

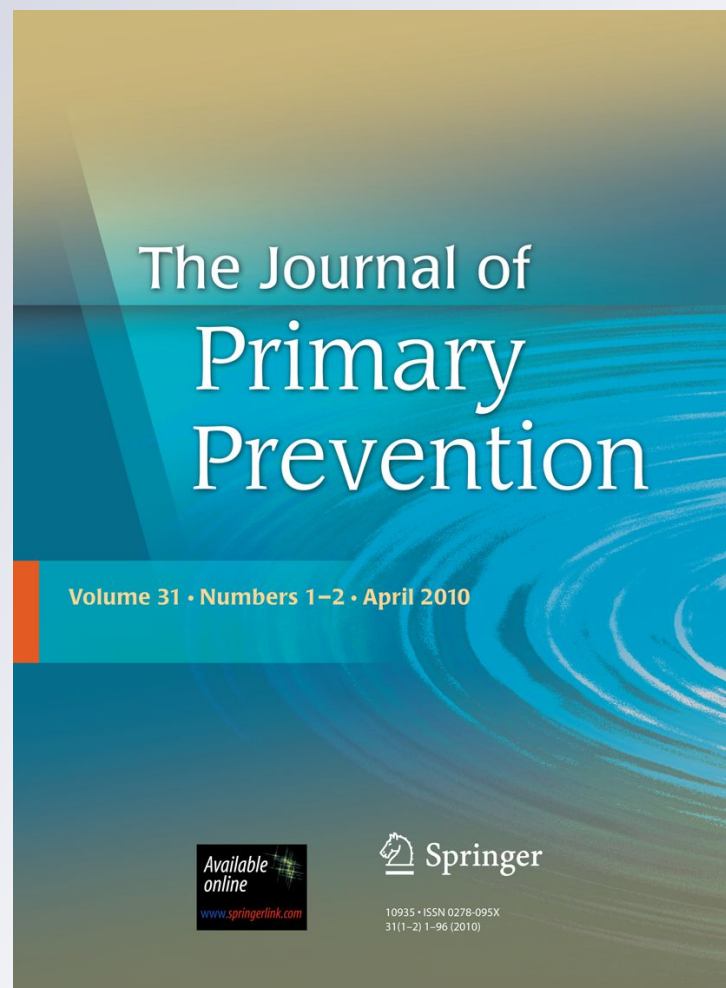
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Familia Adelante: A Multi-Risk Prevention Intervention for Latino Families

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Abstract A comprehensive approach for providing behavioral health services to youth is becoming increasingly emphasized. Latino youth are at increased risk for substance abuse, mental health concerns, unsafe sexual practices and HIV, and these outcomes have been empirically connected to individual, family and community-based stress. Despite this knowledge, there is a lack of evidence-based approaches that target these negative outcomes by reducing stress in Latino families in a culturally relevant manner. The current study examined the use of research-based strategies for reducing multiple risk behaviors in a predominantly Mexican–American sample of families. Through a modular approach, participants engaged in a psycho-educational curriculum to enhance communication and psychosocial coping, increase substance abuse and HIV knowledge and perception of harm, and improve school behavior. Over 12 sessions, the curriculum aimed to achieve these outcomes through an overall decrease in family and community-based stress by focusing on acculturative stress. Findings indicate that communication and perception of substance use harm were significantly enhanced, while social norms regarding sexual behavior, HIV anxiety and past use of marijuana and other illegal drugs were significantly

reduced. While many of measures were reliable ($\alpha > .80$), further changes are necessary to improve the accuracy of future studies. Despite these limitations, Familia Adelante improves many areas of participant's family life, and points toward the feasibility of multi-risk reduction behavioral health prevention approaches.

Keywords Hispanic youth · Family based interventions · Culturally grounded · Prevention

Introduction

Research has demonstrated that a risk and protective factor model is essential in conceptualizing youth behavior. The presence of risk factors (such as poor family bonding and educational stress) have been linked to negative outcomes for youth including use of alcohol and drugs (Catalano and Hawkins 1996; Szapocznik and Coatsworth 1999), delinquency (Arthur et al. 2002), homelessness (Bassuk et al. 1997), suicide and mental health disorders (Borowsky et al. 1999). A recent synthesis of studies by the Institute of Medicine (2009) also explored the developmental impact of risk factors on youth, including their influence on mental, emotional, and behavioral health outcomes. For example, the presence of intensely stressful experiences in early childhood is linked to clinical anxiety later in life,

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just as supporting early learning is linked to healthier developmental outcomes.

Of particular interest in recent risk factor research are studies of Latino populations. Latinos are expected to reach one quarter (25%) of the U.S. population (about 97 million) by the year 2050 (U.S. Department of Health and Human Services [DHHS] 2001), and are at a disproportionate risk for negative behavioral health outcomes such as substance use and alcoholism (National Survey on Drug Use and Health 2007), sexually transmitted illnesses such as HIV (Centers for Disease Control and Prevention [CDC] 2007), and mental health concerns (Prado et al. 2006). Middle-school-aged Latino youth (11–14 years old) are of particular concern, with large increases in the youth population expected in the next century (Census 2000). Furthermore, researchers are increasingly acknowledging that there is a dearth of knowledge on how culturally related factors such as discrimination and language difficulties impact healthy development in Latino families and that increased attention is needed (Avison and Gotlib 1994; Córdova and Cervantes 2010).

