Efficacy of a Culturally Based Parenting Intervention: Strengthening Open Communication Between Mexican-Heritage Parents and Adolescent Children

Article · December 2012
DOI: 10.5243/jsswr.2012.18 · Source: PubMed

CITATIONS
8

READS
21

5 authors, including:

- Lela Rankin Williams
  Arizona State University
  65 PUBLICATIONS  643 CITATIONS
  SEE PROFILE

- Flavio Francisco Marsiglia
  Arizona State University
  192 PUBLICATIONS  3,158 CITATIONS
  SEE PROFILE

- Meghan Lally
  Arizona State University
  7 PUBLICATIONS  32 CITATIONS
  SEE PROFILE

- Felipe González Castro
  Arizona State University
  126 PUBLICATIONS  4,794 CITATIONS
  SEE PROFILE

Some of the authors of this publication are also working on these related projects:

- Mexican American Teen Relationships Study View project
- Sexual and Relationship Health and Disability Study View project
Efficacy of a Culturally Based Parenting Intervention: Strengthening Open Communication Between Mexican-Heritage Parents and Adolescent Children

Lela Rankin Williams
Stephanie L. Ayers
Meghan M. Garvey
Flavio F. Marsiglia
Arizona State University
Felipe González Castro
University of Texas at El Paso

This article presents the results of an initial efficacy trial of a parenting intervention, Familias: Preparando la Nueva Generación (FPNG), used to strengthen parenting practices, specifically, open family communication. Using community-based participatory research, including stakeholder involvement, the FPNG curriculum was developed, evaluated for feasibility, and revised to complement the classroom-based keepin' it REAL youth substance-use prevention program. FPNG focuses on family influences that characterize Mexican-heritage youth and families, including the impact of acculturation. The 9 middle schools were block-randomized into 3 groups: parents and youth (PY), youth only (Y), and control (C) conditions. Parents of 7th grade youth (N = 393, 82.8% mothers) completed self-report surveys at baseline and immediately following the intervention. Structural equation model analyses confirmed that PY parents reported significantly greater levels of open family communication at the follow-up compared with Y parents; C parents were not significantly different from Y parents at follow-up. The inclusion of parents in adolescent-focused preventive interventions might increase the effect size of an original and efficacious youth prevention intervention.

Key words: Hispanic Americans, research design, drug users, primary prevention, schools

Adolescent substance use is a serious public health concern associated with a host of negative health outcomes (Hanson, Medina, Padula, Tapert, & Brown, 2011) and costs to society (Chassin, Hussong, & Beltran, 2009; U.S. Department of Health and Human Services, 2007). National data point to significant health disparities among Latino youth. Among eighth-grade adolescents, Latino youth evidence higher rates of nearly all illicit drug use (amphetamines being the major exception) than either their European American or African American peers (Johnston, O’Malley, Bachman, & Schulenberg, 2011). To date, best practices with prevention interventions that target tobacco, alcohol, and other drug use have been less successful in reaching high-risk and minority adolescents (Skara & Sussman, 2003; Tobler et al., 2000), demonstrating a need for interventions that effectively address the role of conventional risk and protective factors within the context of a particular community’s cultural values (such as the Latino community). A culturally relevant approach might improve community and family engagement and more effectively address the community’s needs. The parenting intervention Familias: Preparando la Nueva Generación (FPNG) was developed to complement keepin’ it REAL (kiR), a classroom-based substance use prevention program for Mexican-heritage youth. The present study provides an initial short-term evaluation of the efficacy of this parenting intervention, which aimed, in general, to strengthen family functioning and, specifically, to enhance family communication.

Risk and Protective Factors of Adolescent Substance Use

According to the ecodevelopmental theory (Szapocznik & Coatsworth, 1999), family functioning greatly affects adolescent substance use. Although peers and other systemic factors play an important role in adolescent drug use, the family structure, the quality of family interactions (including parent–child communication), parental attitudes toward substance use, and general parenting practices play a critical role in adolescent initiation into and experimentation with alcohol and other drugs (Brooks, Stuewig, & LeCroy, 1998; Hemovich, Lac, & Crano, 2011; Kumpfer & Alvarado, 1995). Particularly within the Latino culture, the role of the family is prominent (Miranda, Bilot, Peluso, Berman, & Van Meek, 2006). Prior research has generally focused on family influences, particularly on family structure, and less systematically on the mechanisms of family functioning that influence adolescent substance use. However, researchers who have modeled these influences simultaneously have suggested that, among Latino youth, the impact of family structure on substance use (at least one year later) was mediated through family
functioning, as indicated by parent–child communication and conflict, parental monitoring, and family cohesion (e.g., Wagner et al., 2010). Low family cohesion has been identified as a risk factor for initiating substance use in both American-born and foreign-born Latino youth (Gil, Vega, & Biafora, 1998). Poor parent–child communication and a lack of parental support have frequently been associated with greater substance use among youth (Wills & Cleary, 1996). Another risk factor for substance use among adolescents is distress within the family and poor family functioning, including unsupportive and neglectful family environments (Barnes, Reifman, Farrell, & Dintcheff, 2000). The effects of poor family functioning and distress on substance use are long lasting; some research has detected an influence even 10 years later (Baumrind, 1991).

