Explicating How Parent–Child Communication Increases Latino and European American Early Adolescents' Intentions to Intervene in a Friend's Substance Use

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Abstract This study used primary socialization theory and a focus theory of normative conduct to examine whether anti-substance-use norms mediated targeted parent–child communication against substance (alcohol, cigarette, and marijuana) use's effects on Latino and European American early adolescents' intentions to intervene in a friend's substance use. Further, this study investigated whether familism interacted with targeted parent–child communication to predict anti-substance-use norms, and whether this mediated moderation model functioned differently for Latino and European American early adolescents. Self-reported longitudinal survey data were collected from 6th-8th grade students (*N*=627), attending rural IL public schools. Multigroup mediated moderation analyses revealed that as Latino and European American early adolescents engaged in targeted mother–child communication against substance use, they were more likely to develop anti-substance-use parent injunctive norms, and in turn, more likely to report anti-substance-use personal norms. Thus, they were more likely to report that if their friend used substances, they would talk to their friend, seek help from others, and end the friendship. They were, however, less likely to ignore the friend's substance use. Familism was not a significant moderator, and the hypothesized effects did not differ for Latino and European American early adolescents. The results suggest that parents of Latino and European American adolescents may discourage substance use by engaging in targeted parent–child communication, which may indirectly benefit their children's friends, as well.

Keywords Friend intervention · Substance use · Norms · Parent–child communication · Latino

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In 2012, *Monitoring the Future* revealed that Latino 8th grade students reported the highest rates of alcohol and marijuana use, followed by European American and then African American 8th grade students. Latino and European American students also shared similar rates of smoking, which were greater than African American students (Johnston et al. 2013). Latino and European American early adolescents' higher rates of substance use are particularly concerning because early substance use is associated with other problems such as cognitive impairment, depressive symptoms, delinquency, poor academic performance, and substance-use disorders (Bryant et al. 2000; Tucker et al. 2008). Among various approaches to substance-use prevention, primary socialization theory (PST) has received considerable empirical support for theorizing parents and friends as pro- or anti-substance-use socialization agents (Oetting and Donnermeyer 1998). Existing research, however, tends to treat parents as protective resources and friends as sources of negative influence (Oetting and Donnermeyer 1998; Real and Rimal 2007), thereby overlooking the possibility that parents' efforts to foster their children's anti-substance-use perceptions and behaviors can actually encourage adolescents to be positive influences for their friends. To address this gap, this study examines: (1) whether anti-substance-use communication

with parents can benefit Latino and European American early adolescents by promoting greater anti-substance-use norms, and (2) whether such communication can indirectly benefit Latino and European American early adolescents' friends by increasing Latino and European American early adolescents' intentions to intervene in a friend's substance use.

The Roles of Parents and Friends in Discouraging Substance Use

PST (Oetting and Donnermeyer 1998) posits that adolescents develop perceptions regarding substance use (and other delinquent behaviors) through direct contact with three primary agents: parents, friends, and school. The current study focuses specifically on parents and friends because this micro-level approach allows for the provision of a more detailed understanding of how these two interpersonal sources work together in preventing substance use among Latino and European American early adolescents.

Targeted Parent–Child Communication Against Substance Use

Recently, prevention researchers have emphasized the importance of substance-use-specific communication (Ennett et al. 2001; Miller-Day and Kam 2010). Past research often only considered how openly and frequently parents talked to their offspring (Kam 2011; Reimuller et al. 2011). Substance-use prevention programs were left with encouraging parents to talk to their children; however, parents did not know exactly what to say to their children about substance use (Boone and Lefkowitz 2007). Thus, Miller-Day and her colleagues (Kam 2011; Miller-Day and Kam 2010; Miller-Day and Dodd 2004) developed the construct, targeted parent–child communication against substance use (hereafter referred to as targeted parent–child communication), which refers to one-time and ongoing, direct and indirect conversations specifically against substance use. Such conversations may include warning offspring about the negative consequences to substance use, discussing others who were in trouble because of using substances, providing suggestions for avoiding substance-use offers, or clearly stating disapproval of substance use (Kam 2011; Miller-Day and Dodd 2004). Given the anti-substance-use messages that characterize targeted parent–child communication, adolescents engaging in this communication are more likely to develop anti-substance-use perceptions, and in turn, less likely to use substances (Miller-Day and Kam 2010).

PST posits that through communication parents influence their adolescent children's substance-use perceptions and behaviors, but the theory does not specify the particular

perceptions at work in this socialization process. A focus theory of normative conduct (FTNC) (Reno et al. 1993) informs PST by identifying particular psychological mechanisms through which parents can indirectly shape their adolescent children's substance-use behaviors. FTNC suggests that individuals are motivated to engage in a certain behavior because of their injunctive norms (i.e., whether important others approve of the behavior) and descriptive norms (i.e., whether others are engaging in the behavior), specifically if the norms are salient (Kallgren et al. 2000). Although not part of the original theory, a number of researchers also have incorporated personal norms (i.e., whether the individuals themselves approve of the behavior) to strengthen FTNC's power to predict behaviors (Elek et al. 2006; Kam et al. 2009).

