

Familias Unidas: The Efficacy of an Intervention to Promote Parental Investment in Hispanic Immigrant Families

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This paper reports a test of the efficacy of Familias Unidas, a Hispanic-specific, ecologically focused, parent-centered preventive intervention, in promoting protection against and reducing risk for adolescent behavior problems. Specifically, the intervention was designed to foster parental investment, reduce adolescent behavior problems, and promote adolescent school bonding/academic achievement, all protective factors against drug abuse and delinquency. One-hundred sixty seven Hispanic families of 6th and 7th grade students from three South Florida public schools were stratified by grade within school and randomly assigned to intervention and no-intervention control conditions. Results indicated that Familias Unidas was efficacious in increasing parental investment and decreasing adolescent behavior problems, but that it did not significantly impact adolescent school bonding/academic achievement. Summer-vacation rates of adolescent behavior problems were six times higher in the control condition than in the intervention condition. Furthermore, change in parental investment during the intervention was predictive of subsequent levels of adolescent behavior problems. The findings suggest that Familias Unidas is efficacious in promoting protection and reducing risk for adolescent problem behaviors in poor immigrant Hispanic families.

KEY WORDS: prevention; family; adolescents; hispanic; parental investment.

INTRODUCTION

Adolescent problem behaviors, such as drug abuse and delinquency, are pervasive in American society. In a recent Monitoring the Future report, 50–70% of middle and high school students reported drug or alcohol use during their lifetimes, 40–60% reported use during the previous year, and 20–40%

reported use during the previous month (NIDA, 2001). Juvenile crime rates are similarly high. In 1998, 616,000 crimes were committed by juveniles, and 22% of all violent crimes involved at least one offender under the age of 18 years (Snyder & Sickmund, 1999). Moreover, Hispanic adolescents are overrepresented among drug abusing and delinquent youth (Snyder & Sickmund, 1999; Vega & Gil, 1999).

The antecedents of adolescent drug abuse and antisocial behavior are known to involve family processes such as parental disinterest, disengagement, and uninvolvement in adolescents' lives. In non-Hispanic White samples, indices of lack of parental involvement, such as low parental monitoring of adolescent activities and lack of bonding to the adolescent, have been concurrently and prospectively linked to adolescent drug abuse and antisocial behavior (Palmer & Hollin, 2001; Rosenstien & Horowitz, 1996; Steinberg *et al.*, 1994). In non-Hispanic Whites, it is generally assumed that poor or inept parenting is responsible for such uninvolvement (e.g., Pettit *et al.*,

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1997; Tarter *et al.*, 1999). However, in some groups, such as recent Hispanic immigrants, factors related to immigration and acculturation, in addition to unskilled parenting, may play a major role in distancing parents from their adolescents (e.g., Gil *et al.*, 2000). Hispanics are the largest and fastest growing minority group in the United States, comprising nearly 50% of current immigrants (Lollock, 2001). Therefore, understanding the factors that contribute to the development of problem behaviors in Hispanic immigrant adolescents, and developing and testing prevention programs to address these factors, is of great importance.

Problem-behavior prevention programs have received a great deal of recent attention, given that they have the potential to minimize interpersonally and socially damaging behaviors and to redirect adolescents onto more positive developmental paths (e.g., Conduct Problems Prevention Research Group, 2000; Dishion & Kavanagh, 2000). As a result, our program of prevention research has focused on intervening during early adolescence to arrest the development of substance abuse and antisocial behavior. Given the pivotal role of family in these problematic outcomes, we have focused on designing and implementing family-based prevention programs.

Earlier in our program of prevention research, we designed and implemented three successive prevention programs, each targeting one of the family conditions associated with drug abuse and antisocial behavior in Hispanic immigrant adolescents (i.e., differential acculturation, family distance/conflict, and parental isolation). First, we focused on educating parents about American culture and promoting biculturalism (i.e., endorsement of both Hispanic and American cultural values) to help parents understand and handle their acculturating adolescents and the contexts that they encounter (Szapocznik *et al.*, 1984, 1986). Having shown that such an intervention could promote parent-adolescent closeness and reduce adolescent behavior problems in Hispanic immigrant families, we proceeded to focus specifically on fostering communication and negotiation skills to prevent escalations in family conflict and distance (Szapocznik, Santisteban *et al.*, 1989b). Finally, having shown that carefully designed prevention programs could reduce both cultural and normative conflicts within the family (as well as adolescent behavior problems), we turned our attention outside the family, to facilitating social support and reducing isolation among Hispanic immigrant parents. This third intervention used a group-oriented, participatory format

so that parents in the group would become natural support sources for one another (Mancilla *et al.*, 2002). It was also successful in reducing adolescent associations with delinquent peers and increasing parental support.

