

Unintended Effects of an Intervention Supporting Mexican-Heritage Youth: Decreased Parent Heavy Drinking

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Abstract

Objective: To assess the impact of a parenting intervention, *Familias: Preparando la Nueva Generación* (FPNG), intended to support children, on parents heavy drinking. We hypothesized that parent participants of FPNG would reduce their heavy drinking at 1-year follow-up. **Methods:** Parents ($N = 281$) of middle school children from a large, low-income metropolitan area in the Southwest United States participated in a randomized control trial over 2 years. **Results:** A logistic regression analysis using the maximum likelihood test determined that at Wave 3, parents receiving FPNG reduced heavy drinking behaviors compared to parents in the youth-only condition (odds ratio = .86, $p < .05$). **Conclusions:** Participating in the parenting program can effectively curb heavy drinking behaviors in parents—an important mechanism through which one may expect changes in youth risk behavior. The practice, policy, and research implications of these unintended findings are promising to the overall effectiveness of a parenting intervention for Mexican-heritage families.

Keywords

alcohol use, parent intervention, community-based participatory research, randomized control trial, early adolescence

Preventing adolescent substance use is a national priority. Its use and associated consequences can have a costly and long-term impact on individuals, families, and communities (Chassin, Hussong, & Beltran, 2009; U.S. Department of Health and Human Services, 2007). Substance-related disorders have been associated with physical, economic, and social consequences, including poor academic performance, job instability, teen pregnancy, delinquency, violence, crime, and the transmission of sexually transmitted diseases (Ali & Dwyer, 2010; Sussman, Skara, & Ames, 2008). Alcohol consumption, in particular, has been associated with increased risk of suicide, victimization, or perpetration of dating violence, car accidents and using tobacco and other illicit drug use (Brismar & Bergman, 2006; Hawkins, Catalano, & Miller, 1992; Swahn, Bossarte, & Sullivent, 2008).

For Latinos aged 12 and older, substance use increased from 2011 to 2012 for both use in the last 30 days and in the past year (Substance Abuse and Mental Health Services Administration, 2013). Because of the increasing rates of alcohol consumption and heavy drinking behavior among Latino youth, there is a high need for substance use prevention services among Latino youth, yet a low availability of such programs that demonstrate effectiveness among this population (Skara & Sussman, 2003; Tobler et al., 2000). The parenting intervention, *Familias: Preparando la Nueva Generación* (FPNG), was developed primarily for Mexican immigrant mothers using community-based participatory research (CBPR) principles within a Mexican-

heritage community to address this need. Paired alongside *keeping it REAL (kiR)*, a classroom-based substance use prevention program for Mexican-heritage youth, FPNG has demonstrated effectiveness at improving parenting practices in a randomized control trial (Marsiglia, Williams, Ayers, & Booth, 2013; Williams, Ayers, Garvey, Marsiglia, & Castro, 2012). However, unknown, are the unintended effects of the parenting intervention on the substance use behaviors of parents themselves.

Changes in Substance Use in the Mexican American Community

Alcohol consumption has increased, specifically in the Mexican American community (Dawson & Panchanadeswaran, 2010). This increase is partly due to the adoption of the norms,

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practices, and values of the larger American society that is more accepting of drinking behaviors (Caetano & Mora, 1988). Mexican Americans are more restrictive in their attitudes toward drinking (Holck, Warren, Smith, & Roachat, 1984), particularly among Mexican American women (Caetano, Clark, & Tam, 1988); however, Mexican American women are more sensitive to the influence of acculturation (Black & Markides, 1993). Among women, heightened alcohol consumption is related to greater acculturation or adoption of mainstream American norms (Caetano & Mora, 1988). Globally, alcohol consumption trends in Mexico indicate that rates are increasing, particularly among women. From 2002 to 2011, the lifetime prevalence for alcohol use by women increased from 53.6% to 62.6%, the previous year prevalence rate increased from 34.2% to 40.8%, the previous 30-day prevalence rate increased from 7.4% to 19.7%, and the percentage of women dependent on alcohol tripled (Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz, 2012). Thus, alcohol use among Mexican immigrant women may be particularly heightened. This is relevant as the majority of parent participants of parenting interventions, as is true in the present study, are women (Velleman, Templeton, & Copello, 2005).