By incorporating elements of PST and FTNC, the current study postulates that Latino and European American early adolescents engaging in targeted parent–child communication are more likely to develop parent-anti-substance-use injunctive norms (i.e., the belief that their parents would disapprove of them using substances) and descriptive-anti-substance-use norms (i.e., the perceived low-prevalence of substance use among their peers). In turn, such external norms (injunctive and descriptive), that are rooted in perceptions of what others think or what others are doing, shape early adolescents' personal-anti-substance-use norms (i.e., believing that using substances is wrong) (Kam et al. 2009).

As evident in past prevention research using FTNC, Kam et al. (2009) found that anti-substance-use external norms predicted personal-anti-substance-use norms, which functioned as protective factors that discouraged Mexican-heritage adolescents from using alcohol, tobacco, and marijuana. FTNC (Reno et al. 1993; Elek et al. 2006) identifies injunctive norms, descriptive norms, and now personal norms as factors that motivate individuals to engage in or refrain from partaking in a behavior. PST (Oetting and Donnermeyers 1998) compliments FTNC by explaining how adolescents develop norms through communication with parents and friends.

Intervening in a Friend's Substance Use

PST often conceptualizes parents as protective agents that transmit anti-substance-use perceptions, while treating friends as sources of negative influences that encourage pro-substance-use norms (Allen et al. 2003; Higgins et al. 2010; Real and Rimal 2007). Although the latter often occurs, preliminary evidence points to the possibility that, due to the nature of friendships, some adolescents may actually prevent and/or intervene in their friends' substance use when adolescents have developed anti-substance-use perceptions (Flanagan et al. 2004; Kam et al. 2013). Strong

friendships often include caring for each other's health and well-being, providing social support, protecting each other, and defending each other when needed (Flanagan et al. 2004). As early adolescents develop anti-substance-use norms by engaging in targeted parent–child communication, early adolescents may be more likely to intervene if a friend used substances (Kam et al. 2013).

Although studies on friend intervention and non-intervention strategies among early adolescents remains limited, a small body of research has identified several intervention and non-intervention strategies such as *talking directly to the friend* about their substance use, *seeking help* from others (e.g., friends, parents, and other adults), *ending the friendship*, and *ignoring* their friend's substance use (Flanagan et al. 2004). Based on PST, FTNC, and past research, the present study proposes a mediation model, such that as Latino and European American early adolescents engage in targeted parent–child communication, they will be more likely to develop external norms, and in turn, such external norms will result in personal norms against substance use. Given Latino and European American early adolescents' anti-substance-use norms, along with the nature of friendships, Latino and European American early adolescents will be more likely to talk to their friend, seek help from others, or end the friendship, but less likely to ignore the friend's substance use. Thus, it is hypothesized that:

H1 External norms (i.e., parent-anti-substance-use injunctive norms and descriptive-anti-substance-use norms) mediate the effects of targeted parent–child communication on personal-anti-substance-use norms.

H2 Personal-anti-substance-use norms mediate effects of external norms on friend intervention and non-intervention strategies.

A Focus on Latino and European American Early Adolescents

Currently, the limited research on parent–child communication and friend intervention strategies has focused primarily on European American or African American samples (Flanagan et al. 2004; Reimuller et al. 2011; Syvertsen et al. 2010). Yet, Latino 8th grade students reported the highest rates of alcohol and marijuana use compared to European American and African American 8th grade students (Johnston et al. 2012). Not only are Latino early adolescents particularly at risk for substance use, followed by European American early adolescents, but certain values associated with Latinos may make parents salient to the substance-use prevention process.

PST (Oetting 1999) posits that parents and friends may play an important role, depending on the relationship that adolescents have with such socialization agents. Traditional Latino cultural values such as *familismo* (≈familism) may make parents particularly crucial to substance-use prevention for early adolescents of Latino descent (Cervantes 2002). Familism highlights the importance of the nuclear and extended family (Cervantes 2002). Latino adolescents, who adhere to such values, emphasize close interdependent relationships with family and respect for adult figures, all of which may make targeted parent–child communication especially influential for Latino early adolescents. Thus, this study proposes a mediated moderation model, examining whether familism interacts with targeted parent–child communication to predict external norms, and in turn, personal anti-substance-use norms. The link between targeted parent–child communication and external norms is likely to be stronger for Latino and European American early adolescents high in familism compared to those early adolescents who are low in familism. Moreover, since familism is a cultural value that has grown from the literature on Latino populations, the proposed associations may differ for Latino and European American early adolescents. Hence, the following hypotheses were set forth:

H3 Familism will function as a moderator such that targeted parent–child communication's association with external norms will be stronger for Latino and European American early adolescents high in familism compared to early adolescents low in familism.