Prevention intervention research has indicated that strengthening specific mechanisms that aid in resisting or avoiding adolescent substance use is particularly important. Positive parenting practices, such as parental monitoring, protect against problem behaviors in adolescence, including substance use (Steinberg, 2001). In a sample of predominantly African American and Latino juvenile offenders, even after controlling for the effects of adolescent behavior on parenting, parental monitoring predicted fewer substance abuse-related problems and other forms of delinquency (Williams & Steinberg, 2011). However, parental monitoring might be, in part, an artifact of parental knowledge (e.g., knowing where a child is when not at home), which is derived primarily from child disclosure (Stattin & Kerr, 2000). In fact, taken together, parent–child communication is more beneficial for adolescent outcomes than parental surveillance and control—particularly for immigrant families—because effective parent–child communication is an aspect of family functioning that might be compromised during a family’s acculturation to the host culture. Impaired parent–child communication has emerged as a family vulnerability during the process of acculturation to the host culture (Szapocznik & Kurtines, 1989). For low socioeconomic status (SES) Mexican-heritage families, acculturation (e.g., learning English) is another stress on the family unit, in addition to the stress associated with poverty and disadvantaged living conditions that can impair parenting (White, Roosa, Weaver, & Nair, 2009). As youth adapt to the host culture and adopt new cultural values, they might reject some of the more traditional values held by their parents, which can contribute to the breakdown of communication between parents and their adolescent children (Portes & Rumbaut, 2001). A qualitative study conducted with Latino high-school students illustrated the contemporary challenges that adolescents face and how these challenges can have an impact on communication with their parents (Wagner et al., 2008). The students described feeling pressured to fit in with their peers. At the same time, these youth reported difficulties in talking to their parents about the pressure because they believed their parents would not understand, which in turn, resulted in the youth feeling more distant from their parents.

For Latino youth, the acculturation process is often associated with increased risks to their health and well-being. In particular, acculturation is associated with increased adolescent substance use (e.g., Buchanan & Smokowski, 2009; Felix-Ortiz & Newcomb, 1999; for review, see De La Rosa, 2002). Further, the discrepancy between the acculturation levels of parents and adolescents has a negative impact on family functioning and places adolescents at risk for problem behaviors, including substance use (Marsiglia et al., 2011; Martinez, 2006; Unger, Rita-Olson, Soto, & Baezconde-Garbanati, 2009). By contrast, effective communication between parents and their adolescent child plays an important role in promoting healthy behaviors. Among Latino adolescents, more effective parent–child communication and greater parental monitoring predicts less use of alcohol and other substances (Pokhrel, Unger, Wagner, Ritt-Olson, & Sussman, 2008; Wagner et al., 2010). Notably in these studies, communication and monitoring exerted independent influences on substance use when one or the other was controlled for, along with controls for demographic variables (e.g., SES), suggesting that these two factors constitute distinct aspects of family functioning. In summary, an important protective mechanism against attitudes and behaviors related to adolescent substance use involves strengthening parent–child communication, particularly for Mexican-heritage youth when family communication might be strained such as during the acculturation process.

Contemporary alcohol- and drug-use prevention programs typically do not include or assess the impact of acculturation on Mexican-heritage youth, or other needs that are specific to these youth. Therefore, the school-based substance-prevention program kiR was designed to include visible representations of Mexican culture in the curriculum, along with representations of African American and European American cultures. Using a collaborative methodology (i.e., participatory action research; for a detailed description, see Gosin, Dustman, Drapeau, & Harthun, 2003), drug resistance strategies were designed for a diverse Southwestern U.S. youth population. The intervention includes a 10-lesson curriculum taught by teachers and supplemented by videos in each of the core strategies: refuse, explain, avoid, and leave (REAL). This youth-based program has been effective in reducing
substance use for seventh-grade youth (Gosin et al., 2003). However, given the prominence of family, particularly for Mexican-heritage youth, it was hypothesized that a parental component might enhance the effects observed from the kiR intervention. Therefore, a parenting intervention, FPNG, was developed using community-based participatory research and eco-developmental theory, with the goal of preventing and reducing adolescent substance use and risky sexual behaviors by strengthening family functioning. (See Parsai, Castro, Marsiglia, Harthun, & Valdez, 2011, for a description of the process of developing the intervention, including participation and feedback from the Latino community for which it was designed.)