Mexican American and other Latino families are confronted with challenges associated with the acculturation process, including navigating the social rules and expectations of mainstream American culture in which drinking is a more socially acceptable behavior for both genders (Castro, Stein, & Bentler, 2009). The acculturation process includes feelings of distress when the demands imposed on new immigrants are too challenging to overcome and have been associated with increased mental health disorders among Mexican immigrants (Dawson & Panchanadeswaran, 2010). Acculturative stress may lead to family, marital, and cultural conflict and is often exacerbated by experiences of discrimination (Dawson & Panchanadeswaran, 2010), including the daily hassles that occur due to a person's minority status (Edwards & Romero, 2008). Both acculturative stress and discrimination increase the probability of drinking as alcohol is often used as a coping mechanism (Schinke et al., 1988).

Heavy Drinking

Heavy drinking, consuming five or more drinks in a row in one sitting (Chassin, Pitts, & Prost, 2002), is associated with multiple social and health problems (Laghi, Baiocco, Lonigro, Capacchione, & Baumgartner, 2012). Latinos are at a greater risk for alcohol problems, despite having lower rates of overall alcohol consumption compared to Whites (Zemore, Mulia, Ye, Borges, & Greenfield, 2009). Latino youth report elevated levels of heavy drinking, potentially because alcohol consumption is a culturally accepted behavior (Guilamo-Ramos, Johansson, Jaccard, & Turrisi, 2004)—Latino adults often fail to recognize the harm in heavy drinking (Laghi et al., 2012). This is particularly problematic, as Latinos are less likely to seek prevention or counseling services (Dillon, De La Rosa, Sanchez, & Schwartz, 2012). Heavy drinking has long-term consequences for physical

and emotional well-being, and heavy drinking episodes are a key indicator of alcohol abuse among moderate and regular heavy drinkers (De La Rosa et al., 2012; Naimi et al., 2003).

More acculturated Latinos may be more susceptible to heavy drinking, in part, due to the aforementioned stress associated with the acculturation process (De La Rosa, Holleran, Rugh, & MacMaster, 2005). This process of adapting to the traditions, values, and language of the dominant culture (Dawson & Panchanadeswaran, 2010) is a predictor of both the probability of being a drinker and the frequency of consumption among Latinos (Black & Markides, 1993). Youth who integrate more Americanized norms and expectations are more likely to participate in adolescent heavy drinking (Cavanagh, 2007; Guilamo-Ramos et al., 2004; Siquiera & Crandall, 2008). The same trend in heavy drinking occurs among adults; Latino adults who have been in the United States longer and more exposed to American norms are more likely to be heavy drinkers (Karriker-Jaffe & Zemore, 2009). Further, U.S.-born Latinos have higher rates of heavy drinking and alcohol use compared to Latino immigrants (Marsiglia, Kulis, Parsai, Villar, & Garcia, 2009).

Parent Substance Use on Adolescent Substance Use

Parents continue to play an important role in shaping alcohol use behavior among adolescents (Foley, Altman, Durant, & Wolfson, 2004). Exposure to substance use during childhood increases the risk of substance use and that risk is heightened during adolescence (Beiderman, Faraone, Monuteaux, & Feighner, 2000). Parent substance use may be the most powerful influence on adolescent initiation of the same substance (Andrews, Hops, & Duncan, 1997; Peterson, Hawkins, Abbott, & Catalano, 1994; Velleman et al., 2005). Parental alcohol problems are associated with drinking frequency, episodes of drunkenness and asocial patterns of drinking, including drinking alone, always drinking to a level of intoxication, and drinking to forget about problems (Chalder, Elgar, & Bennett, 2006).