H4 The mediated moderation model will differ for Latino and European American early adolescents such that the hypothesized associations in H1–H3 will be stronger for Latino early adolescents.

Method

Participants

Self-reported longitudinal survey data were collected from 6th–8th grade students ($N=688$) attending one of three rural Illinois public schools. Surveys were distributed in September and October 2011 for wave 1 ($n=613$), at the end of January 2012 for wave 2 ($n=607$), and in April 2012 for wave 3 ($n=614$). Students were allowed to enter the study at later waves, even if they had not participated in earlier ones. Overall, 74 % participated in all three waves, 18 % participated in two waves, and 8 % only participated in one wave.

Among the 688 students, 277 were Latino, 350 were European American, 2 were American Indian or Alaskan Native, 15 were African American or black, 41 were of multiple ethnicities/races, and 3 did not report their ethnicity. Only Latino and European American students were

selected for the present study because national data indicate that they are particularly at risk for using substances (Johnston et al. 2012), and also because the number of students from other ethnic backgrounds were too few to conduct comparisons for the hypothesized model (see Table 1 for a sample description). Among the Latino sample (n=277), 89 % were of Mexican descent, while 11 % were of other Latino descent. Overall, the data analyses were based on 277 Latino and 350 European American early adolescents.

Procedures

Upon receiving approval from the university's Institutional Review Board, the three schools sent information letters home to parents. The letter included a withdrawal form, and across all three schools, 22 students were withdrawn from the study by their parents. Research personnel administered the survey to students during a class period. The students were told about the voluntary and confidential nature of the study and asked to sign an assent form at each wave. The assent and survey completion process took approximately 45–60 min. The documents were available in English and Spanish. Rogler's (Rogler 1989) back-translation method was used to establish translation fidelity. Five percent of the students completed the survey in Spanish. For each wave, schools received $800, and three students were randomly selected (one per grade level) to receive an Apple iPod Touch.

Measures

Each construct was assessed with shortened scales to meet the time constraints imposed by the school setting and the developmental needs of 6th-8th grade students.

Targeted Parent–Child Communication (Independent Variables; IVs)

The following measures are for the independent variables (targeted parent–child communication) that indirectly predict personal anti-substance-use norms through external norms.

Targeted Mother– and Father–Child Communication Against Substance Use

Six items were taken from the Targeted Parent–child Communication about Alcohol Scale (Miller-Day and Kam 2010), and they were adapted to incorporate alcohol, cigarettes, and other drugs. In particular, students were asked, "How often has your mother, father, and best friend told you the following?" The questions were, "These people have…" "…told me they would be upset with me if I drank alcohol, smoked cigarettes, or used other drugs," "…told me stories of others who have gotten in trouble because of drinking alcohol,

Table 1 Selected characteristics of the sample

Characteristics	Latino early adolescents (n=277)	European American early adolescents (n=350)
Mean age (years)	12 years (SD=1.1)	12 years (SD=1.0)
Grade level		
6th	31 %	30 %
7th	30 %	32 %
8th	39 %	38 %
Sex		
Female	43 %	51 %
Male	57 %	49 %
Free- or reduced lunch-cost program[a]		
Free- or reduced cost	84 %	53 %
No free- or reduced cost	16 %	47 %
Times spent in the U.S.[a]		
Lived more than 10 years	68 %%%	97 %
Lived between 6 and 10 years	17 %	1 %
Lived in the U.S. for 5 or less years	15 %	2 %
Mother's nativity[a]		
Had a mother born outside the U.S.	77 %	1 %
Father's nativity[a]		
Had a father born outside the U.S.	90 %	2 %

[a] Significant differences between Latino and European American early adolescents.

smoking cigarettes, or using other drugs," "…talked to me about how to avoid offers of alcoholic drinks, cigarettes, and other drugs," "…given me rules to obey about not drinking alcohol, smoking cigarettes, or using other drugs," "…told me about how using alcohol, cigarettes, or other drugs is bad when a character on TV was drinking, smoking, or using other drugs," and "…warned me about the dangers of drinking alcohol, smoking cigarettes, or using other drugs" (1=never to 4=many times). When students read each of the six items, they were asked to report their communication with their mother and father, thereby resulting in six items for each source. Since the present study focuses on targeted parent–child communication, targeted communication with a best friend was excluded.

Hypothesized Mediators: External Norms

The following measures are for external norms (injunctive and descriptive norms), which were posited to indirectly predict friend intervention and non-intervention strategies through personal norms.

Parent-Anti-Substance-Use Injunctive Norms Using three items from Hansen and Graham (1991), students were asked, "Would your parents feel it would be wrong for you to…" and students read three items, "…drink alcohol occasionally (beer, wine, or hard liquor)?", "…smoke cigarettes occasionally?", and "…use marijuana occasionally?" (1=No, not at all to 4=Yes, it would be very wrong).