An Integrative Prevention Program

Familias Unidas (see Coatsworth *et al.*, 2002a, for a detailed description of the intervention) combines the strengths of these three prior interventions to promote parental investment (i.e., positive parenting, involvement, and support) and decrease adolescent behavior problems. This integrative program is multilevel, addressing processes operating at varying systemic levels: increasing parental investment within the family, fostering proactive connections between the family and other important systems such as peers and school, and garnering external support for parents. The multilevel nature of our intervention draws upon ecodevelopmental theory (Szapocznik & Coatsworth, 1999), which proposes that risk and protective processes operating at varying systemic levels compound one another to create an overall profile of risk and protection. By promoting protective factors within the family and between the family and other important systems, our integrative prevention program represents an attempt to address risks at multiple systemic levels and to prevent those risks from compounding one another.

Familias Unidas was designed to prevent drug abuse and antisocial behavior in two ways. First, the intervention *format* targets the three family conditions that we have found to be associated with these negative outcomes. The program is intended to (a) familiarize parents with, and involve them in, the major extrafamilial contexts in which their adolescents participate (i.e., the peers and school), (b) reinvest parents in their adolescents' lives by facilitating parent-adolescent bonding and cohesion, and (c) build supportive relationships among Hispanic immigrant parents so that parents would feel less isolated and would be more likely to be invested in the lives of their adolescents. Second, the intervention *techniques* facilitate protective mechanisms known to inhibit the development of drug abuse and antisocial behavior in adolescents across ethnic groups (including Hispanics). Specifically, Familias Unidas targets increases in parental investment, decreases in adolescent behavior problems, and increases in adolescent school bonding and academic achievement. All of these changes have been shown to protect

adolescents in various ethnic groups against risks for drug abuse and antisocial behavior (e.g., Ellickson & Morton, 1999; Forehand *et al.*, 1997; Steinberg *et al.*, 1994). Moreover, increases in parental investment have been shown to predict increases in school bonding/academic achievement (Seitz *et al.*, 1985) and decreases in adolescent behavior problems (Pabon, 1998)

This study tested five hypotheses. First, it was hypothesized that, relative to a no-intervention control condition, families participating in Familias Unidas would evidence greater increases in parental investment. Second, it was hypothesized that families participating in Familias Unidas would evidence greater decreases in adolescent behavior problems. Third, it was hypothesized that families participating in Familias Unidas would evidence greater increases in adolescent school bonding/academic achievement. Fourth, it was hypothesized that changes in parental investment would mediate the effects of the intervention on adolescent behavior problems. Fifth, it was hypothesized that changes in parental investment would mediate the effects of the intervention on adolescent school bonding/academic achievement.

METHOD

Design

A mixed design was employed, with intervention condition (Familias Unidas and no-intervention control) as the between groups factor and time as the within groups factor. Assessment batteries were administered at baseline (immediately prior to intervention), and at four subsequent 3-month intervals (i.e., 3, 6, 9, and 12 months). Upon completing the baseline assessment, the families were stratified by adolescents' school and grade and were randomly assigned to either the Familias Unidas intervention or to the no-intervention control condition in a 60/40 ratio (60% of the sample was assigned to the experimental condition to provide power for subsequent analyses of intervention process). The Familias Unidas intervention lasted approximately 9 months, such that the 9-month assessment coincided with the end of the intervention and the 12-month assessment functioned as a follow-up.

Participants

Inclusion criteria for the current study were: (a) Hispanic 6th and 7th grade students with no history of

psychiatric hospitalization; (b) residing with at least one Hispanic immigrant parent willing to participate in the intervention; and (c) the family had no plans to relocate out of the catchment area. Participants were recruited from three middle schools in low-income areas of Miami. Letters were sent to parents of all students in the three participating schools, inviting them to learn more about the program. Of the 475 students whose parents returned the letters, 1.2% indicated that their adolescents were transferring to another school outside the catchment area, 69.4% indicated interest in participating, and 29.2% responded that they were not interested. Of the 330 families who indicated interest in participating, 49% were not included in baseline assessments and randomization to condition. The primary reasons for noninclusion were parents' schedule conflicts (15%), unresponsiveness to letters and phone calls from project staff (10%), parents deciding not to enroll in the program (8%), moving out of the catchment area (6%), invalid phone numbers or addresses (5%), and current treatment for family crises or psychological disorders (5%).

A total of 167 participants/families met inclusion criteria, completed a baseline assessment, and were randomized to the experimental or control conditions. In total, 96 adolescents and their families (57 with male adolescents and 39 with female adolescents) were assigned to the Familias Unidas condition, and 71 adolescents (45 males, 26 females) and their families were assigned to the no-intervention control. The adolescent gender distributions in the two conditions were not significantly different ($p > .20$). The mean age of the adolescents was 12.40 years ($SD = 0.80$ years; range from 10.69 to 14.89 years). In the experimental condition, each adolescent and at least one primary caregiver participated in the intervention conjointly.

Consistent with the demographics of the area, the largest percentage of participants were Cuban (39%), followed by Central and South Americans (29 and 17%, respectively), and a small proportion of Puerto Ricans/Dominicans (5%). The remaining 10% identified themselves as "Other" Hispanic. The majority of parents (94%) and half of the adolescents (49%) were born outside of the United States. The range of years living in the United States for parents was from less than 1 year to 42 years, with a median of 11 years. More than a quarter (26.3%) of the adolescents had been residing in the United States for less than 5 years, and the average length of residence for adolescents was 8.5 years (range 0–14 years). Fifty-seven percent of

the families reported speaking only Spanish at home, and 36% of families reported speaking Spanish and some English at home. The median annual household income was between \$15,000 and \$20,000. The modal level of parent education was 12th grade (35%), with a substantial percentage obtaining only elementary or some high school education (28%) and the remaining (37%) receiving some post secondary school education including college or graduate school.