Because parents define behavioral norms for the adolescent, parental modeling of substance use is associated with more risky substance use outcomes (Abar, Abar, & Turrisi, 2009; Chassin, Curran, Hussong, & Colder, 1996; Church, Jagers, & Taylor, 2012; Hawkins et al., 1992). If parents themselves use, they heighten risk for adolescent drinking through reinforcing drinking behavior (Andrews et al., 1997). For example, for adolescents of substance-abusing parents, the substance use growth curve begins at a significantly higher level as compared to adolescents of nonusing parents (Chassin et al., 2005). Adolescent children of substance users and abusers are more likely to experiment with drugs and alcohol at a younger age, have a greater acceleration of use, and are more likely to develop substance use problems later in life (Abar et al., 2009; Hussong, Huang, Serrano, Curran, & Chassin, 2012; Ohannessian, 2013); adolescents who have parents with alcohol problems are twice as likely to eventually show signs of an alcohol use disorder (Chalder et al., 2006). Further, research has found that the frequency of mothers, and not fathers, substance use was associated with youth initiation of substance use at an early age (Andrews et al., 1997).

Not only is parent substance use an important predictor of adolescent substance use, but the amount of exposure to heavy alcohol use influences the rate of risk for adolescents (Beiderman et al., 2000). Adolescents who are involved in their parents' substance use (e.g., pouring or serving drinks) are more likely to initiate alcohol consumption earlier than youth who have not been exposed to alcohol within the family unit (Peterson et al., 1994). Further, families with parents that abuse alcohol or drugs are characterized by high levels of hostility and conflict and low levels of cohesion (Bahr, Maughan, Marcos, & Li, 1998; Crockett, Brown, Russell, & Shen, 2007; Wagner et al., 2010). Parental alcohol consumption can lead to ineffective family management practices that increase the risk for adolescent substance use, including increased conflict and decreased parental warmth (Latendresse et al., 2008; Peterson et al., 1994). Substance using or abusing parents are more likely to be inconsistent in discipline, monitoring, and communication (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006; Ohannessian, 2013). Decreased monitoring is associated with adolescents participating in a substance-using peer group (Chassin et al., 2005, 1996).

FPNG. The FPNG intervention was developed using ecodesvelopmental theory as the guiding theoretical framework (Coatsworth et al., 2002; Pantin, Schwartz, Sullivan, Prado, & Szapocznik, 2004; Szapocznik & Coatsworth, 1999). This framework supports strengthening family functioning as a means to prevent adolescent substance use (Coatsworth et al., 2002; Perrino, González-Soldevilla, Pantin, & Szapocznik, 2000; Szapocznik & Coatsworth, 1999). The FPNG curriculum does not target parents' substance use behaviors directly but rather, the overall goals are to (a) 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. Using CBPR methods, including stakeholder involvement, focus group participation, and qualitative analyses, the FPNG curriculum was developed, evaluated for feasibility, adapted, and revised (see Parsai, Castro, Marsiglia, Harthun, & Valdez, 2011). Eight interactive workshops are delivered including, *Talking With Teens About Risky Behaviors*. In this workshop, parents describe consequences of substance use and identify how to prepare for sensitive conversations with their children. The present study examines the indirect impact of FPNG, a culturally grounded parenting intervention designed to prevent substance use among Mexican-heritage adolescents, on parents' (primarily immigrant mothers) heavy drinking. Although decreasing parent heavy drinking was not an original goal of the intervention, we hypothesized that parents enrolled in FPNG (parent intervention + youth intervention) would be less likely to engage in heavy drinking compared to parents of youth involved in the *kiR* intervention (youth intervention) and to parents in the control condition (no intervention).

Method

Sample

The study was approved by the institutional review board at Arizona State University (HS # 0707001990). The total sample for the present study consisted of 281 parents of middle school students. Middle schools from a major metropolitan area in the Southwest United States were identified as eligible for the randomized control trial if they had a population of Latino students greater than 70% ($n = 19$; 2007–2008 school year). Schools were randomly assigned into three conditions (see Williams et al., 2012 for a complete description of the randomization procedure): PY (parent intervention + youth intervention), Y (youth intervention), and C (no intervention). Nine schools were asked to participate (three per condition) in order to detect small-to-moderate effect sizes across the three conditions with 80% power ($\alpha = .05$). All schools consented to participate prior to being assigned to a treatment or control condition (see Figure 1 for diagram).