The present study evaluates the initial efficacy of this culturally grounded parenting intervention, FPNG, in strengthening family functioning and, specifically, in enhancing open family communication. Before conducting a more advanced assessment involved in evaluating youth outcomes, we undertook the present study to examine the initial effects of this parenting intervention by analyzing whether the intervention was effective in changing a critical mediating mechanism (i.e., family functioning) and, in turn, influencing adolescent substance use. Accordingly, in the present study we hypothesized that open communication would be enhanced among parents enrolled in FPNG (parent intervention + youth intervention) as compared with (a) parents of youth involved in the kiR intervention (youth intervention) and (b) parents in the control condition (no intervention).

**Method**

The data for the present study were obtained from a 4-year longitudinal study testing the effectiveness of a culturally based parent education program beyond the effects of a youth-only intervention. The protocol for data collection was approved by the Arizona State University IRB (IRB Protocol # 0707001990). First, 19 middle schools located in a major metropolitan area in the Southwest United States with a high percentage of Latino students (greater than 70% during the 2007-2008 school year) were identified as eligible schools. With strata created according to the percentage of Latino students, schools were randomly assigned to three equal blocks: Block 1 (highest percentages), Block 2 (middle percentages), and Block 3 (lowest percentages). Within each block, (a) random numbers were generated for each school, (b) schools were ranked in numerical order, and (c) schools were assigned to one of three groups in the following order:

- control condition (C),
- youth-only condition (Y), and
- parent plus youth condition (PY).

Using an alpha of .05 and a projected sample size of 406, a power analysis revealed that nine schools (three per condition) were needed to detect small-to-moderate effect sizes across the three conditions with 80% power; therefore, nine schools were asked to participate. All schools consented to participate prior to being assigned to a treatment or control condition (see Table 1).

Block randomization was initially used because of possible variations in the percentage of Latino students. Once schools were block randomized, an unconditional model in Mplus was conducted to examine the intraclass correlations (ICCs) between schools. The unconditional model indicated non-significant ICCs between schools. In addition, analyses of variance (ANOVAs) and t tests were performed on youth substance use at baseline. Of the seven outcomes tested, the only significant difference was in 30-day cigarette use between youths in the Y and C conditions, thus indicating that our randomization procedure operated effectively.

The study design consisted of a randomized three-group repeated measures study, with three waves of data collection. The first wave was conducted at the baseline (pretest) period, the second wave immediately followed the intervention, and the third wave occurred at one-year postbaseline. For all schools, all seventh-grade students and their parents were eligible to participate. The eligible sample was drawn from two cohorts of parents and youth: parents of seventh-grade youth during the 2009-2010 and 2010-2011 school years. Regardless of the cohort in which the parents and youth participated, the procedures remained the same. In the fall (September-November) of the school year (2009 for Cohort 1; 2010 for Cohort 2), a preintervention survey (Wave 1) was administered separately to both consented youth and parents. After completion of the FPNG and kiR interventions, youth and parents completed a short-term survey (Wave 2) in the spring (March-May) of the same school year (2010 for Cohort 1; 2011 for Cohort 2). A third round of surveys (Wave 3) was completed by both parents and youth in the spring (March-May) of the following school year (2011 for Cohort 1; 2012 for Cohort 2). This study used only Wave 1 and Wave 2 parent data from both cohorts because Wave 3 data for Cohort 2 was not yet available for analysis. By conducting a preliminary analysis of our intervention effect for our initial two waves of data, we tested for early-stage effects of a complex intervention that might exhibit delayed effects on the targeted outcome variables.
Trained study personnel obtained informed parental consent. Parents could choose one of three options: (a) to consent both parent and youth; (b) to consent only youth; (c) to not consent either parent or youth. The overall consent rate for the study was 77% for both youth and parents in both cohorts. For youth, the overall consent rate was 76%, but varied slightly by condition: PY = 77%; Y = 78%; C = 74%. For parents, the overall consent rate was 79% and varied by condition: PY = 75%; Y = 81%; C = 79%.

Sample

In the present study we examined changes in parental psychological and behavioral variables as influenced by the FPNG curriculum. Accordingly, the analytic sample included only parent data. Baseline data (Wave 1) were collected using a survey during the fall (September-November) of the school year. As noted, immediately following completion of the interventions during the spring (March-May), parents completed a short-term follow-up survey (Wave 2). The parent surveys included sections on sociodemographic characteristics, parenting practices, parent–child communication, and parenting self-efficacy. All surveys were administered by trained research staff and were available in English or Spanish (93% of parents completed the surveys in Spanish). Project personnel translated the English-language version of the surveys into Spanish and then back-translated the surveys to check for accuracy, according to the procedures recommended by prior research investigators (Marin & Marin, 1991; Rogler, 1989). At the completion of each wave, parents received an incentive of $30 for each survey packet completed. The analytic sample size for this study included 393 parents, with an attrition rate between baseline and the posttest assessment of only 8%.

The parent sample consisted predominantly of mothers (82.8%), who were on average 38.5 years-old and had completed some high school but did not have a diploma (34.7%). The majority of the participants were either married (57.7%) or living with a partner (18.7%). The majority (90%) of participants reported a Latino ethnicity (64.8% Mexican or Mexican American; 25.2% other Latino ethnicity). More than half of the respondents spoke only Spanish (53.5%) compared with 3.5% who spoke only English.