It is known, however, that Latinos are experiencing a myriad of culturally based risk factors (Cervantes et al. 2003). In a series of studies examining psychosocial stress and acculturation among adults and youth, Cervantes and colleagues found important culturally based stressors within the major life domains of Latino's. For example, Córdova and Cervantes (2010) identified discrimination and racism to be key stressors that Latino adolescents are exposed to on a daily basis. Additionally, Cervantes and Córdova (2011) identified eight key life domains of stress specifically related to Latino youth in a sample of more than 1,600 youth, including stress related to family, educational, immigration, marginalization, and discrimination. Acculturation stress has been associated with increased risk for substance abuse (Vega and Gil 1998), alcohol consumption (Caetano et al. 2007), increased rates of cigarette smoking (Detjen et al. 2007), and family stress (Cervantes and Córdova 2011). This increase in stress may lead to increased difficulty in the family relationships, decreases in parental oversight, and risky behaviors among adolescents (Szapocznik and Kurtines, 1980). Given these unique concerns, culturally informed behavioral health interventions for Latinos are more effective (Santisteban and Mena 2009).

Some progress has been made in the development of evidence-based prevention programs that target racial and ethnic minority youth (see, for example, Pantin et al. 2003; Santisteban et al. 1996; Marsiglia et al. 2005). In a recent investigation by Szapocznik et al. (2007), however, only four randomized drug abuse preventive intervention models existed that targeted Latino youth ages 12–17 and included samples where 70% of participants were represented by Latino youth. Further, the Substance Abuse and Mental Health Services Administration (SAMHSA 2010) recently published a report indicating that more emphasis is needed on the development of integrated behavioral health programs that address mental health, substance abuse, HIV, and other factors associated with poor development. As risk factor are linked to multiple negative outcomes (IOM 2009), prevention programs that can effectively address multiple risk factors are likely to have enhanced outcomes, and potentially be more cost effective.

Familia Adelante (FA; originally titled The Hispanic Family Intervention Program) was initially developed at the National Institute of Mental Health (NIMH)-funded Spanish Speaking Mental Health Research Center at the University of California Los Angeles. Using the stress-illness paradigm (Aneshensel 1992) as a framework for understanding risk factors, the developer utilized qualitative study findings (interview) on stress and coping mechanisms (Padilla et al. 1987) as well as quantitative survey studies of Hispanic adult and adolescent stress (Cervantes et al. 1991; Padilla et al. 1987). From these studies, key risk domains were articulated and FA modules were developed. For pilot testing (Cervantes 1993), in-depth qualitative interviews combined with psychometric scales including the Hispanic Stress Inventory (Cervantes et al. 1991) and the Conners Parent Rating Scale (Conners et al. 1998) were used to evaluate program effectiveness. The first version of the curriculum showed reductions in family stress and youth behavior problems, enhancing academic and psychosocial coping, and decreasing substance use patterns in Latino youth (Cervantes 1993).

Following the development of the original curriculum for youth and parents (Cervantes 1993), Familia Adelante was again tested through the SAMHSA-funded Blythe Street Prevention Project in 1998. The drug prevention project included youth ($n = 133$) and their parents ($n = 63$) and again demonstrated

positive findings (Cervantes and Pratt 1998). This study found significant improvements ($p < .001$) in knowledge and skills by both youth and parents. For example, youth reported an increase in conflict resolution skills. Parents participating in the FA curriculum reported an increase in gang awareness, cultural pride, drug knowledge, and conflict resolution. There was also a trend in improved emotional health across both youth and parents (Cervantes and Pratt 1998). The current study was conducted from 2003 to 2006 and tested through six cohorts of families in a school-based setting. Prior to implementation, some exercises were added to address HIV knowledge, attitudes, and beliefs in response to requirements set forth by the funding agency.

Purpose of Study

The purpose of the current study was to test the multi-risk reduction Familia Adelante curriculum for its effectiveness with high-risk Latino youth. Specifically, the curriculum was designed to enhance family and peer communication, prevent/reduce substance abuse, increase HIV knowledge and perceptions of harm about high-risk behavior, and improve school bonding and behavior. It also seeks to enhance psychosocial coping and life skills in both youth and their parents and decrease substance use and emotional problems by focusing on ways to cope with acculturative stress.

Research suggests benefits to including families in treatment of high-risk youth (Hoagwood et al. 2002; Kumpfer et al. 1998). Currently only two evidence-based approaches exist that target multiple risk factors, include families, and have a high representation of Latinos in their sample: Familias Unidas (Pantin et al. 2003) and Brief Strategic Family Therapy (Santisteban et al. 1996). In an effort to expand this area, Familia Adelante was developed as a family intervention that is administered to youth and parents concurrently but separately in a group format.