There were three waves of data collection: (1) baseline (pretest), (2) immediately following the intervention, and (3) 1-year postbaseline. All seventh-grade students and their parents were eligible to participate and the sample was drawn from two cohorts of parents and youth (2009–2010 and 2010–2011 school years). The overall consent rate for the study was 77% for both youth and parents in both cohorts. The analytic sample in the present study includes only parent survey data. 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 followed procedures recommended by prior research investigators (Marin & Marin, 1991; Rogler, 1989) by translating the English language version of the surveys into Spanish and then translating the surveys back into English to check for accuracy. At the completion of each wave, parents received an incentive of US\$30 for each survey packet completed. The analytic sample size for this study included 281 parents with an attrition rate between baseline and the posttest assessment of only 8%. While the attrition rate is extremely low, according to school staff, those parents and youth who could not be contacted at Wave 3 had moved to another state. The parent sample consisted predominantly of mothers, who were, on average, 38.5 years old and had completed some high school but did not have a diploma (see Table 1).

Intervention Procedures

The FPNG curriculum includes eight workshops: (1) *You Are Not Alone*. In this workshop, parents identify people who may provide support to the family and the adolescent; (2) *Introduction to keepin it REAL*. Parents practice the REAL strategies and practice the A-B-C-D problem-solving method (Ask yourself what is the problem; 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

