were conducted for Hispanic and African American participants on the three levels of predictor variables: (a) sociodemographic, (b) child, and (c) family. Follow-up contrast tests (one-way analysis of variance test with Tukey Honestly Significant Difference (HSD) post hoc tests, independent samples t test, or χ^2 tests) were completed to determine mean/rate differences between pattern groups on specific predictors.

The dependent variables for the discriminant analyses were retention pattern group memberships of the Hispanic and African American participants that were fashioned on those created in Coatsworth et al. (in press). Three broad pattern groups were included: (a) *non attenders*, parents who were engaged in the intervention but never attended a session (prior probabilities; 15.6% of Hispanics, 27.7% of African Americans); (b) *consistent high attenders*, parents whose high levels of attendance (>60%) were consistent across both halves of the intervention (prior probabilities; 44.8% of Hispanics, 10.6% of African Americans); and (c) *variable attenders*, parents whose attendance patterns were inconsistent across the two halves (prior probabilities; 39.6% of Hispanics, 61.7% of African Americans). Coatsworth et al. also showed important differences among subgroups of the variable attenders, so we also elected to examine these. To have sufficiently large groups to conduct separate analyses for the Hispanic and the African American families, however, the three variable attendance

subgroup patterns from the earlier study were collapsed to create two subgroups: (a) *decreasing low attenders* (prior probabilities; 22.9% of Hispanics, 38.3% of African Americans), parents with *low* first-half attendance, who either *never* attended or had *very low* second-half attendance (aggregate of dropouts and low attenders from the prior study) and (b) *decreasing high attenders* (prior probabilities; 16.6% of Hispanics, 12.7% of African Americans), parents with *high* first-half attendance and *low* second-half attendance.

Given unequal pattern group sizes, all DFA were conducted to account for prior probabilities of retention pattern group membership as described above. Further, for each discriminant analysis, results of Box's M test confirmed the homogeneity of the variance-covariance matrices.

Discriminating Broad Attendance Patterns

Results of discriminant analyses with both Hispanic and African American participants for the broad attendance pattern subgroups yielded no significant functions that differentiated nonattenders, variable attenders, and consistent high attenders using sociodemographic-, child-, or family-level predictors. Yet, mean differences among groups were revealed in follow-up tests.

Among the sociodemographic predictors, Hispanic families in the consistent high attender group reported a trend toward higher annual household income (mean level in \$15 – \$20,000 range) than nonattenders (mean in \$10 – \$15,000 range), $F(2, 93) = 2.59, p < .10$. In contrast, no significant differences were found for African American families.

Two child-level predictors showed mean level differences across retention pattern groups and were unique for Hispanic and African American families. Hispanic families in the nonattender group reported higher rates of adolescent emotional and/or learning disability (33%) than variable attenders (2.6%) or consistent high attenders (9.3%), $\chi^2(2) = 10.97, p < .005$. In contrast, adolescent disability did not predict retention for African American families. Instead, African American families in the variable attender group reported higher levels of adolescent aggression ($M = 0.6, SD = 0.95$) than nonattenders ($M = -0.23, SD = 0.99$), $F(2, 44) = 3.37, p < .05$. For Hispanic families, differences did not reach statistical significance. None of the family-level predictors showed significant mean level differences across the broad attendance pattern groups.

Discriminating Variable Attendance Subgroups

Discriminant analyses using the sociodemographic, child, and family predictor variables were performed for the Hispanic and African American variable attendance subgroups.

Subgroup analyses for Hispanic parents—Two significant functions were identified: one each for the sociodemographic- and family-level predictors. No significant functions were found for the child-level predictors.

The sociodemographic predictors showed a reliable relationship with Hispanic variable attender retention pattern subgroups as indicated by a canonical correlation of $R = .64$ and $\chi^2(6) = 16.92, p < .05$. The model correctly classified 86.8% of the original cases, an improvement of 69.5% (or 35.6% points) over the chance classification rate of 51.2%. The loading matrix of pooled within-group correlations between the discriminating variables and the standardized canonical discriminant function is shown in Table 1. This matrix indicated that the best demographic discriminators of the Hispanic variable attender subgroup pattern memberships were *parent educational attainment level, annual household income, current marital status, and number of persons living in the home*. As shown in Table 2, Hispanic parents

in the low-decliner group, compared to parents in the high-decliner group, reported lower educational attainment, lower rates of current marital status (being currently married or living as if married), lower levels of annual household income, and slightly more people living in the home. The effect sizes for these differences, Cohen's d (Cohen, 1988), were generally "moderate" to "strong."