Methods

Procedure

Familia Adelante consists of twelve, 90-min group sessions for youth and their parents. Youth participants were referred to the Familia Adelante program

as a result of their experiencing behavioral or emotional problems. Upon receiving a referral, project staff contacted parents and an appointment was given for the first session. All group sessions were held at a convenient school location and conducted during afterschool hours. Youth and parent group sessions were held separately and simultaneously. Bilingual/bicultural staff were trained by the program developer. Each group was led by a masters-level prevention staff and was assisted by a bachelors-level staff member. Both parent and youth groups typically consisted of 8–10 individual participants.

The curriculum is guided by a facilitator manual which outlines each of the session topics. Each session in this manual includes goals, learning objectives, activities, and a list of materials used. The activities are designed for at-risk youth (age 11–14) and their families and cover a range of topics shown in Table 1.

At session 1, the participants completed pretest instruments, described in further detail below. The second session covered general knowledge building whereas session 3 covered feelings. Sessions 4 and 5 included content for both parents and families on types of stress, including stress from discrimination and racism. In the sixth week, youth discussed stress at school as well as strategies for improving grades

Table 1 Description of Familia Adelante sessions

Session #	Adult group	Youth group
1	Introduction and evaluation	Introduction and evaluation
2	Concept building	Concept building
3	Feelings	Feelings
4	Stress overview	Stress overview
5	Acculturation stress	Acculturation stress
6	Economic/occupational stress	School-related stress
7	Parental stress part I	Negative peer pressure
8	Family stress, part I	Family stress, part I
9	Family stress, part II	Family stress, part II
10	Gang prevention	Gang prevention
11	Substance abuse education	Substance abuse education
12	Evaluation and celebration	Evaluation and celebration

and communication with their teachers while parents discussed stress from work and providing for their family. During week 7, youth again discussed the influence of peers on decision making and strategies for making safe decisions while their parents discussed parenting, including differences between parenting in the U.S. and their home country (for example, the use of corporal punishment). Weeks 8 and 9 provided strategies for increasing family communication, and the final weeks provided gang prevention strategies and general substance use education. At the final week, posttest instruments were distributed and families participated in a “graduation” ceremony. Families were also recontacted at 6 months to complete follow-up measurement and determine long-term effectiveness of the program.

Participants

Youth ($n = 153$) and their parents ($n = 149$) were recruited at a middle school located in San Fernando, CA, a large metropolitan city with a high percentage of Latino residents (89.2%; U.S. Census Bureau 2002). Youth were included in this study if they (a) were Latino, (b) were between the ages of 11–14, (c) exhibited behavioral or school problems as reported by a teacher of school counselor, and (d) experienced academic problems not related to language differences. Youth were excluded if they (a) displayed autism or other pervasive developmental disorder or (b) were psychotic or in some need of clinical treatment for a mental or behavioral health problem. The only inclusion criteria for parent participation was their child’s acceptance into the project. Four families had multiple children enrolled in the program (resulting in a larger youth sample). All participants received a detailed consent form and were only enrolled in the program upon obtaining appropriate parental consent and youth assent.

Instruments

All measures were made available in both English and Spanish. Parents completed the measures in approximately 30 min. This was more quickly than youth, who were read the questions by the facilitator and averaged approximately 45 min. Initially, demographic questionnaires were collected to gather

information from youth and parents on age, gender, and socioeconomics. These forms also included information on the participant’s nativity, language preference, and educational level.

Other parent and youth surveys were collected during the first session, at the final session and at 6-month post intervention. These instruments consisted of a number of scales from previously established and normed instruments. Parents and youth completed the SAMHSA Government Performance and Results Act (GPRA) Participant Outcome Measures for Discretionary Programs (SAMHSA 2003). This survey tool was used as part of SAMHSA’s national cross-site evaluation and is comprised of questions that include alcohol, tobacco, and other drug (ATOD) use and knowledge; ATOD beliefs and perceived risk of harm from ATOD use; future intentions to use drugs; and HIV knowledge and risk perception.

Youth also completed other sections of the GPRA, including School Behavior, School Bonding/Attachment, Family Bonding, Communication with Peers, Communication with Parents, Comfort Level Talking with Parents, HIV Anxiety, Peer Condom Use, Attitudes toward Condom Use, Social Norms, Living Conditions, and Drug-Free Commitment as well as the Hispanic Children’s Stress Inventory (Padilla et al. 1987). Parents also completed the Conners Children’s Behavioral Parent Rating Scale (CBPRS; Conners et al. 1998), a subjective assessment of their youth’s behavior.