Intervention

In Familias Unidas, five general techniques were used to promote these changes. First, drawing on Freire's participatory learning model (Freire, 1970/1983), problem posing and participatory exercises were used to promote active parental involvement in intervention activities. Second, group discussions were used to increase parents' understanding of their role in protecting their adolescents from harm and to facilitate parental investment in adolescents. Third, program activities provided parents with opportunities to interact with adolescents' peers. These interactions, in turn, served to connect parents to their adolescents' peer network and to facilitate supervision and associations with positive peers. Fourth, visits by adolescents' school counselors were utilized to connect parents to their adolescents' school world and to promote school bonding and achievement. Fifth, planned parent-adolescent discussions during home-based family sessions were used to facilitate bonding within the family (which promotes parental investment) and to solidify the gains achieved in parent-group sessions.

The intervention was delivered through family-centered, multiparent groups that met weekly for approximately 9 months. Parents attended a mean of 24 group sessions ($SD = 13.9$). Each group consisted of 10–12 parents and was led by a trained facilitator. One parent figure from each participating family attended the group sessions. Each participating parent received \$10 for each session attended. Each group session lasted approximately 1 hr.

The intervention proceeded in three stages (see Table 1, and see Coatsworth *et al.*, 2002a, for a detailed description of the intervention's implementation). Each stage was guided by a set of specific objectives, such that as many sessions were dedicated to each stage as the facilitator deemed necessary to meet the objectives (cf. Greenberg & Newman, 1996). It should be noted that parental investment was the primary direct target of the intervention activities at

Table 1. Intervention Stages in Familias Unidas

Intervention stage	Objectives
1. Engagement	<ul style="list-style-type: none"> • Outlining objectives of the intervention • Using commonalities among group parents to build support networks among parents in each group to reduce isolation
2. Promoting parental investment by introducing the three primary adolescent worlds (family, peers, and school) and by eliciting parental concerns in these worlds	<ul style="list-style-type: none"> • Validating parents' concerns • Eliciting parental goals for improving adolescents' functioning in each world • Placing parents in charge of the intervention's direction
3. Fostering parenting skills necessary for decreasing adolescent problem behavior and increasing adolescent academic achievement/school bonding	<ul style="list-style-type: none"> • Family world: positive parenting, involvement, support, behavior management • School world: communicating with school personnel, monitoring homework • Peer world: Monitoring social activities, establishing management networks with peers' parents

all three stages. Parental isolation and differential acculturation were "targets" only inasmuch as they are thought to contribute to low parental investment.

The first stage was devoted to engaging parents into the intervention and creating cohesion among the parents in each group. During the second stage, facilitators attempted to promote parental investment by introducing three primary adolescent "worlds" (family, peers, and school), eliciting parents' specific concerns within each world, and assuring parents that the intervention would be tailored to address their concerns. Invariably, parents' issues tended to center on (a) distance, conflict, and disobedience within the family; (b) problems with school attendance, performance, or interest; and (c) unsupervised associations with peers. The third stage involved intervening to foster parenting skills necessary to decrease adolescent problem behavior and to increase adolescent school bonding/academic achievement

During this third stage, home visits were interspersed between group sessions to provide parents with opportunities to work with their adolescents to implement skills related to each of the three worlds (e.g., discussing behavior management, peer supervision issues, and homework). Families received a mean of 2.4 home visits during the course of the intervention.

Control Condition

Families in the control condition did not receive any formal interventions from project staff. Control families were contacted only for the purpose of scheduling and completing assessments.

Facilitators

Three female Hispanic master's-level facilitators with an average of 5 years' clinical experience conducted the Familias Unidas group sessions and home visits. The senior author (H.P.), who is the developer of Familias Unidas, trained and certified facilitators for specific competence in and sensitivity to both Hispanic and American culture. Facilitators were also trained to offer support, validation, and guidance to group parents. Training included didactic lessons, role-plays, and mock groups. Each trainee was required to conduct six sessions with one six-family pilot group. The training program spanned three eight-hour days. Based on the training experiences in this study, we have begun to develop a second generation intervention to streamline the training process and to facilitate transportability to community settings.

Fidelity to Familias Unidas

Two mechanisms were established to ensure fidelity of the intervention. First, the senior author supervised and reviewed videotapes of each group session and provided ongoing corrective feedback to facilitators. Deviations from protocol and problems of implementation were identified and discussed with the facilitators in weekly supervision meetings. Facilitators received one hour of individual supervision and 2 hr of group supervision per week.