Descriptive-Anti-Substance-Use Norms Based on Hansen and Graham (1991), students were asked, "Out of every 100 students your age, how many do you think…" and students read three items, "…drink alcohol at least once a month?", "…smoke cigarettes at least once a month?", and "…smoke marijuana at least once a month?" (1=all of them to 11=none).

Hypothesized Mediators: Internal Norms

The following measures are for internal norms (personal norms), which were posited to directly predict the ultimate dependent variables (friend intervention and non-intervention strategies).

Personal-Anti-Substance-Use Norms Using three items from Hansen and Graham (1991), students were asked, "Do you think it would be wrong for someone your age to…" and students were given three items, "…drink alcohol (beer, wine, or hard liquor) occasionally?", "…smoke cigarettes occasionally?", and "…use marijuana occasionally?" (1=No, not at all to 4=Yes, it would be very wrong).

Dependent Variables: (Non)Intervention Strategies

The following measures are for the ultimate dependent variables (friend intervention and non-intervention strategies).

Friend Intervention and Non-Intervention Strategies Based on Flanagan et al. (2004), 12 items were used. Students first read an introduction: "If you recently found out that one of your friends drank alcohol, used tobacco (e.g., smoked cigarettes, chewed), or used other drugs, please think about what you might do. Below are some things that people may or may not do if they found out their friend used alcohol, tobacco, marijuana, or other drugs. How likely is it that you would do each of the following?" Using a five-point scale (1=very unlikely to 5=very likely), students were asked how likely they would be to *talk to the friend* (three items; e.g., "Tell your friend you are worried about them."), *seek help* (three items; e.g., "Seek help from your parents."), *end the friendship* (3 items; e.g., "Stop being their friend."), and *ignore the friend's substance use* (3 items; e.g., "Ignore it because it won't do any good.").

Moderator: Family-Based Cultural Value

The following measures are for familism, which was hypothesized to moderate the associations between targeted parent–child communication and the external norms.

Familism Five items were taken from The Mexican American Cultural Values Scale for adolescents and adults by Knight et al. (2010). Students read the statement, "How strongly do you agree or disagree with this statement?" and students responded to five statements (e.g., "Children should follow their parents' rules even if they think the rules are unfair.", "Children should always think about their family when making important decisions," and "Children should be taught to always be good because they represent the family."). The measures were based on a four-point scale (1=strongly disagree to 4=strongly agree).

Control Variables

During the analyses, paths were included from the following control variables to the hypothesized mediators and ultimate dependent variables. Several variables were taken into account: age, sex (0=male, 1=female), nativity (0=born in the U.S., 1=born outside the U.S.), time spent in the U.S. (1=less than 1 year to 5=all my life), participating in a free- or reduced-cost lunch program (0=participated in a free- or reduced lunch-cost program, 1=neither), how often the students attended church or other religious activities (1=never to 4=about once a week or more), and prior friend

intervention and non-interventions strategies (the same measures as the outcomes but measured at wave 1).

Summary of the Descriptive Statistics

Table 2 shows the descriptive statistics, bivariate correlations, and reliability reports for this study's measures. Cronbach's alphas ranged from .81–.95 for Latino early adolescents and .79–.94 for European American early adolescents. The scales were similar in reliability across both groups. In addition, independent sample t tests revealed that European American early adolescents (M=1.82, SD=.93) reported greater intentions to end the friendship [$t(530)$= −2.96, p<.01] than Latino early adolescents (M=1.58, SD=.87).

Data Analysis

Structural equation modeling was performed in Mplus 6.0. To address the missing data, multiple imputation (MI) was used with 40 imputed data sets created in SAS and imported into Mplus (Graham 2009). MI was specifically chosen because the independent variables comprised of missing data and MI does not drop such cases (Enders 2010). Regarding data distribution, only the items for the norms were skewed. Choosing the appropriate transformation strategy, however, is questionable because skewness can only be assessed, using

listwise deletion, which results in biased estimates (Enders 2010). Thus, this study's data were not transformed.

Prior to carrying out the main analyses, confirmatory factor analysis (CFA) was conducted with all the latent factors forming an omnibus model. Targeted mother–child communication and targeted father–child communication were highly correlated, so one- and two-factor models were compared in which the two-factor model garnered empirical support with a chi-square difference test. Similarly, talk to the friend and seek help from others were highly correlated, but the CFA results provided support for retaining them as two distinct factors with their corresponding items (contact the authors for more detailed CFA results).