Results

All participants in the program completed baseline measures. A total of 153 youth and 149 adult instruments were administered to six participant family cohorts. A pretest occurred on the first session date. A posttest was conducted at the final session (Week 12), and an additional measure was administered 6 months after baseline. The overall retention rate for the youth participants at posttest was high (83%) and decreased from posttest to 6-month follow-up (80%). In addition, the program was able to retain a high percentage of the parents (81%) at posttest, but the retention rate decreased at the 6-month follow-up (59%).

Demographic Characteristics

The demographics of the participant sample can be seen in Tables 2 and 3. Notably, among parent participants, the majority were female mothers (80.7%). As expected, parents overwhelmingly identified as Hispanic (95%), and most indicated their

Table 2 Adult demographics (*n* = 149)

Response	Frequency (%)
Gender	
Male	29 (19.3)
Female	120 (80.7)
Age	
18–20	2 (1.4)
21–30	17 (11.7)
31–40	75 (51.7)
41–50	43 (29.7)
51–56	8 (5.5)
Hispanic	
Yes	142 (95)
No	7 (5)
Primary language	
Spanish	103 (68.8)
English	46 (31.2)
U.S. born	
No	119 (79.3)
Yes	31 (20.7)
Marital status	
Married	83 (56)
Not married	66 (44)
Education level	
Completed college	13 (8.5)
High school diploma	62 (41.9)
Elementary school	54 (36.4)
No answer	20 (13.2)
Employment status	
Unemployed	37 (25)
Employed full time	92 (62)
No answer	19 (13)
Household income	
Under \$10,000/year	33 (24.3)
\$10,001–\$20,000/year	40 (29.4)
\$20,001–\$30,000/year	28 (20.6)
\$30,001–40,000/year	21 (15.4)
Above \$40,001/year	14 (10.3)

Table 3 Youth demographics (*n* = 153)

Response	Frequency (%)
Gender	
Male	105 (68.6)
Female	48 (31.4)
Age	
11 years old	4 (2.6)
12 years old	47 (30.9)
13 years old	65 (42.8)
14 years old	36 (23.7)
Hispanic	
Yes	138 (90.6)
No	15 (9.4)
Primary language	
Spanish	90 (58.8)
English	63 (41.2)
U.S. born	
Yes	130 (84.9)
No	23 (15)

primary language was Spanish (68.8%). Almost two-thirds (63%) reported their household income to be less than \$25,000 per year, indicating a high rate of poverty and near-poverty in the participant sample. Further, a significant portion (41.86%) of parents had a high school diploma or less education.

Unlike their parents, the majority of youth participants were male (68.5%). Slightly more than half (58.6%) of youth in the sample reported Spanish as the primary language spoken at home. The majority of youth were U.S. born (84.9%) while their parent counterparts were mostly immigrants (79.3%).

Reliability Analyses

Reliability analyses were conducted for each of the youth and parent assessment scales using Cronbach's alpha. As can be seen in Tables 4 and 5, the majority of the scales (12) demonstrated high reliability scores ($\alpha = .80$ or higher). A number of scales (9) are marginally reliable ($\alpha = .60$ or higher). For parents, the highest reliabilities were found in HIV risk ($\alpha = .88$) and the sub-scales from the Conners scale, including Conduct Problems ($\alpha = .87$), while the lowest were the Psychosomatic scale ($\alpha = .59$) and Anxiety ($\alpha = .52$). For youth, the highest reliability

Table 4 Parent measures reliability estimates

Constructs/scales	# Items	Reliability
Drug knowledge	17	.78
HIV knowledge	13	.79
HIV risk scale	10	.88
Conduct problems ^a	8	.87
Learning problems ^a	4	.74
Psychosomatic ^a	4	.59
Impulsive-hyperactive ^a	4	.80
Anxiety ^a	4	.52
Hyperactivity ^a	10	.86
ATOD harm perception	4	.66
ATOD beliefs towards	4	.73

^a Indicates part of the Conners Children's Behavior Rating Scales (Conners et al. 1998)

ATOD alcohol, tobacco, and other drugs

Table 5 Youth measures reliability estimates

Constructs/scales	# Items	Reliability
School behavior	4	.59
School bonding/attachment	11	.73
Hispanic children's stress inventory	24	.78
Family bonding	5	.54
HIV knowledge	11	.65
Communication with peers	10	.87
Communication with parents	4	.83
Comfort level talking with parents	5	.90
HIV anxiety	3	.84
Peer condom use	5	.51
Attitudes toward condom use	5	.42
Social norms	6	.89
ATOD living conditions	3	.82
Drug-free commitment	4	.68
ATOD harm perception	5	.88
ATOD attitudes/beliefs	4	.81

ATOD alcohol, tobacco, and other drugs

was found in Comfort Level Talking with Parents ($\alpha = .90$) and Social Norms ($\alpha = .89$). The lowest reliabilities were found in Attitudes towards Condom Use ($\alpha = .42$).

Program Effects and Outcomes

Our next step was to investigate the changes in attitudes and behaviors reported by youth and parent

participants. As we were particularly interested in whether the FA curriculum addressed a wide range of risk factors that are empirically linked to negative emotional and behavioral problems, family communications problems, school bonding, and ATOD and unprotected sexual behaviors, this was the focus of our analysis. Using SPSS 16.0, a repeated measures GLM analysis (Mardia et al. 1979) was conducted for youth and adults.