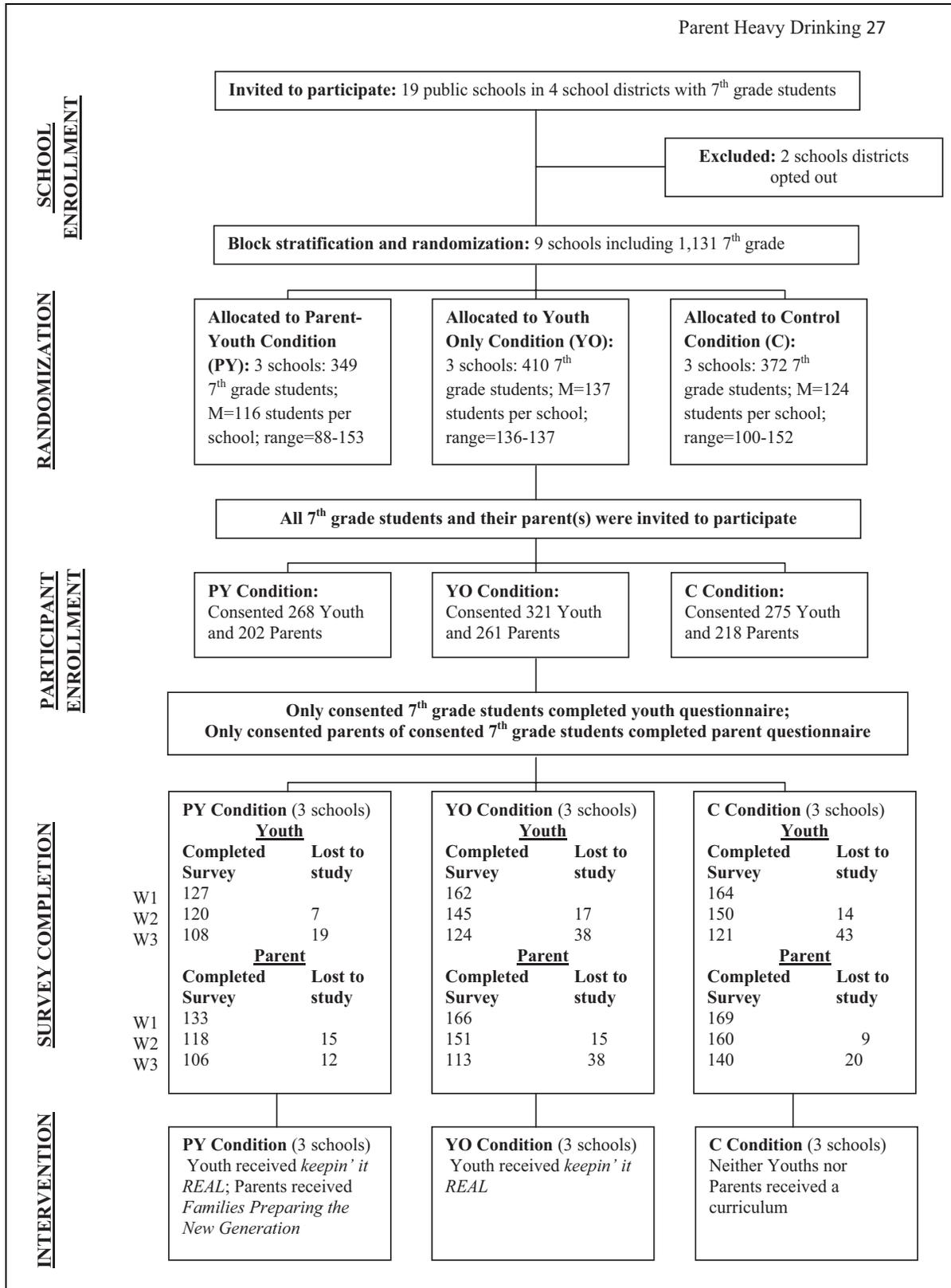


Figure 1. Methods for Familias Preparando la Nueva Generación.

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

Table 1. Sociodemographics of the Parent Participants.

	Frequency (%)
Sex	
Female	83
Male	17
Ethnicity	
Mexican, Mexican American, Chicano	72
Other Latino or Hispanic Group	28
Immigration status	
U.S.-born	14
Foreign-born	86
Language	
Speak only Spanish	58
Speak Spanish and English	40
Speak only English	2
Friendships	
Almost all Hispanics/Latinos and no White Americans	49
Ethnic Minority persons and White Americans	51
Mainly White Americans	< 1
Relationship status	
Married	60
Living with someone	18
Divorced/separated	13
Single/widowed	6
Other	3
Education	
Did not finish high school	66
High school or GED	16
Some college/college degree	18
Income	
Food stamps	36
WIC	18
<US\$18,000	50
Number of people in home	
<4	5
4	21
5	25
6	26
7	10
>7	13

Note. N = 281. GED = general equivalency diploma; WIC = Women, Infants, and Children.

including substance use and risky sexual behaviors; (6) *Managing Your Child's Behavior Effectively*. Parents learn how effective behavior management, like 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 may use to help their adolescents navigate this time of their lives.

Parents in the FPNG intervention 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 5 to 10 parents participated in each group, and on average, parents attended six of the eight 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 to put into practice the information they had learned.

For example, in Workshop 7, *Talking With Teens About Risky Behaviors*, parents broke into small groups and discussed "As a parent, what do you currently do to influence your adolescent's behavior?" and "What could or should a parent teach a child or adolescent about risky behavior?" 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 7, parents were asked to plan for and have a conversation with their adolescent about the consequences of alcohol and drug use and to be prepared to share how their conversation went at the next workshop. At the end of the eighth workshop, parents participated in a graduation ceremony during which certificates of completion were awarded.

Measures

Parent heavy drinking. Parents were asked at baseline (Wave 1) and at follow-up (Wave 3) how often, on average, they consume four or more drinks (five or more drinks for fathers) in one occasion (parent heavy drinking was not assessed at Wave 2). Response options included 1 (*never*), 2 (*less than monthly*), 3 (*monthly*), 4 (*weekly*), and (*daily or almost daily*). Given the positive skew and ordinal nature of the response options, responses were recorded into 0 (*never*) and 1 (*had a heavy drinking occasion at least once*). Collapsing of these categories was done conceptually and before primary data analysis. At Wave 1, 24.5% of parents reported at least one occasion of heavy drinking compared to 23.1% at Wave 3.

Treatment conditions. In the PY group, parents received the FPNG parenting curriculum, and youth received the youth-centered substance use 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 in order to test the effectiveness of the parent component above and beyond the effectiveness of the youth intervention.