Second, to assure intervention adherence, 25% of all group sessions were randomly selected for videotape rating by independent adherence raters. Raters used a standard adherence form to record the presence or absence of 10 prescribed (e.g., placing parents in leadership roles) and 5 proscribed (e.g., excessive lecturing) facilitator behaviors. Adherence raters were trained to an interrater reliability intraclass correlation "gold standard" of .80 or above with the second author (J.D.C.). Interrater reliability was reevaluated monthly to control for drift. Adherence problems identified by raters were discussed with the project supervisor (H.P.) and the facilitators in biweekly in-

tervention integrity meetings. Fidelity to the Familias Unidas protocol was excellent. Of the 732 facilitator interventions rated, 89.4% were prescribed, whereas 10.6% were proscribed.

Procedure

This study was approved by the University of Miami Institutional Review Board for the Protection of Human Subjects. Adolescents and their parents signed assent and consent forms, respectively, prior to initiating participation.

Assessors were trained to criteria and were monitored on a weekly basis throughout the course of the study. The assessment procedures were manualized, and assessors were trained in measure administration, rapport building, confidentiality, and emergency procedures.

The measures reported in this paper were part of a larger assessment battery administered to participants. The average completion time for the larger battery ranged from 45–75 min for parents and for adolescents. All measures were administered in interview form and in the preferred language of the participant. The majority of parents (62.9%) completed their assessments in Spanish, whereas the majority of adolescent assessments were completed in English (92.7%). Assessors recorded participants' responses on laptop computers. Eight adolescent-report measures, and four parent-report measures, were analyzed for this report. The Spanish versions of the measures used in this study were established through back translation with committee review and resolution of discrepancies (Kurtines & Szapocznik, 1995), to ensure that the Spanish and English versions were equivalent in tone, style, conceptual meaning, and content. Although the measures used in this study were developed for use with mainstream American samples, assessors did not report any conceptual or cultural problems in administering the measures to the Hispanic immigrant parents or adolescents in this study.

Recruitment and baseline assessments occurred in the fall and winter of 6th or 7th grade. Assessment 2 occurred in the spring, Assessment 3 in the summer, Assessment 4 in the fall of the following school year, and Assessment 5 in the winter of the following school year. Participants were engaged into the study and administered baseline assessments on a rolling basis during the fall and winter of 6th or 7th grade, and the timing of subsequent assessments was arranged according to the date of each participant's baseline

assessment (i.e., as close to 3-month intervals as possible). Families were compensated for each assessment that they completed.

Measures

This section is organized in terms of three outcome composites: parental investment, adolescent behavior problems, and adolescent school bonding/academic achievement. Each composite was derived by summing adolescent and parent reported scales. Each scale was standardized, using the baseline mean and standard deviation, prior to summation.

Parental Investment

As noted in the introduction, parental investment encompasses various positive aspects of parenting, such as encouragement, validation, support, and involvement. These positive aspects of parenting can operate within the family, between the parents and school, and between the parents and prosocial adolescent peers (Coatsworth *et al.*, 2002b).

The parental investment composite was measured as the equally weighted sum of five scales: (a) the parent and adolescent reported Extent of Involvement and Positive Parenting subscales from the Parenting Practices Scale (Gorman-Smith *et al.*, 1996), a 25-item measure assessing various dimensions of parenting; and (b) the adolescent-reported Family Support subscale from the Social Support Appraisal Scale (Dubow & Ulman, 1989), a 31-item measure assessing perceived support from family, peers, and teachers. Internal consistency reliability for the parental investment composite in the current study was $\alpha = .90$.

Adolescent Behavior Problems

Behavior problems are defined as conduct destructive to oneself or others (Loeber *et al.*, 1998). Our behavior problems composite includes intrapersonal (e.g., impulsivity) and interpersonal (e.g., aggression) aspects of functioning (cf. Cicchetti *et al.*, 1991; Colder & Chassin, 1993).

The adolescent behavior problems composite was measured as the equally weighted sum of eight parent and adolescent reported scales. The adolescent reports assess both internal states and observable behaviors. Parent reports were obtained only from a be-

havioral perspective (e.g., “problem behavior”), because parent reports of teens’ internal states require excessive inference on the part of the parent (Kazdin *et al.*, 1983). Eight scales were used to create the summed composite. Parent reports were obtained using the Conduct Disorder, Socialized Aggression, Attention Problems, and Motor Excess subscales from the Revised Behavior Problem Checklist (Quay & Peterson, 1987), an 89-item measure of child behavior problems. Adolescent reports were obtained from (a) the Anger Control and Hyperactivity subscales of the Conners-Wells Self-Report Scale (Conners *et al.*, 1997), a 27 item measure of self-control and restlessness; (b) the Aggression subscale from the Interpersonal Competence Inventory (Cairns *et al.*, 1994), a 21-item measure assessing aggression, popularity, and academic competence; and (c) the Behavior Scale Part I (Resnicow, 1997), a 13-item index assessing the frequency of deviant and antisocial behaviors. The internal consistency reliability estimate for the adolescent behavior problems composite in this sample was $\alpha = .96$.