Youth Findings

Analysis of the risk-related outcomes for youth demonstrated several areas of program effects, as seen in Table 6. First, youth communication skills appear to have been positively impacted by Familia Adelante. Specifically, youth demonstrated improved communication skills with their peers ($p < .01$) and comfort talking with their parents ($p < .01$). Additionally, youth participants reported improved overall improved family attachment ($p < .05$). A second general area of positive change was noted with regard to youth knowledge, attitudes, and behaviors with regard to sexual risk. Specifically, HIV-related anxiety ($p < .001$) and social norms regarding sexual behavior ($p > .01$) decreased across the measurement points as well as a significant increase in peer condom use at follow-up ($p < .01$). Sexual intercourse (over last 30 days) showed a curvilinear pattern, increasing at posttest but decreasing dramatically at follow-up. The changes in the youth school-related measures were not notable. Stress levels as measured by the Latino Stress Inventory fell sharply at posttest and rose again (but not to pretest levels) at the follow-up.

Table 6 also illustrates findings on perceptions and behavior change in alcohol and drug use for youth across the three measurement points. Use of marijuana dropped dramatically, with posttest and follow-up reporting zero use ($p < .001$). In addition, youth participants reported zero use of all other drugs at posttest ($p < .01$), including cocaine, heroin, methadone, PCP/LSD, methamphetamines, barbiturates, and inhalants. Alcohol use increased slightly at posttest, but dropped dramatically at follow-up. Alcohol use to intoxication dropped to zero at posttest and remained at this level in follow-up. Past-30-day sexual intercourse increased dramatically

Table 6 Youth risk-behavior-related outcomes

Outcome	Pretest mean (SD)	Posttest mean (SD)	Follow-up mean (SD)	Eta square	F-value	Sig.
School performance	3.82 (0.69)	3.97 (0.61)	3.97 (0.67)	.031	2.50	.085
School attachment	3.20 (0.44)	3.19 (0.40)	3.22 (0.41)	.001	0.13	.876
Hispanic stress inventory	39.25(10.60)	36.94 (10.15)	37.04 (8.00)	.032	1.80	.170
Family attachment	4.19 (1.04)	4.28 (1.00)	4.49 (0.85)	.063	3.48	.033*
Communication with peers	2.98 (0.66)	3.18 (0.56)	3.21 (0.63)	.093	5.86	.003**
Comfort talking with parent	2.39 (0.98)	2.44 (0.97)	2.70 (0.92)	.082	5.62	.004**
HIV-related anxiety	2.32 (0.64)	2.20 (0.67)	2.02 (0.73)	.156	7.91	.001***
Peer condom use	3.16 (0.61)	3.05 (0.59)	3.30 (0.51)	.042	4.65	.011*
Social norms regarding sexual behavior	2.00 (0.73)	2.10 (0.82)	1.76 (0.65)	.061	6.47	.002**
Attitudes toward condom use	2.98 (0.51)	2.95 (0.56)	3.02 (0.47)	.003	0.44	.645
ATOD harm perception	2.75 (0.85)	2.83 (0.90)	3.12 (0.81)	.099	5.58	.005**
ATOD beliefs/attitudes	3.13 (0.74)	3.15 (0.72)	3.16 (0.75)	.001	0.06	.946
Past 30 days: alcohol	.62 (2.83)	.71 (2.43)	.35 (1.38)	.007	0.48	.623
Past 30 days: alcohol to intoxication	.68 (3.84)	.00 (.00)	.00 (.00)	.031	1.94	.148
Past 30 days: marijuana	1.58 (4.86)	.00 (.00)	.00 (.00)	.097	6.90	.001***
Past 30 days: other illegal drug use	1.34 (4.60)	.00 (.00)	.00 (.00)	.080	5.46	.005**
Past 30 days: sexual intercourse	.71 (1.50)	3.43 (3.99)	.71 (1.11)	.409	3.46	.065

ATOD alcohol, tobacco, and other drugs

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

Table 7 Connors children behavior parental rating outcomes

Outcome	Pretest mean (SD)	Posttest mean (SD)	Follow-up mean (SD)	Eta square	F-value	Sig.
Conduct disorders	5.00 (4.34)	4.88 (4.15)	3.55 (3.67)	.094	5.74	.004**
Learning disorders	3.29 (2.86)	2.80 (2.43)	2.13 (1.98)	.132	7.38	.001***
Psychosomatic	0.87 (1.40)	0.80 (1.29)	0.59 (1.02)	.04	1.58	.163
Impulsivity	3.43 (3.10)	3.14 (2.69)	2.40 (2.15)	.115	5.91	.003**
Anxiety	2.37 (2.07)	1.85 (1.62)	1.49 (1.64)	.126	7.24	.001***
Hyperactivity	8.00 (6.31)	6.71 (4.92)	4.82 (4.18)	.204	13.18	.000***

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

at posttest and decreased to pretest levels at follow-up.