Analyses

This efficacy trial was established to assess whether the parental component FPNG would have a positive effect on youth substance-using behaviors. This analysis explores whether

FPNG would have an unintended positive effect on parent heavy drinking behavior and therefore could reduce future youth drinking behavior through positive modeling behavior. A logistic regression analysis using the maximum likelihood test was used to assess whether at Wave 3 ($N = 281$), parents receiving the FPNG curriculum would reduce heavy drinking behaviors compared to the youth-only intervention *keepin' it REAL*, controlling for baseline differences in heavy drinking.

Results

The distribution of heavy drinking episodes, and confidence intervals, by condition are presented in Figure 2. The percentage of parents who reported heavy drinking at Wave 1 were similar across conditions (PY = 24.6%, Y = 23.3%, C = 29.9%). However, by Wave 3, parents who received FPNG had a dramatically lowered percentage who reported ever heavy drinking, while parents in the Y and C conditions remained similar to each other (PY = 13.4%, Y = 28.3%, C = 26.9%).

Results, presented in Figure 3, indicate that parents who reported heavy drinking in Wave 1 had significantly higher odds of heavy drinking at Wave 3, $B = 2.47$, $SE = .34$, $p < .001$, odds ratio (OR) = 11.83. In examining the impact of the intervention above and beyond the impact of heavy drinking at Wave 1, parents who received FPNG had significantly lowered odds of heavy drinking by Wave 3, $B = -1.23$, $SE = .45$, $p = .007$, OR = .29, compared to parents in the youth-only group. That is, PY parents had less than a third likelihood to engage in a heavy drinking episode compared to Y parents at Wave 3 (a moderate-to-large effect size). Parents in the control group, however, were not significantly different from parents in the youth-only group in heavy drinking behaviors at Wave 3, $B = -.17$, $SE = .38$, $p = .64$, OR = .84. That is, Y and C parents were equally likely to engage in a heavy drinking episode at Wave 3. The overall model accounted for 29.6% of the variance in heavy drinking ($R^2 = .296$, $SE = .06$, $p < .001$).

Discussion and Applications to Social Work

This article examined how the parenting intervention, FPNG, could influence parents' heavy use of alcohol. While FPNG was developed to complement and strengthen the effects of the youth substance use prevention program, *keepin' it REAL (kiR)*, FPNG has positive unintended consequences for the parents by lowering their heavy alcohol use. Lowering parents' heavy alcohol use is beneficial to both parents and youth, particularly for Latino families who may be confronted with difficulties, stress, and discrimination associated with the acculturation process. For parents, heavy alcohol use may be a coping mechanism from the unmanaged acculturative stress and discrimination (Schinke et al., 1988), leading to family, marital, and cultural conflict (Dawson & Panchanadeswaran, 2010).

For youth, impacting parents' heavy drinking behavior is important for youth outcomes for two reasons. First, parental alcohol problems are associated with low levels of family

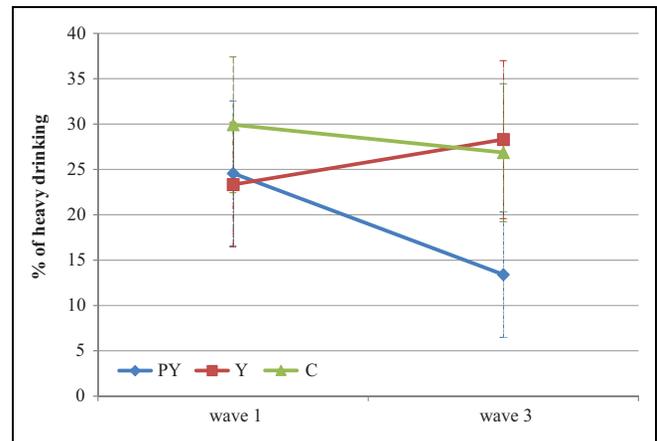


Figure 2. Percentage of parents who drank heavily by condition and wave ($N = 281$). PY = parent intervention + youth intervention, Y = youth intervention, C = control group (no intervention).