The DFA for Hispanic families using family-level predictors was also significant, $\chi^2(6) = 13.01$, $p < .05$; $R = .57$. Overall, the model correctly classified 73.7% of the original cases, a 43.9% (or 22.5% points) improvement over the chance classification rate of 51.2%. The loading matrix (Table 1) indicated that *multiple caregivers attending the intervention*, *perceived barriers* to participating in the intervention, and *family organization* were the best predictors. Follow-up mean comparisons indicated that Hispanic parents in the decreasing low attenders group reported slightly higher levels of barriers to participation and lower levels of family organization compared to decreasing high attenders group (Table 2). Parents in the decreasing high attenders group reported higher rates of multiple caregivers attending the intervention. The sizes of these effects were also moderate to strong.

Given that seven demographic and family-level variables showed significant mean level differences between the two retention groups, we entered all seven into an additional DFA to examine their relative importance. Results produced one significant discriminant function, with $\chi^2(7) = 19.25$, $p < .01$ and a canonical correlation of $R = .67$. The loading matrix indicated that each of the three family variables (attendance by multiple caregivers, barriers, and organization) were relatively stronger contributors than any of the four demographic variables (income, parental educational level, current marital status, and number of persons in the home).

Subgroup analyses for African American parents—Analyses for the African American variable attenders resulted in one significant discriminant function using family-level predictors. No significant functions were found for the sociodemographic- or child-level predictors.

The significant discriminant function for African American parents using family-level predictors yielded a $\chi^2(4) = 11.9$, $p < .05$ and a canonical correlation of $R = .67$. This model correctly classified 79.2% of the original cases, a 26.7% (or 16.7% points) improvement over the chance rate of 62.5%.

The loading matrix for the discriminant function (Table 1) suggested that two of the same family-level variables that helped distinguish variable attender subgroup membership for Hispanic families were also the best discriminators of the African American parents' subgroup pattern membership (i.e., perceived barriers to participating in the intervention and family organization). Follow-up analyses indicated strong effects, with decreasing low attenders reporting more barriers to participation and poorer family organization than decreasing high attenders (Table 2).

Discussion

This study examined similarities and differences in predictors of intervention retention for African American and Hispanic parents to help explain why ethnicity predicted retention in prior studies. Results revealed important ethnic differences in attendance patterns and in the predictors of those patterns. These findings have important practical implications for front-line intervention staff with respect to predicting who is not likely to retain, what factors may be good targets for intervention strategies designed to retain participants, and whether those strategies need to be different across the ethnic groups.

The pattern approach used in this study and in others (Coatsworth et al., in press; Gorman-Smith et al., 2002) provides important information about the variability of intervention attendance that is not captured by more commonly used binary classification schemes (e.g., dropout vs. completer). Our results indicate that subgroups showing different patterns of variable attenders are evident and that more attention should be given to these participants because decreasing high attenders received approximately three times as many intervention sessions as decreasing low attenders. Many of our models were best at discriminating these two groups. It may be that shifting participants from the decreasing low attenders group to the decreasing high attenders group is the most effective way of increasing intervention attendance.

Based on prior empirical evidence (Coatsworth et al., in press; Perrino et al., 2001) and on propositions of the ecodevelopmental framework, we anticipated that factors from different levels of the social ecology (i.e., sociodemographics, family processes, and child functioning) would predict retention. Overall, results supported this contention but with relatively weaker effects for the child-level variables than for sociodemographics or family variables. Variables from each level also showed differential prediction for African American and Hispanic families.

Child disability and child aggression, which may signal parents' perceived need for the intervention, predicted broad attendance patterns for Hispanic and African American families, respectively. Similar to findings on engagement (Perrino et al., 2001), Hispanic families whose child had an emotional and/or learning disability were less likely to attend the intervention. Although these parents may have perceived a need for intervention services and therefore agreed to participate in this study, the program was probably not a good match for their needs, so they did not continue to attend. In contrast, higher levels of adolescent aggression predicted greater retention for African American families. This perceived need was a better match with the services of the intervention.

Because most programs address multiple facets of adolescent functioning (e.g., academics, aggression and other problem behaviors, family problems, and poor peer relations), parents may consciously elect to attend the sessions that most clearly address their immediate concerns. Alternatively, when parents perceived needs are not being met early in the intervention, they may drop out and end up not receiving the services that would have been most helpful to them (Pantin, Prado, Schwartz, & Sullivan, 2005). Retention may be enhanced by ensuring that parents clearly understand the possible benefits and expectations of the intervention using preintervention screenings or techniques such as motivational interviewing (Dishion & Kavanagh, 2003). Additionally, designing more flexible preventive interventions (Collins, Murphy, & Bierman, 2004), with interchangeable modules that are tailored to the needs of participants, may also enhance retention.