Significant and positive changes were observed in youth by their parents as well, as measured by the Connors Parent Rating Scale (Connors et al. 1998) and shown in Table 7. Reductions in conduct disorders, learning disorders impulsivity, anxiety, and hyperactivity were all significant ($p < .01$). Psychosomatic symptoms also decreased although not significantly ($p = .16$).

Parent Findings

Table 8 shows findings from the parental measures. Results from the parent measures are encouraging though should be interpreted cautiously as some instruments did not meet criteria for acceptable reliability ($\alpha > .80$). Results indicate that parents' knowledge of drugs and HIV rose substantially across the three measurement points. The highest effect sizes for the intervention were found in parents'

Table 8 Parent Measures

Measure	Pretest mean (SD)	Posttest mean (SD)	Follow-up mean (SD)	Eta square	F-value	Sig.
Drug knowledge	10.95 (3.69)	12.34 (3.06)	14.81 (2.16)	.543	53.30	.000***
HIV knowledge	9.36 (3.07)	10.25 (2.98)	11.43 (1.98)	.313	19.78	.000***
HIV risk behavior	2.87 (1.11)	2.66 (1.16)	2.58 (1.11)	.055	1.71	.128
ATOD harm	3.51 (0.52)	3.42 (0.59)	3.61 (0.44)	.077	4.56	.057
ATOD attitudes	1.31 (0.51)	1.32 (0.50)	1.24 (0.42)	.012	0.80	.355

ATOD alcohol, tobacco, and other drugs

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

increase in drug and HIV knowledge. Strong trends were also found for ATOD harm although not significant and to a lesser degree in HIV risk behavior.

Discussion

Familia Adelante is a family-oriented prevention intervention that has been developed to address the unique needs and risk factors found among Latino families. Few prevention or early intervention programs have been available for Latino families. Further, programs that specifically address risk factors known to predispose youth to negative behavioral health outcomes often lack attention to culture and acculturation stress which has a direct impact on Latino youth mental health and substance use outcomes (Cervantes and Córdova 2011). The main objective of the intervention was to enhance family and peer communication, increase substance abuse and HIV knowledge and perception of harm, and improve school bonding and behavior. It also sought to enhance psychosocial coping and life skills in both youth and their parents and decrease substance use and emotional problems by focusing on stress related to acculturation. The evidence provided by both significance and effect size is encouraging for the use of the intervention for both youth and parents. Effect sizes of greater than .30 were found across a number of risk-related factors, and this level of program effect is acceptable within prevention science (Tabachnick and Fidell 2001). In this study, many of the program effects were durable and lasting, shown through the follow-up testing.

Positive changes in communication and cognition (as well as to a lesser degree behavior) can be expected to have long-lasting effects on the dynamics of the families that participated. The parents consistently reported improvements in their children's behavior across multiple domains over the course of the intervention and months afterwards. The children also presented significant improvements in communication with their parents and increases in family attachment, an important factor in preventing risk (Gould et al. 1996).

In the illegal drug behavior outcomes, significant positive changes were also found even though this was a young at-risk population that had low drug use at baseline. The success of the study is underscored by the additional considerations of age and service exposure. The research literature suggests that there are natural maturational upward trends regarding risk factors and substance use rates in this age group in young adolescents in these at-risk social conditions. That marijuana and other illegal drug use decreased significantly in the youth sample and stayed this way at follow-up further supports the effectiveness of the curriculum.

While the overall changes in the young adolescents are not as dramatic as with their parents, positive changes were documented in sensitive areas involving condom use and sexual norms. In the case of HIV knowledge, however, the change in youth was greater than their parents. In addition, culturally based stress reduction as measured by the Latino Children's Stress Inventory was minimal, although with a positive trend. Since the time of this study, advances have been made in measurement, namely the development of the Latino Stress Inventory—Adolescent Version

(Cervantes and Córdova 2011) that may prove to be a more sensitive measure of culturally based stressors in subsequent trials of the curriculum.

A limitation lies in the attrition of the sample in the period between the posttest and follow-up, especially for the parents. While the reasons for this drop in retention have not been systematically investigated, the impression gained by the research team is that it was due, in part, to the high residential mobility in families. Future studies with Latino immigrant families may need to budget in sufficient resources to include methods for locating mobile families if the validity of the results are to be strengthened, and incentivizing participants may increase the response rate as well (Khadjesari et al. 2011). Adding additional measures for parents would have also been helpful in gaining greater understanding of program benefits, although knowledge measures showed promising results. Additionally, the lack of a control group makes it difficult to say with certainty that these changes were not based on history, maturation, or testing. However, the use of multiple measurements (such as youth and parent ratings on behavior) adds additional support for the reliability of findings. Several of the scales fell below acceptable reliability, making interpretation of these findings cautionary. This is possibly due to lack of cultural appropriateness with this population, a common concern with the use of existing measures (e.g., Bilheimer and Klein 2010). Addressing this concern through use of different instruments and a thorough pretest would be helpful in future research with Familia Adelante.