Adolescent School Bonding/Academic Achievement

School bonding is defined as interest in academic pursuits and attending school willingly (Newcomb *et al.*, 2002). School bonding and academic achievement are defined as adjusting positively to school and completing schoolwork that merits high academic grades (Seitz *et al.*, 1985). The adolescent school bonding/academic achievement composite was measured as the equally weighted sum of 10 scales: (a) the parent and adolescent reported School Bonding, School Achievement, and Disinterest in School subscales from the School Attitudes/Bonding Scale (Resnicow, 1996), a 35-item instrument that assesses adolescents’ connections to school, teachers and learning; (b) the parent and adolescent reported Academic Achievement subscales from the Adolescent Competence Scale (Coatsworth, 1992), an 18-item scale that assesses adolescent and parent reports of the adolescent’s competence in academic achievement, peer relationships, involvement in activities, and classroom behavior; (c) the adolescent-reported Academic Competence subscale from Interpersonal Competence Scale (Cairns *et al.*, 1994), and (d) the Intellectual/School Self-Concept subscale from the Piers–Harris Children’s Self-Concept Scale (Piers, 1984), an 80-item measure that assesses adolescent self-concept in six domains (behavior, academics,

popularity, happiness, physical appearance, and anxiety). The internal consistency reliability estimate for the adolescent school bonding/academic achievement composite in this sample was $\alpha = .80$.

RESULTS

Data Analytic Strategy

Hypotheses 1, 2, and 3 were tested using mixed-model analyses of variance, focusing on the condition by time interaction. Mixed model methods (Littell *et al.*, 1996) contain both a fixed effect portion (i.e., the observed predictor(s), represented as a repeated measures ANOVA) and a random effects component, which can account for systematic error associated with the nonindependence of nested observations within a family (cf. Bryk & Raudenbush, 1992). All analyses were conducted on an intent-to-treat basis; all participants were included in the analyses regardless of the number of sessions or assessments they completed.

Student's *t*-tests were used to determine the presence or absence of baseline differences in each outcome variable. The Type I error rate for these tests was set at a conservative value of $\alpha = .20$. In cases where baseline differences by condition emerged, baseline scores were covaried in subsequent analyses, and subsequent analyses were restricted to the remaining assessment points.

An Expectation Maximization (EM) algorithm (Little & Rubin, 1987) was used to impute any missing responses for each variable at each assessment time, provided that the adolescent and/or parent provided some valid data at that assessment point. Retention rates were high, with 95% of participants completing assessments at three or more time points and 98% of the original baseline sample completing the final 12-month assessment. Families in the control condition were no more likely to miss an assessment point (13.8%) than were those in the experimental condition, 10.0%, $\chi^2(1, N = 835) = 2.87, ns$.

Testing Hypotheses 4 involved ascertaining whether Baron and Kenny's criteria for mediation were satisfied (Baron and Kenny, 1986). To evaluate these criteria, the mixed-model ANOVA for adolescent behavior problems was rerun, with change in parental investment entered as an additional covariate. If, in addition to Hypotheses 1 and 2 being supported, the effect of the covariate on the behavior problems was significant, and if the direct effect of the intervention was reduced to nonsignificance, then all four criteria for mediation would be met. Hypothesis 5 was tested in a similar way, with school bonding/academic achievement as the outcome variable.

Baseline Differences in the Dependent Measures by Condition

Table 2 provides descriptive statistics by condition for the parental investment, adolescent behavior problems, and school bonding/academic achievement measures at baseline. Only one baseline mean difference was statistically significant: the Familias Unidas condition evidenced lower mean levels of adolescent behavior problems than did the control condition, $t(165) = 1.32, p < .19$. Thus, baseline scores for this composite were covaried in the analyses that follow.

Tests of Intervention Effects

Parental Investment

Mixed model analyses of variance revealed a significant Time \times Condition interaction on parental investment, $F(4, 577) = 2.68, p < .04$ (see Fig. 1). As evidenced by the figure, the control condition trajectory was more positive than was the experimental condition trajectory between baseline and 3 months, but the control condition trajectory flattened out and began to decrease sharply at 9 months. The experimental

Table 2. Baseline Standardized Score Means by Condition

Measure	Experimental condition (<i>n</i> = 96)		Control condition (<i>n</i> = 71)		Test for Differences	
	Mean	<i>SD</i>	Mean	<i>SD</i>	<i>t</i>	<i>p</i>
Parental investment	-1.21	3.52	-.99	3.27	0.40	.69
Behavior problems	1.03	5.12	2.12	5.54	1.32	.19
School bonding/ academic achievement	-0.61	6.91	-0.54	6.86	0.07	.95

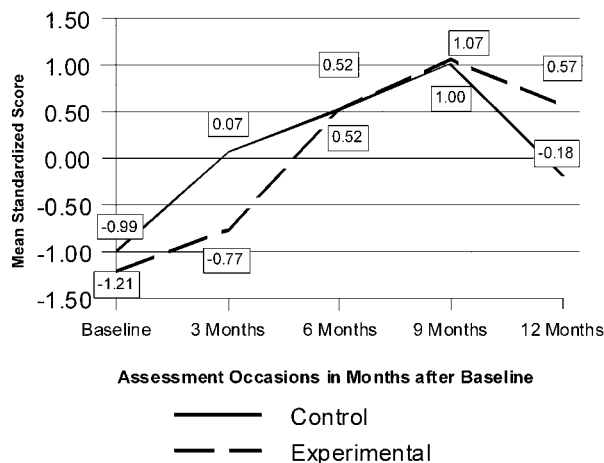


Fig. 1. Parental investment by condition and time.

condition evidenced its greatest increase between 3 and 6 months. Although it too began to decrease between 9 and 12 months, this decrease was milder than was that in the control condition.