When examining the proposed mediated moderation, a restricted model was first examined, where all the parameters were held equal across both ethnic groups. In this model, direct and indirect paths were examined. Afterward, an unrestricted model was inspected, allowing the parameters to be freely estimated across both ethnic groups. A chi-square difference test and Hu's and Bentler's criteria (Hu and Bentler 1999) were used to determine the better model. A well-fitting model should have a root mean square error of approximation (RMSEA)≤.06 (Hu and Bentler 1999), but a reasonably fitting model can have a RMSEA of less than .08 (Browne et al. 1993). Further, for a well-fitting model, the comparative fit index (CFI) should be≥.95; however, an acceptably fitting model can have a CFI value≥.90

Table 2 Means, standard deviations, bivariate correlations, and reliability

Variable	Means (SD)[a]	Means (SD)[b]	1	2	3	4	5	6	7	8	9	10
1. MCCOM	3.03 (1.1)	3.06 (.98)	.93, .91	.91**	.20**	.11	.26**	.27**	.32**	.05	−.13	.28**
2. FCCOM	2.86 (1.1)	2.96 (1.0)	.84**	.95, .92	.20**	.10	.30**	.28**	.35**	.08	−.12	.34**
3. PARINJ	3.74 (.63)	3.78 (.63)	.26**	.22**	.88, .93	.05	.30**	.09	.04	.04	−.17*	.15*
4. DESCRIP	8.32 (5.8)	8.47 (5.2)	−.04	−.07	−.02	.91, .90	.05	.05	.07	.08	−.04	−.05
5. PNORMS	3.55 (.76)	3.61 (.73)	.20*	.19*	.27**	.10	.89, .91	.35**	.29**	.15*	−.18**	.25**
6. TALK	2.90 (.97)	2.89 (.99)	.22**	.15	.23**	.09	.42**	.88	.77**	.25**	−.26**	.17**
7. HELP	2.53 (1.1)	2.49 (1.1)	.18*	.16*	.18*	.10	.36**	.80**	.90, .86	.33**	−.14*	.19**
8. END	1.58 (.87)[c]	1.82 (.93)[c]	.09	.11	.13	.04	.21**	.16*	.25**	.92, .91	.22**	.14*
9. IGNORE	1.63 (.91)	1.65 (.95)	−.02	.03	−.05	−.06	−.23**	−.21**	−.21**	.37**	.87, .91	−.08
10. FAMIL	3.25 (.54)	3.21 (.51)	.33**	.33**	.22**	.08	.25**	.25**	.34**	.11	−.05	.81, .79

Latino early adolescents' bivariate correlations are listed under the diagonal, and European American early adolescents' bivariate correlations are listed above the diagonal. Cronbach's alpha coefficients are listed in the diagonal for Latino early adolescents first, followed by European American early adolescents

MCCOM targeted mother–child communication against substance use, *FCCOM* targeted father–child communication against substance use, *PARINJ* parent-anti-substance-use injunctive norms, *DESCRIP* descriptive-anti-substance-use norms, *PNORMS* personal-anti-substance-use norms, *TALK* talk to the friend about his/her substance use, *HELP* seek help from others, *END* end the friendship, *IGNORE* ignore the friend's substance use, *FAMIL* familism

*p<.05; **p<.01 (two-tailed)

[a] Means (SD)=Latino early adolescents' means and standard deviations

[b] Means (SD)=European American early adolescents' means and standard deviations

[c] Significant differences between Latino and European American early adolescents

(Beaudoin and Thorson 2006; Hu and Bentler 1999). Lastly, the standardized root mean square residual (SRMR) should be <.08 (Hu and Bentler). For indirect effects, this study used PRODCLIN (Tofighi and MacKinnon 2011), which handles the non-normality in the product of coefficients' distribution and computes bias-corrected 95 % CIs.

Although targeted parent–child communication and familism were measured with multiple items, thereby allowing for latent factors, this study treated these independent variables as observed variables because when testing for interactions, Slater et al. (2007) indicated that using latent interactions is still debated and evolving. Thus, targeted parent–child communication and familism were first centered and then their product terms were created to represent the interactions. External norms, personal norms, and friend intervention and non-intervention strategies were treated as latent factors.

Results

To test the hypotheses, this study examined a restricted mediated moderation model: (χ^2 [1828]=3928.49; RMSEA=.06; CFI=.87; SRMR=.08), followed by an unrestricted model: (χ^2 [1728]=3834.89; RMSEA=.06; CFI=.87; SRMR=.07). The unrestricted model did not significantly improve the model fit, thereby providing a lack of support for differences based on ethnicity: χ^2_{diff}(100)=93.6, p=.66. Given the lack of support for group differences, the mediated moderation model was re-examined, using the total sample of early adolescents (χ^2 [842]=2745.41; RMSEA=.06; CFI=.87; SRMR=.07), and the unstandardized results from this model are reported below, as recommended by Slater et al. (2007).