Despite these limitations, a majority of statistically significant findings were found among scales with high reliabilities. This suggests that the results may be even stronger in a larger sample. Future research with Familia Adelante should strengthen the measurement instruments to increase validity and test the product with a larger, randomized study of Latinos and their parents. Lastly, the rate of HIV infection in Latinos is an increasing concern (Prado et al. 2006). Familia Adelante seeks to impact multiple behaviors including HIV risk, but found insignificant results for key prevention techniques such as condom use. An important area for curriculum adaptation may be the enhancement of HIV prevention messaging and the use of condoms by youth.

References

- Aneshensel, C. S. (1992). Social stress: Theory and research. *Annual Review of Sociology*, *18*, 15–38.
- Arthur, M. W., Hawkins, J. D., Pollard, J. A., Catalano, R. F., & Baglioni, A. J., Jr. (2002). Measuring risk and protective factors for substance use, delinquency, and other adolescent problem behaviors: The communities that care youth survey. *Evaluation Review*, *26*, 575–601.
- Avison, W. R., & Gotlib, I. H. (1994). Future prospects for stress research. In W. R. Avison & I. H. Gotlib (Eds.), *Stress and mental health: Contemporary issues and prospects for the future* (pp. 317–332). New York, NY: Plenum Press.
- Bassuk, E. L., Buckner, J. C., Weinreb, L., Browne, A., Bas-suk, S. S., Dawson, R., et al. (1997). Homelessness in female-headed families: Childhood and adult risk and protective factors. *American Journal of Public Health*, *87*(2), 241–248.
- Bilheimer, L., & Klein, R. (2010). Data and measurement issues in the analysis of health disparities. *Health Services Research*, *45*(5p2), 1489–1507.
- Borowsky, I., Resnick, M., Ireland, M., & Blum, R. (1999). Suicide attempts among American Indian and Alaska Native youth: Risk and protective factors. *Archives of Pediatrics and Adolescent Medicine*, *153*, 573–580.
- Caetano, R., Ramisetty-Mikler, S., Caetano Vaeth, P. A., & Harris, T. R. (2007). Acculturation stress, drinking, and intimate partner violence among Hispanic couples in the US. *Journal of Interpersonal Violence*, *22*(11), 1431–1447.
- Catalano, R. F., & Hawkins, J. D. (1996). The social development model: A theory of anti-social behavior. In J. D. Hawkins (Ed.), *Delinquency and crime* (pp. 149–197). New York, NY: Cambridge University Press.
- Centers for Disease Control and Prevention. (2007). *Teen birth rates rise for first time in 15 years*. Retrieved December 29, 2009 from <http://www.cdc.gov/nchs/pressroom/07newsreleases/teenbirth.htm>.
- Cervantes, R. C. (1993). The Hispanic family intervention program: An empirical approach toward substance abuse prevention. In B. Kail, R. Mayers, & T. Watt (Eds.), *Hispanic substance abuse*. Newbury Park, CA: Sage Publication.
- Cervantes, R., & Córdova, D. (2011). Life experiences of Hispanic Adolescents: Developmental and language considerations in acculturation stress. *Journal of Community Psychology*, *39*(3), 336–352.
- Cervantes, R., & Pratt, P. (1998). Evaluating Hispanic/Latino programs: Ensuring cultural competency. *Alcoholism Treatment Quarterly*, *16*(1/2), 109–131.
- Cervantes, R. C., Padilla, A. M., & Salgado de Snyder, N. S. (1991). The Hispanic Stress Inventory: A culturally relevant approach to psychosocial assessment. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, *3*(3), 438–447.
- Cervantes, R., Kappos, B., Duenas, N., & Arellano, D. (2003). Culturally focused HIV prevention and substance abuse treatment for Hispanic women. *Addictive Disorders & Their Treatment*, *2*, 69–77.