Adolescent Behavior Problems

A mixed-model analysis of covariance (with baseline scores covaried) revealed a significant Time \times Condition interaction on adolescent behavior problems, $F(3, 424) = 4.25, p < .006$ (see Fig. 2). The experimental condition evidenced a steady decline in behavior problems, whereas the control condition evidenced a sharp increase between 3 and 6 months before decreasing sharply.

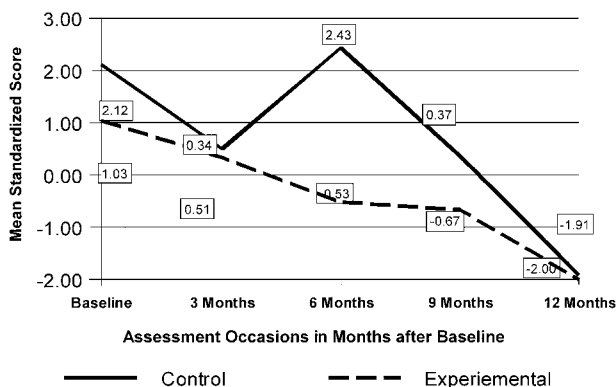


Fig. 2. Adolescent behavior problems by condition and time.

School Bonding/Academic Achievement

A mixed model analysis of covariance did not reveal a significant Time \times Condition interaction on school bonding/academic achievement, $F(4, 576) = 1.11, p < .35$.

Attendance Effects

To determine whether intervention dosage was a significant predictor of change in outcome variables within the experimental condition, the number of group sessions that each family attended was interacted with time in growth curve models for the two outcome composites that differed significantly by condition (i.e., parental investment and adolescent behavior problems). Linear and quadratic models were estimated for both outcome composites.

A significant linear Time \times Attendance interaction emerged for parental investment, $F(1, 98) = 4.70, p < .04$. Additionally, there was a significant quadratic time trend, $F(1, 91) = 8.43, p < .005$, but no quadratic Time \times Attendance interaction. The attendance analysis evidenced a clear dose-response effect; parents with lower baseline levels of investment tended to attend more intervention sessions and to display greater increases in investment during the intervention. No linear or quadratic Time \times Attendance interactions emerged for adolescent behavior problems. For parental investment, Fig. 3 displays the best-fitting quadratic lines for four representative levels of attendance (0–9, 10–19, 20–29, and 30+ sessions). These levels were chosen because they represented approximately 25, 50, 75, and 100% of the total possible number of sessions. These dosage levels also somewhat approximated the distribution of sessions attended (0–9, 37.5%; 10–19, 17.71%; 20–29, 29.17%; and 30 or more, 15.63%).

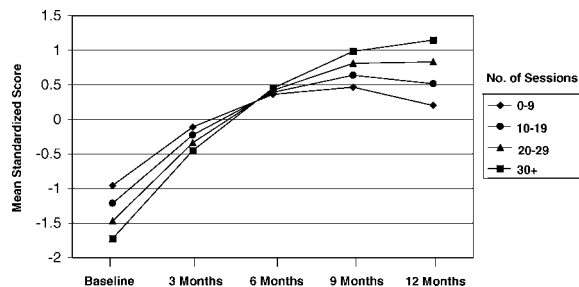


Fig. 3. Parental investment by attendance and time.

Mediating Role of Change in Parental Investment on Change in Adolescent Behavior Problems

To test the hypothesis that change in parental investment would mediate the effects of the intervention on adolescent behavior problems, a Time \times Condition mixed-model analysis of covariance was conducted on the adolescent behavior problems composite,⁵ with change in parental investment included as an additional covariate (along with baseline adolescent behavior problems). For each step in the analysis, changes in parental investment between consecutive assessment intervals (e.g., between baseline and 3 months) were used to predict adolescent behavior problems scores at the end of that interval (e.g., 3 months). This procedure was repeated for the remaining time intervals (i.e., 3–6 months, 6–9 months, and 9–12 months). This consecutive-intervals analytic strategy allows for the incorporation of data from all assessment points and allows for the nonlinear pattern of change in parental investment over time (cf. Blaney *et al.*, 1997, regarding the analytic strategy). Results indicated that change in parental investment between consecutive assessment intervals was significantly related to subsequent levels of adolescent behavior problems, $F(1, 378) = 15.30, p < .0001$. However, the Time \times Condition interaction on adolescent behavior problems remained statistically significant, $F(3, 372) = 3.60, p < .02$, indicating that the fourth criterion for mediation was not met.