Compared to child variables, sociodemographics were stronger predictors of retention, and this was especially true for Hispanics and the variable attender groups. Hispanic families with higher socioeconomic status (SES), as indicated by household income, education level, and fewer household members, attended more groups. These variables did not predict retention for African American families. We speculate that, at least for the Hispanic families, income provided the economic capital that allowed them to attend more often. Alternatively, these demographic variables may represent a clearer connection to mainstream society, which could engender greater willingness to participate.

Attention to the educational or literacy needs of families is a special consideration when working with low-SES immigrant families or other high-risk populations (Gross et al., 2001). Parent education predicted retention, even though the intervention was primarily discussion based. Facilitators were trained to convey concepts in simple words using participants'

preferred language, and relatively few written materials or home assignments were involved. Perhaps more attention should have been given to parents' understanding and comfort with the intervention's content. Alternatively, within-group variability in SES may have created tensions, with lower SES families feeling uncomfortable sharing their family and parenting concerns with higher SES families. The networks of low-income families are often built on trust, on the understanding and sympathy regarding daily needs, and on clear expectations of reciprocity (Dominguez & Watkins, 2003). If low-SES participants felt that their new relationships with other members of the group did not contain these elements, they may have been less willing to continue attending.

A common goal of family-centered interventions is to create social support networks that empower parents to improve their life circumstances. The social networks of low- and middle-income families clearly differ in resources and opportunities (Waldinger & Der-Martirosian, 2001). Mixed SES networks can help low-SES minority families build social capital that provides support and connects them with opportunities for improving life conditions (Dominguez & Watkins, 2003). Effective networks, however, are unlikely to be automatically created. Facilitators must actively encourage and nurture the formation of ties between participants of different SES levels. In many immigrant communities, like the one from which Hispanic participants in this study were recruited, members of the middle class often have experienced the strains and challenges of poverty. Strategies that connect higher SES participants with their past, engender empathy, and build generativity may help form lasting bonds and create an empowering social network characterized by both social support and leverage.

As we proposed, family-level variables emerged as the most powerful predictors for both Hispanic and African American participants. Barriers and organization showed strong effects for both the ethnic groups while having multiple family members attending sessions predicted only for Hispanics. The findings for family organization are especially interesting because this also was an important predictor of engagement, but only for African American families (Perrino et al., 2001). In this study, family organization was *not* a good predictor of *engagement* for Hispanic families but was strongly related to *retention* for *both* African Americans and Hispanics. This distinction may be vital to advancing the study of retention (vs. engagement) and to furthering the development of culturally specific preventive interventions. If the variables that can be used to predict *engagement* prove to be categorically different from those that best distinguish *retention*, then the repertoire of variables that are tested in intervention implementation research ought to be expanded and the implications for practice are considerable. In the present case, less organized Hispanic families may be able to make it to at least one session (engagement) but are not able to consistently attend sessions (retention) and ultimately benefit from the intervention.

One clear intervention implication of this finding is that assessing and addressing these family dynamics early in the intervention may help families attend more sessions. Disorganized families may be experiencing significant strain already, and the system cannot tolerate a caregiver's attendance at a weekly intervention session. Strategies of giving Hispanic families specific homework tasks that will help improve the family structure and organization, and help overcome some forms of resistance to coming to treatment, have been shown to be helpful in getting families to come to and remain in, family therapy (Santisteban et al., 1996). Adaptation of these strategies for preventive interventions are likely to help retention rates.

Another set of important findings was regarding families who had more than one caregiver attending sessions. Because of the Hispanic cultural value of "compadrazgo" and the use of fictive kin networks in African American communities, we anticipated that the variable of multiple attenders would predict retention for both the ethnic groups. However, it was an

important discriminating variable only for Hispanic families and was rare in African American families. Interestingly, of the Hispanic families who had multiple attenders, relatively few participants were extended kin, whereas 87% were mothers and fathers. In this study, relatively few fathers served as the family's primary intervention participant, yet many served active supportive roles, and those families tended to receive more intervention. Compared to African Americans, Hispanics could rely on a broader in-home adult network, which may have freed parents to attend intervention sessions together. Although sometimes parents attended jointly, a common pattern was that the mother attended most sessions and father attended only when mother could not.