- Conners, C., Parker, J., Sitarenios, G., & Epstein, J. (1998). The Revised Conners' Parent Rating Scale (CPRS-R): Factor structure, reliability, and criterion validity. *Journal of Abnormal Child Psychology*, *26*, 257–268.
- Córdova, D., & Cervantes, R. (2010). Intergroup and within-group ethnic and racial perceived discrimination among US born and Foreign-born Latino youth. *Hispanic Journal of Behavioral Sciences*, *32*, 259–274.
- Detjen, M., Nieto, J., Trentham-Dietz, A., Fleming, M., & Chasan, L. (2007). Acculturation and cigarette smoking among pregnant Hispanic women residing in the United States. *American Journal of Public Health*, *97*(11), 2040–2047.
- Gould, M., Fisher, P., Parides, M., Flory, M., & Shaffer, D. (1996). Psychosocial risk factors of child and adolescent completed suicide. *Archives of General Psychiatry*, *53*(12), 1155–1162.
- Hoagwood, K., Burns, B., & Weisz, J. (2002). A profitable conjunction: From science to service in children's mental health. In B. J. Burns & K. Hoagwood (Eds.), *Community treatment for youth: Evidence-based interventions for severe emotional and behavioral disorders* (pp. 327–338). New York, NY: Oxford University Press.
- Institute of Medicine. (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. Washington, DC: National Academies Press. Retrieved from http://www.nap.edu/catalog.php?record_id=12480.
- Khadjesari, Z., Murray, E., Kalaitzaki, E., White, I. R., McCambridge, J., Thompson, S. G., et al. (2011). Impact and costs of incentives to reduce attrition in online trials: Two randomized controlled trials. *Journal of Medical Internet Research*, *13*(1), e26. doi:10.2196/jmir.1523.
- Kumpfer, K., Alexander, J., McDonald, L., & Olds, D. (1998). Family-focused substance prevention: What has been learned from other fields. In R. S. Ashery, E. B. Robertson, & K. L. Kumpfer (Eds.), *Drug abuse prevention through family interventions (NIDA Monograph 177)* (pp. 1–11). Rockville, MD: U.S. Department of Health and Human Services.
- Mardia, K. V., Kent, J. T., & Bibby, J. M. (1979). *Multivariate analysis*. London, UK: Academic Press.
- Marsiglia, F., Kulis, S., Wagstaff, D., Elek, E., & Dran, D. (2005). Acculturation status and substance use prevention with Mexican and Mexican American youth. *Journal of Social Work Practice in the Addictions*, *5*, 85–111.
- National Survey on Drug Use and Health. (2007). *Results from the 2007 National Survey on drug use and health: National findings*. Rockville, MD: U.S. Department of Health and Human Services.
- Padilla, A., Cervantes, R., & Maldonado, M. (1987). Psychosocial stress in Mexican immigrant adolescents. University of California at Los Angeles (*unpublished manuscript*).
- Pantin, H., Schwartz, S. J., Coatsworth, J. D., Sullivan, S., & Szapocznik, J. (2003). Preventing substance abuse in Hispanic immigrant adolescents: An ecodevelopmental, parent-centered approach. *Hispanic Journal of Behavioral Sciences*, *25*, 469–500.
- Prado, G., Schwartz, S., Pattatucci-Aragón, A., Clatts, M., Pantin, H., Fernandez, M. I., et al. (2006). The prevention of HIV transmission in Hispanic adolescents. *Drug and Alcohol Dependence*, *84S*, S43–S53.
- Santisteban, D. A., & Mena, M. P. (2009). Culturally informed and flexible family-based treatment for adolescents: A tailored and integrative treatment for Hispanic youth. *Family Process*, *48*, 253–268.
- Santisteban, D., Szapocznik, J., Perez-Vidal, A., Kurtines, W., Murray, E., & Laperriere, A. (1996). Efficacy of intervention for engaging youth and families into treatment and some variables that may contribute to differential effectiveness. *Journal of Family Psychology*, *10*, 35–44.
- Substance Abuse and Mental Health Services Administration. (2003). *CSAP GPRA participant outcome measures for discretionary programs*. Retrieved from http://www.samhsa.gov/Grants/downloads/CSAP_GPRAtool.pdf.
- Substance Abuse and Mental Health Services Administration. (2010). *Leading change: A plan for SAMHSA's roles and actions 2011-2014 executive summary and introduction* (HHS Publication No. [SMA] 11-4629 Summary). Rockville, MD: Author.
- Szapocznik, J., & Coatsworth, D. (1999). An ecodevelopmental framework for organizing the influences on drug abuse: A developmental model of risk and prevention. In M. D. Glantz & C. R. Hartel (Eds.), *Drug abuse: Origins and interventions* (pp. 331–366). Washington, DC: American Psychological Association.
- Szapocznik, J., & Kurtines, W. (1980). Acculturation, bi-culturalism and adjustment among Cuban Americans. In A. M. Padilla (Ed.), *Psychological dimensions on the acculturation process: Theory, models, and some new findings* (pp. 139–159). Boulder, CO: Westview.
- Szapocznik, J., Prado, G., Burlew, A., Williams, R., & Santisteban, D. (2007). Drug abuse in African American and Hispanic adolescents: Culture, development, and behavior. *Annual Review of Clinical Psychology*, *3*, 77–105.
- Tabachnick, B., & Fidell, L. (2001). *Using multivariate statistics* (4th ed.). Needham Heights, MA: Allyn & Bacon.
- U.S. Census Bureau. (2002). *Overview of race and Hispanic origin: Census 2000 brief*. Washington, DC: U.S. Census Bureau.
- U.S. Department of Health, Human Services. (2001). *Mental health: Culture, race and ethnicity—A supplement to mental health: A report to the Surgeon General*. Rockville, MD: Author.
- Vega, W. A., & Gil, A. G. (1998). *Drug use and ethnicity in early adolescence*. New York, NY: Plenum Press.