DISCUSSION

Findings from this study suggest that the Familias Unidas intervention performed largely as hypothesized with regard to parental investment and to adolescent behavior problems, but not with regard to adolescent school bonding/academic achievement. Results using an intent-to-treat design indicated that parents participating in the Familias Unidas intervention showed modestly but significantly greater improvements in parental investment compared to those in the control condition. Moreover, families participating in Familias Unidas reported consistent reductions in adolescent behavior problems, whereas control group families reported somewhat inconsistent

changes over time. No condition difference emerged for adolescent school bonding.

Parental Investment

As noted earlier, parental investment (the combination of positive parenting, involvement, and support) has been found to be protective against adolescent problem behaviors (Barnes *et al.*, 1995; Costa *et al.*, 1999; Marshal & Chassin, 2000). The present findings demonstrate the feasibility of experimentally manipulating parental investment. Moreover, the relationships between change in parental investment and subsequent levels of adolescent behavior problems suggest that parent-centered interventions such as Familias Unidas have the potential to decrease risk factors for later substance abuse and delinquency in Hispanic immigrant adolescents, and to counter the lack of parental investment often created as a result of immigration and acculturation (cf. Szapocznik *et al.*, 1984). This finding supports the pivotal role of parental investment in adolescent development. However, despite the relationship between change in parental investment and subsequent levels of adolescent behavior problems, changes in parental investment did not fully mediate intervention effects on adolescent behavior problems. It appears that, in addition to influencing adolescent problem behaviors indirectly through parental investment, the intervention may have exerted a direct influence on adolescent problem behaviors through aspects of parenting that were not measured in the assessment battery, such as establishment of supervisory networks with peers' parents. Additionally, changes in parental investment predicted changes in adolescent behavior problems in both the experimental and control conditions. This suggests that parental investment may exert a strong influence on adolescent problem behaviors, regardless of whether parental investment is experimentally manipulated or is changing naturally over time.

For families participating in Familias Unidas, changes in parental investment was directly related to the number of parent-group sessions attended. The over-time relationship between attendance and changes in parental investment suggested a dose-response effect. Parents with the lowest initial reported investment levels attended the greatest numbers of group sessions and appeared to benefit most from the Familias Unidas intervention.

The increases in parental investment observed in the control condition were unexpected and may

⁵A similar analysis was not conducted for adolescent school bonding/academic achievement because the effect of the intervention on this outcome composite was not statistically significant.

have resulted from repeated assessments every three months inquiring in detail about parents' involvement with their adolescents. These assessments may have served as an "intervention" to increase parent reports of investment. We also cannot rule out the possibility that the increases in parental investment in the control condition may have resulted from contamination, given that experimental and control families lived in the same neighborhoods and their children attended the same schools.

Adolescent Behavior Problems

The Familias Unidas intervention was also successful in decreasing adolescent behavior problems. This finding lends support to the use of parent-centered interventions to ameliorate adolescent behavior problems and to decrease the likelihood of more severe conduct problems and substance involvement later in adolescence.

Although the experimental condition showed a decrease in adolescent behavior problems over the length of the study, the control condition appeared to evidence a similar pattern of decline. However, in the control group, adolescent behavior problems increased sharply between 3 and 6 months before decreasing again at 9 months. Closer examination of this apparent anomaly in the control condition may suggest an interaction between intervention participation and enrollment in school. The sharp increase in adolescent behavior problems in the control condition at 6 months coincided with most adolescents' summer vacation (at 6 months, 85% of experimental condition assessments, and 82% of control condition assessments, were conducted while the adolescents were not in school). In low-income immigrant families where parents are unfamiliar with or cannot afford structured adolescent activities (cf. Black & Krishnakumar, 1998), the summer vacation period is likely to translate into unstructured and unsupervised time for teens. Unsupervised time, in turn, poses risks for engagement in problematic behaviors (Pettit *et al.*, 1999). The Familias Unidas parenting skills may have helped to counter these summer vacation effects on adolescents' behavior problems. Although not specifically hypothesized, it is reasonable to speculate that the intervention effects would be most evident during this time of greatest challenge. The protective value of Familias Unidas was evidenced at the summer assessment point, at which the level of adolescent behavior problems reported in the control condition was almost five times that reported in the intervention condition.

Adolescent School Bonding/Academic Achievement

Although it was hypothesized that the intervention would promote adolescent school bonding and academic achievement, results indicated that intervention adolescents did not evidence gains over those reported by control adolescents. Targeting the adolescent's school world more directly and extensively, through activities such as joint parent-adolescent meetings with school counselors, may be necessary to facilitate adolescent school bonding. Working indirectly through parent mobilization may be insufficient to improve teens' academic performance and interest.