Intervention

FPNG was developed using community-based participatory research. Ecodevelopmental theory is the guiding theory behind FPNG (Coatsworth et al., 2002; Pantin, Schwartz, Sullivan, Prado, & Szapocznik, 2004; Szapocznik & Coatsworth, 1999), which supports strengthening family functioning as a means to prevent adolescent substance use (Coatsworth et al., 2002; Perrin, González-Soldevilla, Pantin, & Szapocznik, 2000; Szapocznik & Coatsworth, 1999). The overall goals of the FPNG curriculum are to (a)

### Table 1
**Descriptive Characteristics of Seventh-Grade Adolescents of Participating Parents Across Schools and Conditions (N = 393)**

<table>
<thead>
<tr>
<th>School</th>
<th>Gender (boys)</th>
<th>Age</th>
<th>Mexican heritage</th>
<th>Free or reduced lunch</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>M (SD)</td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>17 (33)</td>
<td>12.45 (.64)</td>
<td>46 (89)</td>
<td>47 (92)</td>
<td>55</td>
</tr>
<tr>
<td>6</td>
<td>26 (46)</td>
<td>12.25 (.47)</td>
<td>51 (90)</td>
<td>55 (98)</td>
<td>58</td>
</tr>
<tr>
<td>8</td>
<td>16 (62)</td>
<td>12.19 (.40)</td>
<td>22 (88)</td>
<td>25 (100)</td>
<td>26</td>
</tr>
<tr>
<td>Subtotal</td>
<td>59 (44)</td>
<td>12.32 (.54)</td>
<td>119 (89)</td>
<td>127 (96)</td>
<td>139 (35)</td>
</tr>
<tr>
<td><strong>Youth only</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>23 (51)</td>
<td>12.13 (.41)</td>
<td>40 (89)</td>
<td>44 (98)</td>
<td>46</td>
</tr>
<tr>
<td>4</td>
<td>31 (54)</td>
<td>12.14 (.44)</td>
<td>57 (98)</td>
<td>52 (91)</td>
<td>59</td>
</tr>
<tr>
<td>7</td>
<td>19 (61)</td>
<td>12.16 (.45)</td>
<td>30 (97)</td>
<td>26 (87)</td>
<td>31</td>
</tr>
<tr>
<td>Subtotal</td>
<td>73 (55)</td>
<td>12.14 (.43)</td>
<td>127 (95)</td>
<td>122 (92)</td>
<td>136 (35)</td>
</tr>
<tr>
<td><strong>Parent + Youth intervention</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>15 (54)</td>
<td>12.32 (.55)</td>
<td>22 (79)</td>
<td>28 (100)</td>
<td>28</td>
</tr>
<tr>
<td>2</td>
<td>36 (60)</td>
<td>12.10 (.35)</td>
<td>57 (93)</td>
<td>59 (98)</td>
<td>63</td>
</tr>
<tr>
<td>9</td>
<td>14 (54)</td>
<td>12.00 (.40)</td>
<td>23 (92)</td>
<td>23 (88)</td>
<td>27</td>
</tr>
<tr>
<td>Subtotal</td>
<td>65 (57)</td>
<td>12.13 (.43)</td>
<td>102 (89)</td>
<td>110 (96)</td>
<td>118 (30)</td>
</tr>
<tr>
<td>Total</td>
<td>197 (52)</td>
<td>12.20 (.48)</td>
<td>348 (91)</td>
<td>359 (95)</td>
<td>393</td>
</tr>
</tbody>
</table>

Note: *Posthoc comparisons revealed that students at School 5 were significantly older than students at Schools 2, 3, 4, & 9. No other significant differences were found across schools or across conditions.*
empower parents to assist their adolescent children in resisting drugs and alcohol using the REAL strategies, (b) build and strengthen family functioning that can lead to prosocial youth behavior, and (c) increase the family’s problem-solving and communication skills. Because FPNG is a Latino-specific, Latino-driven, and Latino-based curriculum, it focuses on familial influences that characterize Latino youth and families, specifically parent-child communication, parental monitoring, and social support, which have an impact on the experience of acculturation (Locke, Newcomb, & Goodyear, 2005).

Using community-based participatory research, including stakeholder involvement, focus group participation, and qualitative analyses, the FPNG curriculum was developed, evaluated for feasibility, adapted, and revised (see Parsai et al., 2011). The final FPNG curriculum includes eight workshops that are highly interactive and emphasize hands-on activities:

1. You Are Not Alone. In this workshop parents identify people who might provide support to the family and the adolescent.

2. Introduction to kiR. Parents practice the REAL strategies and practice the ABCD Problem-Solving Method (i.e., Ask yourself what the problem is; Brainstorm possible solutions and their consequences; Choose one of the solutions; Do!).

3. Knowing Your Child’s World. Parents learn about adolescent development and identify how diversity and the social environment can affect adolescent development.