These results also suggest the importance of actively engaging fathers to participate in services, at least as a "back-up." Many family-focused preventive interventions invite fathers to participate, and may be attentive to paternal authority, but emphasize mother attendance and are generally less attentive to family and nonfamily barriers to father participation (e.g., parenting role expectations, work schedule). Family intervention researchers have recently developed improved strategies to actively encourage father involvement (Gavazzi & Schock, 2004), and these may also be helpful to interventions with Hispanic families.

Limitations and Future Directions

The moderate sample size forced us to collapse the variable attendance pattern groups described in Coatsworth et al. (in press); to cluster fathers, mothers, and grandparents into a single group of "primary caregivers"; and to cluster Hispanic families from different origins (e.g., Cuban, Nicaraguan), rather than examine these groups separately. We are aware of the potential for different effects across Hispanic subgroups on engagement or retention in interventions (Santisteban et al., 1996) and hypothesize that parent gender or generation might influence retention, but sample size precluded these analyses. A larger sample may have yielded more specific results regarding predictors of more fine-grained attendance pattern groups and Hispanic subgroups. The sample is also drawn from a specific region of the country and was not intended to be broadly representative of the United States. Replication with larger diverse samples is necessary for verifying the validity of these findings for Hispanic and African American families residing in other regions. Future investigations should include more direct assessment of cultural values and beliefs about participation (e.g., cultural suspicion) and focus on within-session group processes such as therapeutic alliance/engagement (Orrell-Valente et al., 1999) or group cohesion (Budman et al., 1989). These proximal intervention processes, reflective of participants' "giving and getting," are likely to be important predictors of retention.

Conclusion

In conclusion, delivering the most efficacious preventive interventions to ethnic minority families is of little value if they are not culturally sound or if participants for whom they were intended are either not present or not participating fully in the intervention sessions. The present study helps to fill a gap in the literature by adding to a small number of studies that have investigated ethnic differences in predictors of engagement, participation, and retention in family-focused preventive interventions. The next step for prevention research is to draw upon empirical studies to develop culturally specific and sound strategies for engaging and retaining participants. Then, as has been done in family therapy, theoretically based, empirically informed, and clinically sound intervention strategies to improve engagement and/or retention can be embedded and tested empirically within randomized clinical trials (Szapocznik et al., 1988). Results from such trials will inform prevention staff regarding the most effective, culturally sensitive strategies for retaining ethnic minority participants.

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Table 1
Structure Matrices for the Discriminant Function Analyses of Decreasing Low Attenders versus Decreasing High Attenders

Demographic-Level DFA for Hispanic Parents		Family-Level DFA for Hispanic Parents		Family-Level DFA for African American Parents	
Predictor Variable	Discriminant Function	Predictor Variable	Discriminant Function	Predictor Variable	Discriminant Function
Parent educational attainment	.523	Multiple family members attending intervention	.745	Barriers to participation	.792
Annual household income	.500	Family organization	.447	Family organization	-.466
Current marital status	.350	Barriers to participation	-.439	Parental intention and motivation to participate	.334
Number of persons living in the home	-.346	Parental intention and motivation to participate	.282	Perceived family stress	-.106
Hispanic orientation	-.087	Family opposition	-.170		
American orientation	-.199	Perceived family stress	-.152		
Percent of PSN group sharing the same nativity	.011				

Note. Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function. Family opposition and multiple family members attending intervention were excluded from the DFA with African American parents because the variables failed the tolerance test for within-groups variance.

Table 2
Significant Mean/Rate Differences Between Subgroups on Predictor Variables (by Ethnicity)

	Decreasing Low Attenders		Decreasing High Attenders		Effect Size	
	<i>M</i> or Rate	<i>SD</i>	<i>M</i> or Rate	<i>SD</i>	<i>t</i> or χ^2	Cohen's <i>d</i>
Hispanic parents						
Sociodemographic-level predictors						
Educational attainment	11.30	2.70	13.60	2.80	-2.59*	-.83
Number of persons living in the home	5.95	1.56	5.06	1.60	1.72	.55
Annual household income	3.55	2.20	5.50	2.66	-2.48*	-.79
Married or living as if married	54.50%		81.25%		2.94	
Family-level predictors						
Barriers to participation	.99	.76	.59	.49	1.80	.60
Family organization	15.72	2.97	17.32	2.15	-1.83	-.60
Multiple caregivers attending the intervention	18.20%		62.50%		7.82**	
African American parents						
Family-level predictors						
Barriers to participation	.89	.47	.17	.41	3.35**	1.63
Family organization	16.08	3.54	19.01	1.09	-3.10**	-1.12

Note. Significance levels are indicated as follows:

* $p < .05$,

** $p < .01$.