Attendance Effects

Two important findings emerged with regard to parent-group session attendance. First, the number of sessions attended was inversely related to baseline parent-reported levels of investment. Parents reporting less investment in their adolescents tended to attend more sessions than did parents reporting higher investment levels. Second, baseline reported investment levels were inversely related to increases in parent-reported investment during the intervention. Parents lower in reported investment at baseline improved to a greater extent than did parents reporting higher levels of investment. Moreover, the attendance effects are clearly not evidence of regression to the mean or of ceiling effects, given that (a) parents at all levels of baseline investment tended to report increases in investment over time and (b) mean parental investment scores did not approach the highest possible value at any time point or for any attendance level. Two important conclusions can be drawn from the attendance effects. First, the fact that less invested parents attended more sessions and evidenced greater improvements in investment reflects the ability of Familias Unidas to facilitate investment in the neediest parents. The degree of increase in investment was clearly a function of the number of sessions attended, possibly reflecting a tendency for parents to stop attending sessions once they had reached a specific or desired level of investment. In spite of the fact that parental investment tended to increase during the intervention regardless of baseline levels, the different rates of attendance and change trajectories in parental investment associated with various baseline investment levels suggest that the intervention is likely to be most effective with low-investment, immigrant Hispanic parents.

Limitations and Future Directions

Several limitations warrant discussion. First, although a number of parenting dimensions have been enumerated as risk and protective factors for adolescent drug abuse and problem behavior, only a small subset of these dimensions were targeted in *Familias Unidas* and included in the assessment battery. Further, only increases in positive dimensions of parenting (positive parenting, involvement and support), and not decreases in negative or coercive parenting, were measured.

Second, and more generally, the exclusive use of questionnaire measures may have introduced bias into the results (cf. Magura & Kang, 1996). However, the fact that each construct was comprised of measures from multiple reporters (i.e., both parent and adolescent reports) is likely to correct for some of this bias (cf. Verhulst & van der Ende, 1991). Still, because the level of questionnaire bias and cross-informant agreement in Hispanic immigrant parents and adolescents is not known, the possibility of bias cannot be discounted.

Third, it would be useful to assess changes in peer affiliations over time. This would allow for analysis of the predictive relationship between changes in peer affiliations/social activities and decreases in adolescent behavior problems.

Fourth, the use of a second control group, in which parents meet in groups but do not discuss specific parenting skills, would have provided a control for facilitator, expectancy, group, or attention effects. There are advantages and disadvantages to selecting a no-intervention control condition. For example, although a no-intervention control condition provides maximum ecological validity, the no-intervention control may neglect to control for other potential non-specific confounds such as effects of participating in a group, level of attention, facilitator qualities and enthusiasm, or participant expectancies (Szapocznik *et al.*, 1989a).

Fifth, the intervention length (9 months) and depth of training required may inhibit transportability to practice-based settings. Future interventions using the parent-centered participatory learning format should be shorter and further standardized to facilitate ease of training and implementation. To achieve a more compact intervention, it may be useful to utilize a combination of didactic and participatory exercises. In this type of model, within each set of exercises, for example, parent-group participatory learning discussions would follow didactic presentations of key issues

and parenting skills (cf. Pantin *et al.*, 2002). Also, the number and content of group sessions and home visits would have to be standardized. Such a streamlined and manualized version of *Familias Unidas* is currently under development (Pantin *et al.*, in press).

Sixth, the results may have been compromised by the low enrollment rate. Of the 475 parents who were sent letters, only 330 responded that they were interested in participating. Of these families, only 51% (167 of 330) were assessed and randomized. Hence, of the initial sample who were sent letters, only 35% (167 of 475) actually participated. This may raise concerns about the generalizability of the findings. Similar problems with parent participation in preventive interventions have been previously reported (Spoth & Redmond, 1996).

Seventh, the stratified randomization procedure utilized to assign participants to conditions may have created the possibility of contamination. We randomized participants to condition within each school, rather than assigning separate schools to the experimental and control conditions, to ensure that both conditions were drawn from the same population. For this reason, we cannot discount the possibility that experimental condition adolescents and/or parents may have discussed the intervention activities with control condition adolescents and/or parents. In addition, the positive changes found in the control group may be partially explained by the fact that this sample may have been comprised of self-selected families who were highly interested in the intervention.

Finally, it would be useful to examine the maintenance of intervention effects. Further data collection points would allow for examination of the long-term trajectory of parental investment and adolescent problem behaviors following intervention termination. Assessing participants again in high school, when drug use and delinquency are most likely to emerge (e.g., Moffitt, 1993), would be useful to allow for comparison of drug use and delinquency rates between the experimental and control conditions, and to ascertain the prospective relationship between increases in parental investment and adolescents' subsequent initiation of drug use and delinquency. Measuring the longer-term maintenance of intervention gains is also an important aspect of program evaluation; for example, if it was found that parental investment continued to decrease after the end of the intervention, it might be necessary to add periodic follow-up booster sessions at regularly scheduled intervals.

Despite these limitations, this study investigated the effects of a preventive intervention with an

understudied but growing population, making these findings particularly valuable. The results of this study demonstrate the promise and potential of a parent-centered preventive intervention for Hispanic immigrant families with adolescents at possible risk for drug abuse and other problem behaviors. The increases in parental investment and decreases in adolescent behavior problems provide evidence that Familias Unidas reduced some undesirable “side effects” of immigration and helped to reinvolve Hispanic immigrant parents in their adolescents’ lives.

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