4. Communicating With Your Child. Parents develop effective and respectful ways of communicating and identify ways to promote prosocial activities.

5. Giving and Receiving Support. Parents identify why and how a supportive, positive, and warm relationship can keep adolescents away from problem behaviors, including substance use and risky sexual behaviors.

6. Managing Your Child’s Behavior Effectively. Parents learn how effective behavior management, such as parental monitoring, can protect adolescents from problem behaviors.

7. Talking With Teens About Risky Behaviors. Parents describe consequences of substance use and risky sexual behavior and identify how to prepare for sensitive conversations with children and adolescents.

8. Putting It All Together. Parents review the REAL strategies, social networks, and key elements from previous workshops and describe strategies they might use to help their adolescents navigate this time of their lives.

For the program, groups of parents met once a week for 8 weeks at the school their youth attended. Typically, groups met in the early evening or on the weekend, and child care was provided free of charge. Approximately five to 10 parents participated in each group, and on average, parents attended 6 out of the 8 lessons (69% attended Workshop 8). Trained bilingual facilitators delivered the manualized curriculum. Parents had the option of attending English-only or Spanish-only workshops; however, because this curriculum was designed for Latino parents, the majority of workshops were conducted in Spanish. In each workshop, facilitators reviewed the norms of the group, answered any questions about previous workshops, reviewed homework, and delivered the lesson. Parents participated in group activities that helped them put into practice the information they had learned. For example, in Workshop 5 parents formed small groups and completed the activity sheet “Supportive Relationships: What are They?” Parents wrote a list of what they believed contributes to a supportive relationship between parents and youth. Each group selected five aspects of a supportive relationship and shared with the other small groups.

At the end of each workshop, parents were given an assignment to complete with their family or youth during the week at home. For example, for Workshop 3 parents were asked to interview their youth and ask questions such as “Who is his/her best friend and what does he/she like about this person?” “What is the best memory he/she has of something the family has done together?” “Who is his/her favorite singer?” and “Who is his/her favorite music?” The following week, at Workshop 4, facilitators invited parents to share how the interview with their child was received and what new information they might have learned about their youth (e.g., favorite subject in school). At the end of the eighth workshop, parents participated in a graduation ceremony and were awarded certificates of completion.

Measures

Open communication. Open communication was measured at Wave 1 and Wave 2. Four distinct questions derived from the Olson et al. (1982) open parent–child communication measure were used to develop the latent construct open communication. These items included, “My child(ren) is always a good listener,” “I am very satisfied with how my child(ren) and I talk together,” “When I ask questions, I get honest answers from my child(ren),” and “My child(ren) tries to understand my point of view.” All questions were measured on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5).
**Efficacy of a Culturally Based Parenting Intervention**

**Treatment conditions.** In the PY group, parents received the FPNG parenting curriculum, and youth received the youth-centered prevention program, kiR. In the Y group, youth received kiR while parents did not receive any curriculum. In the C group, neither parents nor youth received any curriculum. For this study, the Y group served as the comparison (reference) group to test the effectiveness of the parent component beyond the effectiveness of the youth intervention.

**Plan of Analysis**

A power analysis was first conducted for this three-arm study design using a small-to-medium effect size for our targeted outcome variables. An estimated total and final size of the parent sample was based on contrasts conducted between two conditions at a time. This estimate of the final parent sample size assumed 5% attrition at each successive posttest observation. Adjusting for school clustering effects, we calculated power for an effective sample size that assumed a modest intraclass correlation of .02, which we have observed in prior studies of kiR. For tests of a three-group design, with an estimated final sample size of 406 parents after attrition (an average of 135 parents per condition, 45 parents per school), we estimated power for a repeated-measures ANOVA with two observations across time. Under these assumptions, using multilevel modeling to conduct these analyses, for \( \alpha = .05 \), and an effect size of \( f = .24 \) (a small-to-moderate effect size using Cohen’s conventional criteria; Cohen, 1988), our estimated final parent sample size of 271 afforded an 80% power to detect an Intervention x Time effect.

Analyses were conducted using Mplus (Muthén & Muthén, 1998-2010) with full-information maximum likelihood (FIML) parameter estimates with standard errors and a mean-adjusted chi-square test statistic that are robust to nonnormality. FIML allows for incomplete data across the variables. In the present study, 392 observations were retained (one participant was missing on all communication variables). A measurement model for open communication was first evaluated using confirmatory factor analysis. Then, we used structural equation modeling (SEM) to estimate the effects of the intervention on open family communication (i.e., from Wave 1 to Wave 2). Manifest items at Wave 1 were allowed to correlate with the same item at Wave 2. Correlation and covariance matrices of the observed variables are available upon request.