Figure 1 shows the results for the mediated moderation model, which explained 9–32 % of the variances in the dependent variables. The first hypothesis proposed that targeted parent–child communication would be indirectly related to personal norms through external norms (injunctive and descriptive). The second hypothesis posited that external norms would be indirectly related to the intervention and non-intervention strategies through personal norms. As Latino and European American early adolescents engaged in targeted mother–child communication more often, they were more likely to report parent-anti-substance-use injunctive norms, and in turn, more likely to report personal-anti-substance-use norms (95 % CI=.00305, .08265). Further, as Latino and European American early adolescents reported parent-anti-substance-use injunctive norms, they were more likely to report personal-anti-substance-use norms, and in turn, more likely to have intentions to talk to the friend (95 % CI=.02484, .12506), seek help (95 % CI=.01866, .12608), and end the friendship

(95 % CI=.00035, .05934), but less likely to ignore the friend's use (95 % CI=−.11144, −.01038).

For descriptive norms, neither targeted mother– nor father–child communication predicted descriptive norms, and descriptive norms did not significantly mediate their effects on personal norms. Despite the non-mediating nature of descriptive norms, this type of external norm was significantly indirectly related to talking to the friend (95 % CI=.00163, .02558), seeking help from others (95 % CI=.00128, .02558), and ignoring the friend's substance use (95 % CI=−.02246, −.00062), all through personal norms. H1 and H2 received partial support.

The third hypothesis posited that familism would moderate targeted parent–child communication's association with external norms. The fourth hypothesis suggested that the associations set forth in H1–H3 would be stronger for Latino early adolescents. The results from the mediated moderation model did not support H3 and H4. Familism did not significantly interact with targeted mother– or father–child communication to predict either of the external norms, nor were the hypothesized paths stronger for Latino early adolescents.

Discussion

Drawing from PST and FTNC, this longitudinal survey study contributes to substance use prevention research and the burgeoning scholarship on substance-use-specific parent–child communication, as well as positive friend influences. This study examined whether and how targeted parent–child communication affects Latino and European American early adolescents' willingness to intervene if a friend was to use substances. The study also explored whether parent–child communication may be more impactful when Latino and European American early adolescents value familism. The first and second hypotheses received partial support, but the third and fourth hypotheses were not supported. The following section explores explanations for this study's findings and what they mean for substance-use prevention.

The first hypothesis posited that targeted parent–child communication would indirectly enhance Latino and European American early adolescents' personal-anti-substance-use norms by increasing their parent-anti-substance-use injunctive norms and descriptive-anti-substance-use norms (external norms). This study found partial support for the first hypothesis. Consistent with PST (Oetting and Donnermeyer 1998), as Latino and European American early adolescents engaged in targeted mother–child communication more often, they were more likely to report believing that their parents would consider it wrong for them to use substances. In turn, Latino and European American early adolescents were more likely to have personal-anti-substance-use norms. The finding that substance-use-
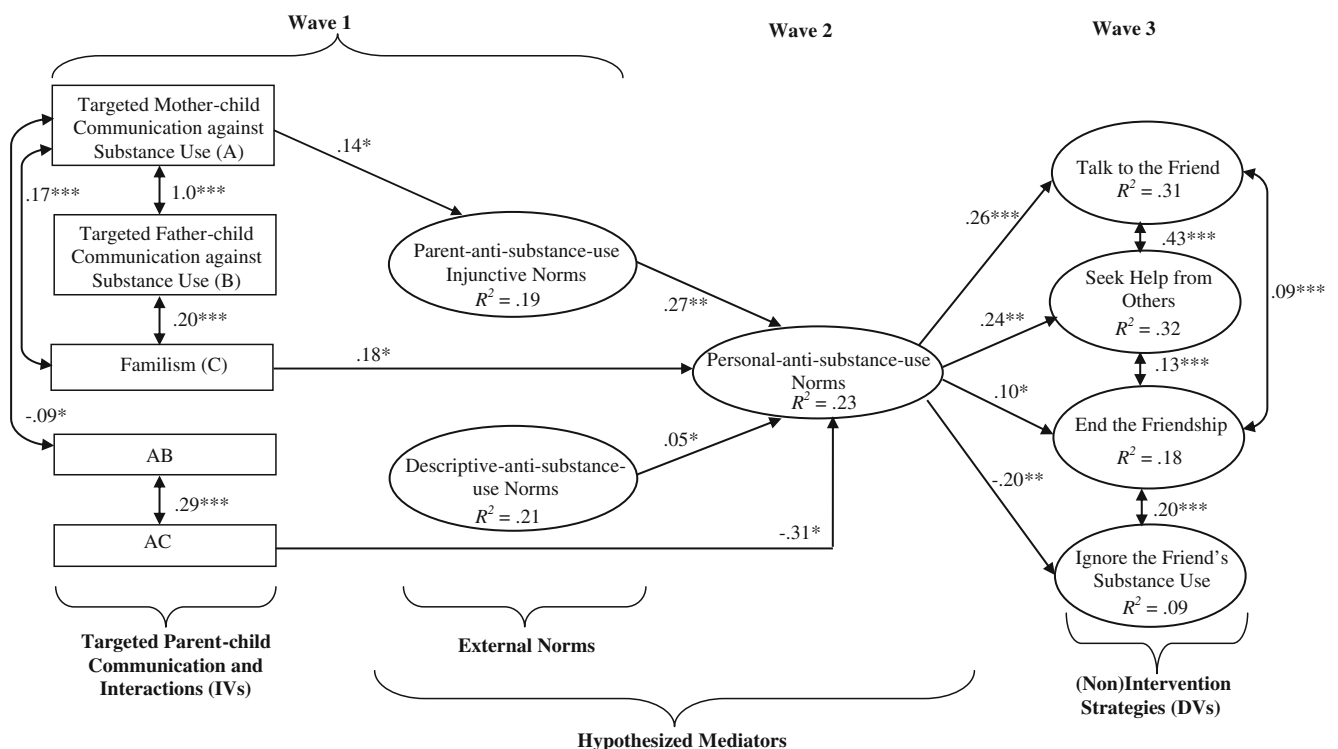
Fig. 1 A mediation model for Latino and European American early adolescents. *Note.* *p<.05, **p<.01, ***p<.001. Unstandardized estimates are presented in this figure. For visual clarity, only significant paths and correlations are shown in this figure; however, all the direct and indirect paths were modeled during the analyses. Sex, age, nativity, time spent in the U.S., participation in a free- or reduced-cost lunch program, religiosity, and prior intervention strategies were accounted for in this model