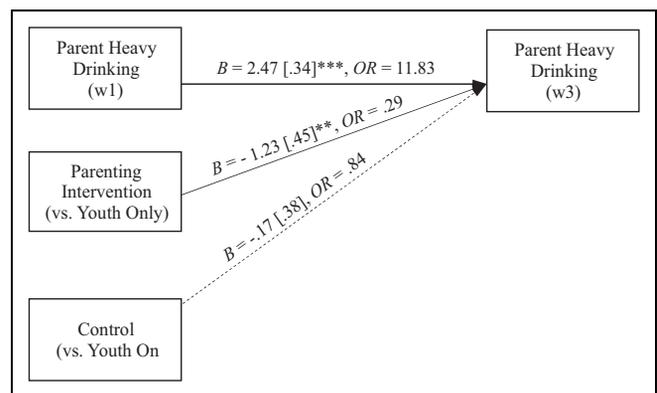


Figure 3. Logistic regression model of the parenting intervention (vs. youth-only) and the Control Condition (vs. Youth Only) on Parent Heavy Drinking (Wave 3 [W3]) ($N = 281$). $R^2 = 24.6$. * $p < .05$. ** $p < .01$. *** $p < .001$.

functioning, including low levels of cohesion and warmth (Latendresse et al., 2008; Peterson et al., 1994), high levels of hostility and conflict (El-Sheikh & Flanagan, 2001), and inconsistent levels of discipline, monitoring, and communication (Barnes et al., 2006; Ohannessian, 2013). Therefore, in accordance with the ecodevelopmental model, for which the FPNG curriculum is based, strengthening family functioning is a pathway for preventing adolescent substance use (Coatsworth, Pantin, & Szapocznik, 2002; Perrino et al., 2000; Szapocznik & Coatsworth, 1999). Thus, a reduction in parent's heavy drinking is expected to lead to lowered youth alcohol use over time. Second, parents also play an important role in modeling appropriate alcohol use behavior to adolescents (Andrews et al., 1997). When heavy alcohol use is modeled by parents, particularly by mothers (Andrews et al., 1997), youth are at a greater risk of initiating substance use earlier in life (Peterson et al., 1994) and developing substance use problems in adulthood (Abar et al., 2009; Hussong et al., 2012; Ohannessian, 2013). Thus, when parents reduce heavy drinking, appropriate

drinking behaviors can be modeled, reinforced, and encouraged to the adolescent (Andrews et al., 1997).

The findings from this study indicate that FPNG engages parents in a culturally grounded way, reduces parental heavy drinking, and increases appropriate role modeling behavior. This is particularly relevant for Mexican immigrant mothers as they are more at-risk for heavy alcohol use due to increasing rates of female alcohol use and alcohol-dependent women in their native country (Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz, 2012) and also due to the acculturation process itself (Caetano & Mora, 1988) to which female immigrants are more sensitive (Black & Markides, 1993). Parent's reduction in heavy drinking appears to positively impact their children beyond the effects of the youth-only intervention. Learning not only how to communicate with their youth about risky behaviors but to reflect on how they as a parent currently influence their adolescent's behavior is one possible mechanism through which the FPNG curriculum can be effective at reducing adolescent substance use behavior.

Several cautionary notes should be considered before evaluating the impact of the findings. First, the vast majority of parents were monolingual in Spanish and living in predominantly Latino neighborhoods. It is unclear how FPNG would reduce parents' heavy drinking behavior in other Mexican American communities outside the Southwestern metropolitan area, particularly in areas of higher socioeconomic status and where Mexican American parents may be in the minority. Second, because this study is only three waves, it is unclear how adolescent substance use actually changes over time. A longer follow-up period is needed to assess whether FPNG can reduce adolescent substance use by mediating parent heavy drinking behaviors.

Given that Latino youth face high rates of alcohol consumption and heavy drinking behaviors (Guilamo-Ramos et al., 2004), resulting in long-term physical, social, and economic consequences, the need for culturally grounded substance use preventions is warranted. We found that FPNG as a parent component to the already efficacious *keepin' it REAL* can effectively curb heavy drinking behaviors in parents—an important mechanism through which we may expect change in youth risk behavior. The implications of these findings are promising to the overall effectiveness of a parenting intervention for Mexican-heritage families.

Authors' Note

The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIMHD or the NIH.

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