**Results**

The structure of our sampling design (i.e., families were nested within schools) indicates a potential for imprecision in our results (e.g., inflated standard errors) if we do not account for clustering effects. However, after calculating the intraclass correlation (.0045) and the design effect (1.0997) for open communication and for condition (\( \sigma^2 = 0 \)), we felt confident in proceeding with conventional statistical analyses without accounting for the nonindependence of observations. This decision followed recommendations derived from simulation studies conducted by Muthén and Satorra (1995), indicating that standard approaches can be applied with a design effect of less than 2.0.

**Table 2**

**Descriptive Statistics of the Four Indicator Variables at Waves 1 and 2**

<table>
<thead>
<tr>
<th>Wave</th>
<th>Indicator variable</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave 1</td>
<td>Listening</td>
<td>3.98</td>
<td>1.04</td>
</tr>
<tr>
<td></td>
<td>Talking</td>
<td>4.17</td>
<td>1.05</td>
</tr>
<tr>
<td></td>
<td>Honest answers</td>
<td>3.89</td>
<td>1.02</td>
</tr>
<tr>
<td></td>
<td>Understanding</td>
<td>3.94</td>
<td>.98</td>
</tr>
<tr>
<td>Wave 2</td>
<td>Listening</td>
<td>4.07</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>Talking</td>
<td>4.22</td>
<td>.89</td>
</tr>
<tr>
<td></td>
<td>Honest answers</td>
<td>3.92</td>
<td>.96</td>
</tr>
<tr>
<td></td>
<td>Understanding</td>
<td>4.02</td>
<td>.86</td>
</tr>
</tbody>
</table>

The following tests of model fit were used to evaluate the statistical significance of the models: the model chi-square (\( \chi^2 \)), the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA). A poor-fitting model is indicated by a significant \( \chi^2 \) (\( p < .05 \)) because the \( \chi^2 \) tests the null hypothesis that the model fits the analyzed covariance matrix. CFI and TLI model estimates greater than .90 indicate a good fit (Bentler, 1990; Bentler & Bonett, 1980; Julian, McKenry, Gavazzi, & Law, 1999), and estimates greater than .95 indicate a very good fit (Yu, 2002). RMSEA model estimates less than .05 indicate a good fit (Browne & Cudeck, 1993; Yu, 2002).

Descriptive characteristics of the four indicator variables (i.e., listening, talking, honest answers, understanding) are presented in Table 2. A measurement model using four indicator variables indicated that the model was a good fit according to the criteria outlined by Hu and Bentler (1999): \( \chi^2(1) = .63 \), \( p = .43 \), RMSEA = .00, CFI = 1.00, and TLI = 1.00. A correlation matrix of the measurement model and the two treatment condition variables are presented in Table 3.
A Correlation Matrix of the Four Indicator Variables at Waves 1 and 2 and the Two Treatment Condition Variables

<table>
<thead>
<tr>
<th>Indicator variable</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
<th>X7</th>
<th>X8</th>
<th>PY</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 Wave 1: Listening</td>
<td>.56***</td>
<td>.52***</td>
<td>.55***</td>
<td>.53***</td>
<td>.68***</td>
<td>.34***</td>
<td>.21***</td>
<td>.27***</td>
<td>.32***</td>
</tr>
<tr>
<td>X2 Talking</td>
<td>.21***</td>
<td>.30***</td>
<td>.32***</td>
<td>.30***</td>
<td>.54***</td>
<td>.28***</td>
<td>.32***</td>
<td>.41***</td>
<td>.34***</td>
</tr>
<tr>
<td>X3 Honest answers</td>
<td>.50***</td>
<td>.52***</td>
<td>.53***</td>
<td>.58***</td>
<td>.68***</td>
<td>.52***</td>
<td>.41***</td>
<td>.50***</td>
<td>.46***</td>
</tr>
<tr>
<td>X4 Understanding</td>
<td>.27***</td>
<td>.52***</td>
<td>.52***</td>
<td>.52***</td>
<td>.41***</td>
<td>.34***</td>
<td>.50***</td>
<td>.46***</td>
<td>.58***</td>
</tr>
<tr>
<td>X5 Wave 2: Listening</td>
<td>.15**</td>
<td>.07</td>
<td>.04</td>
<td>.11*</td>
<td>.01</td>
<td>.05</td>
<td>.03</td>
<td>.01</td>
<td>.09</td>
</tr>
<tr>
<td>X6 Talking</td>
<td>.08</td>
<td>.06</td>
<td>.04</td>
<td>.03</td>
<td>.01</td>
<td>.05</td>
<td>.03</td>
<td>.01</td>
<td>.09</td>
</tr>
<tr>
<td>X7 Honest answers</td>
<td>.05</td>
<td>.03</td>
<td>.01</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>X8 Understanding</td>
<td>.11*</td>
<td>.05</td>
<td>.03</td>
<td>.13*</td>
<td>.05</td>
<td>.03</td>
<td>.04</td>
<td>.09</td>
<td>.48***</td>
</tr>
</tbody>
</table>

*** p < .001, ** p < .01, * p < .05

Using, SEM, we found, as hypothesized, that parents in the PY group reported greater levels of open family communication at follow-up (Wave 2) as compared with parents in the Y group, β = .12, p < .05 (see Figure 1 & Table 4), controlling for open communication at baseline (Wave 1), χ²(30) = 39.45, p = .12, with a good model fit, RMSEA = .03, CFI = .99, TLI = .99. Parents in the C group were not significantly different from parents in the Y group at follow-up (Wave 2), β = .08, p > .05, controlling for open communication at baseline (Wave 1). (Wave 2), β = .08, p > .05, controlling for open communication at baseline (Wave 1).