specific parent–child communication serves as a protective factor for early adolescents is consistent with past research. Among a Latino-majority early adolescent sample, Miller-Day and Kam (2010) found that engaging in targeted parent–child communication against alcohol use (particularly with mothers) was related to lower levels of pro-alcohol expectancies and lower levels of alcohol consumption. Yet, targeted father–child communication against substance use did not function in the way that this study hypothesized, through external norms. In her study, Miller-Day (2002) found that early adolescents were more likely to talk with their mother about substance use than their father; however, limited research actually exists on the father–child relationship, particularly among underserved groups such as Latino early adolescents (Cabrera et al. 2000).

Another finding that should be noted is that descriptive-anti-substance-use norms did not mediate the effects of targeted mother– or father–child communication on personal norms. For the Mexican-heritage adolescents in Kam et al. (2010), engaging in targeted parent–child communication against alcohol was related to the perception that fewer kids at school used alcohol, cigarettes, or marijuana. In the present study, the items that captured targeted mother– and father–child communication did not include statements about parents downplaying the prevalence of substance use among other adolescents, which may explain the non-significant paths between communication and descriptive norms. This external norm, however, did exhibit an indirect effect on talking to the friend, seeking help from others, and ignoring the friend's substance use. Such finding provides further evidence for the motivational power of descriptive norms, as posited in FTNC (Reno et al. 1993).

Consistent with H2, this study found that as a result of increasing awareness of external norms, Latino and European American early adolescents' enhanced personal norms had carry-over benefits for their friends, in the form of having greater intentions to intervene if a friend was to use substances. The findings extend past theorizing and inform substance-use prevention programming by illustrating how an enhanced awareness of external norms may indirectly encourage Latino and European American early adolescents to intervene in their friend's substance use. In particular, personal-anti-substance-use norms played a large role as a mediator of external norms' effects on the intervention and non-intervention strategies. Personal norms also mediated descriptive norms' effects on talking to the friend and seeking help from others.

Personal norms are developed based on what adolescents perceive as right or wrong and good or bad (e.g., "Do you

think it would be wrong for someone your age to drink alcohol?") (Kam et al. 2009; Hansen and Graham 1991). Thus, personal norms reflect early adolescents' own beliefs in the acceptability of substance use. When identifying the factors that lead to intervening in a friend's substance use, the present study's findings suggest that adolescents may be more motivated if they believe using substances is wrong. By encouraging such anti-substance-use norms, prevention researchers not only promote protective factors for the adolescent children, but they also may encourage beliefs that motivate adolescent children to intervene in a friend's substance use without entirely losing the friendship.

H3 posited that familism would function as a moderator such that targeted parent–child communication's effects on external norms would be stronger for Latino and European American early adolescents, who reported higher familistic values, compared to those with weaker familistic values. Moreover, given that familism is rooted in research on individuals of Latino descent, H4 suggested that the proposed direct and indirect effects would be stronger for Latino compared to European American early adolescents. H3 and H4, however, did not garner support. This study initially suggested that parents may be particularly influential for Latino early adolescents because the traditional Latino cultural value, *familismo*, emphasizes harmonious relationships with family and respect for adult figures (Cervantes 2002; Umaña-Taylor et al. 2011). As Latino early adolescents engage in more frequent conversations with their parents about family rules against substance use, it was posited that Latino early adolescents would be more likely to internalize these messages and develop anti-substance-use external norms out of respect for their parents. The present study's findings, however, were not consistent with this postulation.