Table 4
Unstandardized, Standardized, and Significance Levels for Open Communication Measurement and Structural Model (N=392)

<table>
<thead>
<tr>
<th>Parameter Estimate</th>
<th>B (SE)</th>
<th>B (SE)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measurement model estimates</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open communication at baseline →</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X1</td>
<td>1.00</td>
<td>.74 (.03)</td>
<td>NA</td>
</tr>
<tr>
<td>X2</td>
<td>1.03 (.08)</td>
<td>.76 (.03)</td>
<td>.00</td>
</tr>
<tr>
<td>X3</td>
<td>.97 (.08)</td>
<td>.72 (.03)</td>
<td>.00</td>
</tr>
<tr>
<td>X4</td>
<td>.91 (.08)</td>
<td>.72 (.04)</td>
<td>.00</td>
</tr>
<tr>
<td>X5</td>
<td>1.00</td>
<td>.67 (.04)</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Open communication at follow-up →</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X6</td>
<td>.86 (.08)</td>
<td>.57 (.04)</td>
<td>.00</td>
</tr>
<tr>
<td>X7</td>
<td>1.20 (.11)</td>
<td>.73 (.03)</td>
<td>.00</td>
</tr>
<tr>
<td>X8</td>
<td>1.15 (.11)</td>
<td>.79 (.03)</td>
<td>.00</td>
</tr>
<tr>
<td><strong>Structural model</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open communication baseline → follow-up</td>
<td>.44 (.06)</td>
<td>.58 (.05)</td>
<td>.00</td>
</tr>
<tr>
<td>Parenting intervention (vs. youth-only) → follow-up</td>
<td>.16 (.08)</td>
<td>.12 (.06)</td>
<td>.05</td>
</tr>
<tr>
<td>Control (vs. youth-only) → follow-up</td>
<td>.10 (.07)</td>
<td>.08 (.06)</td>
<td>.15</td>
</tr>
<tr>
<td>Residual for open communication at follow-up</td>
<td>.23 (.04)</td>
<td>.65 (.06)</td>
<td>.00</td>
</tr>
</tbody>
</table>


**Discussion**

Parenting education programs are not new to social work and have a history of being touted as effective at improving the health and well-being of our youth (e.g., Dumka, Roosa, & Michaels, 1995). However, parenting interventions have rarely been developed specifically for Mexican-heritage parents, including culturally relevant strategies grounded in community-based participatory research approaches, and their efficacy has seldom been evaluated against competing evidence-based programs. This study is one of the first to empirically evaluate the efficacy of a parenting intervention designed for Mexican-heritage youth, beyond the effects of an established youth intervention. The results of the present study confirm that known parenting practices relevant to reducing adolescent risk behavior are malleable to change. That is, after controlling for parenting practices at baseline, we found that open family communication was enhanced among parents who participated in the parenting-education program compared with parents who did not, holding youth participation in the youth component constant across conditions (i.e., PY vs. Y).
Parents whose children participated in the youth-only intervention (without a parent component) did not show a significant change in open family communication compared with those who did not receive any intervention (i.e., Y vs. C). Although long-term effects of the intervention on changing adolescent risk behaviors have yet to be determined, these findings indicate that when parents receive culturally specific programming, their parenting practices can change, leading to a potential long-term decrease in substance use among their children (Pokhrel et al., 2008). These findings highlight the initial efficacy of this parenting intervention as an important mediator of youth substance use and high risk behavioral outcomes. This study also presents initial information on our ability to influence protective factors within a vulnerable population, analyses that are much needed and often overlooked.

The major strengths of the study include the methodological design and the statistical modeling approach. Using community-based participatory research to develop and pilot the FPNG curriculum and evaluate its feasibility (see Parsai et al., 2011) granted us a way to meet the needs and preferences of Latino parents, specifically Mexican and Mexican American parents, within the local community. This curriculum was created in collaboration with parents in the unique social climate of the Southwestern United States, which

... added value to the parent curriculum by eliciting and incorporating important information and ideas as voiced by the parents themselves, thus ensuring that the parent curriculum was culturally appropriate and sensitive to the needs and wants of parents from the local community in which this intervention would be tested. (Parsai et al., 2011, p. 45)

These findings illustrate that when community-based participatory research is undertaken and parents’ needs are integrated into a culturally relevant curriculum, parenting behaviors and practices can change.