One explanation for the little role that familism played and the lack of significant differences between Latino and European American early adolescents may stem from the acculturation of the Latino early adolescents. Only 15 % of the participating Latino students had lived in the U.S. for less than 5 years, and their mean age was 12 years. Although time spent in the U.S. is only a proxy of acculturation, it may indicate that the Latino students in this sample have been more oriented toward U.S. mainstream culture. Consistent with this notion, Latino and European American early adolescents did not significantly differ with respect to familism, and overall, the means were high ($M=3.21$–3.25) for both groups. Despite the lack of significant differences, this study is one of the few to consider targeted parent–child communication and friend intervention strategies among an underserved group of early adolescents, while examining how their cultural values may affect the process.

Practical Implications for Substance-Use Prevention

This study's findings inform substance-use prevention programming in several ways. In particular, the results provide support for the important role that targeted mother–child communication plays in shaping anti-substance-use norms among Latino and European American early adolescents. Several researchers (e.g., Boone and Lefkowitz 2007; Ennett et al. 2001; Miller-Day and Kam 2010) have emphasized the importance for substance-use prevention programming to provide more guidance for specific topics to address when advising parents to talk to their adolescent children about substance use. Thus, substance-use preventionists may advise parents to talk to their adolescent children about the specific ways to avoid substance-use offers, lay out the family rules against use, share stories about others who have been in trouble because of substance use, critique media's representation of substance use, and clearly state their disapproval of substance use. This study's findings provide concrete examples of messages that parents can engage in with their adolescent children.

In addition to offering specific messages, the present investigation points to the important roles that certain norms play in encouraging Latino and European American early adolescents to intervene in a friend's substance use. Using FTNC, this study found support for injunctive, descriptive, and personal norms in predicting greater intentions to intervene in a friend's substance use and weaker intentions to ignore the friend's use. Family-based and possibly peer-based substance-use prevention programs may benefit from focusing specifically on promoting injunctive, descriptive, and personal norms against substance use. Not only can encouraging such norms likely protect early adolescents, who maintain such norms, but they may be more likely to talk to the friend, seek help, and not ignore the friend if he/she was to use substances. Although PST (Oetting and Donnermeyer 1998) and substance-use research often highlight friends as exhibiting pro-substance-use influences, this study suggests that may not always be the case.

Lastly, the findings inform culturally adapted and universal substance-use prevention programming by revealing that among this particular sample of Latino early adolescents, they exhibited similar degrees of adherence to familism as European American early adolescents. This similarity may be due to the sample comprising of Latino early adolescents who lived in the U.S. for most of their lives. The nonsignificant moderation of familism for both ethnic groups is important because the finding suggests that promoting targeted parent–child communication, particularly between mother–child, may be effective in increasing anti-substance-use norms and encouraging early adolescents to intervene in a friend's substance use for both Latino and European American early adolescents. In culturally adapted substance-

use prevention programs focusing on Latino early adolescents, as well as universal programs that include both ethnic groups, the two types of programs may be more successful when basing their lessons on PST and FTNC, which promote parent–child communication and certain norms.

Limitations

Despite this study's contributions, several limitations should be noted. First, Latino and European American early adolescents reflected on a hypothetical situation when reporting on the intervention and non-intervention strategies. A discrepancy may exist between intending to intervene and intervening when faced with the actual situation (Syvertsen et al. 2010). In the future, observational data may help determine the specific content of their conversations with parents about substance use, as well as their attempts at intervening in a friend's substance use. Further, this study's hypothetical scenario for friend intervention strategies is general when intervening may actually vary based on the type of substance, the location, and relationship.

Another limitation is that the current investigation focuses on a sample of Latino and European American early adolescents from rural IL public schools, which may not be representative of other Latino and European American early adolescents. Illinois schools with populations comprising of at least 12 % Latino students were invited to participate, and three schools volunteered. Their ethnic/racial composition was similar to the communities that they were located in, but not representative of the nation's population. Lastly, within-group heterogeneity likely exists among Latinos and European American early adolescents (Umaña-Taylor et al. 2011), which may influence the way in which they: (1) communicate with their parents, (2) perceive substance use, and (3) perceive friendships. Such variations are likely to influence their intentions to intervene.

Regardless of the limitations, the present findings have implications for substance-use prevention programming by identifying specific messages that parents can incorporate to promote anti-substance-use norms, which may in turn, have beneficial carry-over effects for their offspring's friends. This result further demonstrates the important role that parents play as substance-use prevention agents for their early adolescent children; however, it also extends prevention research and past theorizing by revealing psychological factors that may motivate early adolescents to intervene in a friend's substance use. Lastly, past research on parent–child communication about substance use and friend intervention studies mainly focus on European American samples, with this study being among the few to include a sample of Latino descent.

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