Evaluating the parenting intervention using a three-group randomized control trial in a pre- to post-test design also provided initial evidence regarding the efficacy of the culturally grounded parenting curriculum on changing parenting behaviors and practices. This design provides results that allow an attribution of changes in the targeted outcome variable to the intervention (i.e., the parenting intervention), beyond the effects of these youths’ participation in the youth intervention (i.e., kiR). Adolescents participating in the kiR intervention are learning how to make better decisions, create positive support networks, and resist substance use, all of which are skills and strategies that can foster greater parent–child communication. However, by parents’ reports, youth participation alone did not result in greater parent–child communication. Parents in the youth-only group, in which adolescents were receiving kiR, were not significantly different from parents in the control group. However, by using a three-block randomized design, this study highlights the importance of providing parents with their own culturally specific and culturally adapted
parenting curriculum to improve communication practices with their children, which foster a positive parent–child relationship. Future studies will examine whether changes in parenting behaviors lead to a greater reduction in risky behavior among Mexican-heritage adolescents.

**Limitations**

Several cautionary notes should be considered when evaluating the impact of the findings. First, because this curriculum was developed in a Southwestern U.S. metropolitan area with Mexican American parents living in predominantly Latino neighborhoods, it is unclear how the curriculum would generalize to other Mexican American communities outside of a Southwestern metropolitan area, particularly where Mexican American parents might be in the minority and from higher socioeconomic backgrounds. In addition, this particular Southwestern area has a distinctive sociopolitical climate, and the curriculum might be responding to the unique characteristics of that specific environment.

Second, the current analysis did not incorporate any information about the number of sessions that parents attended. Although the results are significant, it is unclear what minimum number of sessions parents needed to attend in order for parent–child communication to significantly improve. Third, a longer follow-up period is needed to assess whether the gains will persist over time. Fourth, because the effectiveness of the parent curriculum is determined by youth outcomes, fidelity was monitored only in the youth curriculum. During the implementation, Youth Workshops 4 and 5 were observed by university staff to ensure that the lessons adhered to the curriculum. These data indicated that 94% of the teachers were prepared and 91% of the teachers adhered completely to the curriculum. Although these data support fidelity of the youth curriculum, the study did not include fidelity monitoring of the parent curriculum, which is an inherent limitation of this study.

Fifth, with only nine schools, this study might have been underpowered to detect small effect sizes. Usually, researchers are concerned that an underpowered study runs the risk of lacking the necessary power to reject the null hypothesis. However, having an underpowered study could also limit the stability of the parameter estimates and overestimate the effect size. The small effect size of the intervention should be considered when interpreting the results and the inferring the effectiveness of the intervention. Finally, specific communication about substance use—the parents’ ability to discuss, establish expectations, and/or set limits—was not measured. Future studies are needed to evaluate whether the **FPNG** curriculum has an effect on parental communication specific to substance use and whether this effect translates to an improvement in long-term youth health outcomes.

**Implications and Concluding Remarks**

These results are promising in terms of the effects of parenting programs in strengthening parent–child communication. Based on the existing research, these types of outcomes can produce important prevention benefits for the adolescents of participating parents. The findings of this study appeared to confirm the importance of investing in efficacious and effective parenting programs for Mexican-heritage families. We recommend that policymakers, practitioners, and researchers further pursue this line of intervention research to increase the effect size of child-centered interventions and improve the overall health of Mexican-heritage adolescents.

Generally, open family communication has been noted to play an important role during adolescence, particularly as it relates to adolescent substance use and health behaviors (Jones, Beach, & Jackson, 2004). We found that an 8-week parenting program was effective at changing the ways in which parents and adolescents communicate with each other, which is an important mechanism through which we might expect change in risk behavior. Although much attention has been given to peers in relation to risk behaviors during adolescence, parental influences on adolescent well-being remain strong and are possibly stronger among particular populations, such as Latinos, who afford considerable importance to collectivistic family practices that involve family bonding and loyalty. The implications of these findings are promising to the overall effectiveness of a parenting intervention for Mexican and Mexican American communities.
disciplinary Research Center, School of Social Work, Arizona State University: marsiglia@asu.edu

Felipe González Castro is a professor and the director of Health Psychology in the Department of Psychology as well as a senior advisor to the provost for engaged health disparities scholarship, at the University of Texas at El Paso: fcastro4@utep.edu

Correspondence regarding this article should be directed to Dr. Lela Williams, Arizona State University School of Social Work, Mail Code: 3920, 411 N. Central Avenue, Phoenix, AZ 85004-0689 or via e-mail to lrw@asu.edu

Acknowledgement

This research was supported by funding from the National Institutes of Health/National Center on Minority Health and Health Disparities (NCMHD/NIH), award P20 MD002316-04 (F. Marsiglia, P.I.), awarded to the Southwest Interdisciplinary Research Center at Arizona State University. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NCMHD or the NIH.

References


Revision submitted: July 25, 2012
Revision submitted: September 19, 2012
Accepted: September 20, 2012
Published: December 3, 2012

APA citation for this article: