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Maternal and Peer Influences on Drinking among Latino College Students

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Abstract

Previous research on college drinking has paid little attention to Latino students. Social development models (Catalano, Hawkins, & Miller, 1992) suggest protective influences in one domain (e.g., mothers) can offset negative influences from other domains (e.g., peers) though this possibility has not been explored with respect to Latino college student drinking. The present study had two aims: 1) to determine whether four specific maternal influences (monitoring, positive communication, permissiveness, and modeling) and peer descriptive norms were associated with college drinking and consequences among Latino students, and 2) to determine whether maternal influences moderated the effect of peer norms on college drinking and consequences. A sample of 362 first-year students (69.9% female) completed an online assessment regarding their mothers' monitoring, positive communication, permissiveness, and modeling, peer descriptive norms, and drinking and related consequences. Main effects and two-way interactions (mother x peer) were assessed using separate hierarchical regression models for three separate outcomes: peak drinking, weekly drinking, and alcohol-related consequences. Maternal permissiveness and peer descriptive norms were positively associated with drinking and consequences. Maternal communication was negatively associated with consequences. Findings indicate previously identified maternal and peer influences are also relevant for Latino students and highlight future directions that would address the dearth of research in this area.

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Contributors

Lindsey Varvil-Weld, Rob Turrisi, Michelle Hospital, and Kimberly Mallett designed the study and oversaw data collection. Lindsey Varvil-Weld, Michelle Hospital, and Mayra Bámaca-Colbert conducted the literature review. Lindsey Varvil-Weld conducted the analyses and wrote the first draft of the manuscript. All authors contributed to and have approved the final manuscript.

Conflict of Interest

All authors declare they have no conflicts of interest to disclose.

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Keywords

college drinking; Latino college students; maternal influences; peer norms

1 Introduction

High-risk drinking is widespread among college students in the United States and leads to serious problems such as academic failure, social difficulties, and physical and sexual assault (Johnston, O'Malley, Bachman, & Schulenberg, 2010; Hingson, Heeren, Winter, & Wechsler, 2005; Read, Beattie, Chamberlain, & Merrill, 2008; Shillington & Clapp, 2006). Promising prevention efforts addressing these problems include parent-based and normative feedback interventions that address social influences related to drinking, including parents and peers (e.g., Neighbors et al., 2010; Turrisi et al., 2013). Research underlying these prevention efforts has focused on mainstream college samples consisting of mostly white, non-Latino students, with little attention paid to the possibility of ethnic differences among minority students such as Latinos.

Latino students comprise more than 15% of the college population in the U.S. and that number is rapidly growing (Knapp, Kelly-Reid, & Ginder, 2011). Latino students drink at levels similar to non-Latino, white students (Corbin, Vaughan, & Fromme, 2008). However, evidence suggests Latinos experience more problems as a result of their drinking relative to non-Latino whites, and that while the onset of alcohol-related problems may be later for Latinos relative to non-Latino whites, it tends to persist longer (Mulia, Ye, Greenfield, & Zemore, 2009; NIAAA, 2006; Wagner, Lloyd, & Gil, 2002). Despite these differences, research on correlates of drinking among Latino college students has been limited to a handful of studies either comparing ethnic groups in general terms (e.g., comparing the influences of norms and family drinking among Latino and Caucasian students; Corbin et al., 2008) or examining a limited number of decision making or acculturation-related variables as predictors of drinking among Latino college students (Ceballos, Czyzewska, & Croyle, 2012; LaBrie, Atkins, Neighbors, Mirza, & Larimer, 2012; Zamboanga, 2005; Zamboanga, Raffaelli, & Horton, 2006). Further examination of maternal and peer influences on drinking, along with possible interactive effects across domains, is necessary to determine how prevention efforts can be optimized for Latino college students.

1.1 Research on Parent and Peer Influences on College Student Drinking

Despite increasing independence, parents continue to exert important influence over their children through the college years (Wood, Read, Mitchell, & Brand, 2004). Previous research with primarily non-Latino students shows some maternal behaviors, such as monitoring and positive communication, are associated with lower levels of college drinking (Patock-Peckham, King, Morgan-Lopez, Ulloa, & Filson Moses, 2011; Turrisi & Ray, 2010; Turrisi, Wiersma, & Hughes, 2000). Negative maternal influences that are associated with higher levels of college drinking have also been identified, including permissiveness toward alcohol use and modeling of drinking (Varvil-Weld, Mallett, Turrisi, & Abar, 2012; White, Johnson, & Buyske, 2000). Research suggests similar maternal constructs are predictive of substance use among Latino adolescents in middle school (Parsai, Voisine, Marsiglia, Kulis, & Nieri, 2009; Mogro-Wilson, 2008; Wagner et al., 2010). To our knowledge, studies of maternal influences on drinking among Latino college students have been limited to more general family-level variables, such as family history and SES (Corbin et al., 2008). Given that the mother-child relationship and contextual factors (e.g., new peer groups, living away from home, decreased maternal supervision), tend to change considerably during the transition from adolescence to emerging adulthood (Steinberg & Silk, 2002), research conducted with younger adolescents cannot be expected to generalize to college students.

Further, other studies indicate that factors related to exposure to maternal influences (e.g., living at home during college; Paschall, Bersamin, & Flewelling, 2005) vary as a function of ethnicity, making specific examination of maternal influences on drinking among Latino college students necessary.

Along with maternal influences, peer influences on college student drinking are well documented among primarily non-Latino samples (Borsari & Carey, 2001). Descriptive norms, or students' perceptions of how much other college students drink, are significantly and positively associated with students' own drinking (Borsari & Carey, 2003). Some evidence suggests the strength of this association is weaker for Latino college students (Corbin et al., 2008). It is possible that the centrality of the family in Latino culture (Marsiglia, Parsai & Kulis, 2009) diminishes the salience of other social influences such as peers. Importantly, previous research has not yet examined peer norms in conjunction with maternal influences among Latino students.

1.2 Moderated Effects of Parents and Peers on College Student HED

The social development model (Catalano et al., 1992) posits that protective influences in one social sphere, such as mothers, can offset negative influences from other domains (e.g., peers). Accordingly, research with primarily non-Latino samples has shown protective parental influences can buffer the negative effects of peer norms. Wood and colleagues (2004) found parental permissiveness and parental monitoring moderated peer influences on college student alcohol involvement. The influence of peers was strongest in the presence of high parental permissiveness or low parental monitoring (Wood et al., 2004). A longitudinal extension of this work confirmed parental permissiveness moderated the effects of peer influences such that peer influences were stronger when parental permissiveness was high (Fairlie, Wood, & Laird, 2012). No such effects were found for parental monitoring in the longitudinal study. These studies utilized primarily non-Latino samples, precluding conclusions about the buffering effects of parents on peer norms for Latino college students. Given the centrality of the family in Latino culture (Marsiglia et al., 2009), maternal influences may exert a stronger moderating effect for Latino college students. In addition, existing research on the interactive effects of parent and peer influences has focused on a limited number of constructs (i.e., permissiveness and monitoring) despite evidence that other behaviors are also associated with college student heavy drinking (e.g., communication, modeling; Turrisi & Ray, 2010; Varvil-Weld et al., 2012; White et al., 2000). The current study explored whether an inclusive range of four important maternal behaviors (i.e., monitoring, communication, permissiveness, and modeling) moderated the effects of peer norms on drinking among Latino college students.

1.4 Objective of the Present Study

The present study examined mother and peer influences related to college drinking among Latino students. The study had two specific aims. The first was to determine whether four maternal influences (monitoring, positive communication, permissiveness, and modeling) and peer descriptive norms were associated with college drinking and consequences among Latino students. The second aim was to determine whether maternal influences moderated the effect of peer descriptive norms on college drinking and consequences.

Hypotheses were based on previous literature on college drinking among primarily non-Latino college students and Latino early adolescents. We expected maternal monitoring and positive communication would be negatively related to college drinking and consequences (Wood et al., 2004; Mogro-Wilson, 2008; Turrisi et al., 2000). In contrast, we expected maternal permissiveness and modeling would be positively associated with college drinking and consequences (Abar, Abar, & Turrisi, 2009; White et al., 2000). We expected peer

descriptive norms to be positively associated with drinking and consequences (Corbin et al., 2008). Finally, we expected maternal influences would moderate peer norms such that positive maternal influences (monitoring and positive communication) would attenuate the effect of peer norms while negative maternal influences (permissiveness and modeling) would augment the effect of peer norms (Wood et al., 2004).

2 Methods

2.1 Participants

Participants were 362 first-year students from a large public university located in the southeastern United States. From the random sample of 1,405 students initially contacted to participate, 566 consented to participate and completed the online survey, yielding a 40.2% response rate which is consistent with studies of alcohol use with college populations using web-based recruitment methods (McCabe, Diez, Boyd, Nelson, & Weitzman, 2006). Within the larger sample, 362 (64.0%) students identified as Hispanic or Latino and were included in the present study. This within-group design, rather than a comparative design, fit the study's objectives to assess the degree to which maternal and peer influences are relevant for Latino college students (Phinney & Landin, 1998).

2.2 Recruitment Procedures

The registrar's office provided a list of incoming first-year students including their contact information from which a random sample was selected (N=1,405). Invitation letters explaining the purpose of the study, procedures, and compensation were mailed to all potential participants between October and January of their first year of college. Invitation letters contained the URL to access the survey, along with a Personal Identification Number (PIN). E-mailed invitations containing the same information, along with up to six e-mailed reminders, were also sent to potential participants' university e-mail addresses. Participants received a gift card for completing the survey. The university's local institutional review board approved all study procedures.

2.3 Measures

All measures were assessed in the first year of college.

2.3.1 Background Characteristics—Background characteristics included student gender and living arrangements. Participants self reported their gender (male or female) and living arrangements were assessed with one item, "Where do you live?" Living with parents or family was coded as '0' and living somewhere other than with parents or family was coded as '1.'

2.3.2 Student Drinking and Related Consequences

2.3.2.1 Student's peak drinking: The quantity/frequency/peak questionnaire (QFP; Dimeff, Baer, Kivlahan, & Marlatt, 1999) was used to assess peak drinking. Participants reported how many drinks they consumed on the occasion when they drank the most in the past 30 days. A standard drink chart was provided (one standard drink = 12 oz. beer, 10 oz. wine cooler, 5 oz. wine, 1 oz. 100 proof [1 ¼ oz. 80 proof] liquor).

2.3.2.2 Student's weekly drinking: Participants' typical weekly drinking was assessed using the Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985). Participants reported how many drinks they consumed on each day of a typical week during the last month, referring to the standard drink chart provided. Responses to these items were summed to create a measure of typical weekly drinking.

2.3.2.3 Alcohol-related consequences: The Young Adult Alcohol Consequences Questionnaire (YAACQ; Read, Kahler, Strong, & Colder, 2006) assessed alcohol-related consequences. Participants indicated whether they had experienced a range of alcohol-related consequences within the past year, including having a hangover, blacking out due to drinking, or engaging in regretted sex. A total of 26 consequences from the YAACQ were endorsed by more than 5% of the present sample and were therefore included in the composite score for alcohol-related consequences (Mallett et al., 2011).

2.3.3 Peer Influences

2.3.3.1 Friend Descriptive Norms: Friend descriptive norms were assessed using an adapted version of the DDQ (Collins et al., 1985). Participants reported how many drinks their closest friends consumed on each day of a typical week. There were two versions of the survey: one that asked students to report on their closest friends' consumption during a typical week in the past month, and another that asked students to report on their closest friends' consumption during a typical week in the past three months. There were no significant differences between survey versions. Responses were summed to create a measure of friend descriptive drinking norms for weekly drinking.

2.3.4 Maternal Influences—Students' reported their perceptions of their mothers' behavior. Previous research indicates student-reported data on parenting is a reliable indicator of parents' self-reported data (Varvil-Weld, Turrisi, Scaglione, Mallett, & Ray, 2013).

2.3.4.1 Monitoring: Maternal monitoring was assessed using three items taken from previous studies: "my mother tries to know where I go at night," "my mother tries to know what I do during my free time," and "my mother tries to know about my drinking" (Wood et al., 2004; Varvil-Weld et al., 2012). Response options ranged from '-2' *strongly disagree* to '2' *strongly agree*. These items were summed to create a composite score for maternal monitoring ($\alpha=.85$).

2.3.4.2 Positive communication: Maternal positive communication was assessed using four items: "my mother is there for me when I want to talk to her," "my mother understands my problems and worries," "overall, I am satisfied with the way my mother and I communicate, and "my mother is good about not 'lecturing' me too much." Response options ranged from '-2' *strongly disagree* to '2' *strongly agree*. Items were summed to create a composite score ($\alpha=.82$).

2.3.4.3 Permissiveness: Maternal permissiveness toward alcohol use was assessed using one item (Wood et al., 2004): "While you are at college this year, how many drinks would your mother consider to be an upper limit (maximum) for you to consume on any given occasion?" Response options ranged from '0' *no alcohol*, '1' *one drink*, up to '12' *12 or more drinks*, and '13' *there is no upper limit*.

2.3.4.4 Modeling: Maternal modeling of alcohol use was assessed using one item (Abar et al., 2009): "While growing up, on average, how often did you see your mother drunk from alcohol?" with response options ranging from '0' *never* to '4' *always*.

2.4 Analytic Plan

Missing data were less than 5% for all variables, and data were confirmed to be missing at random (MAR; i.e., uncorrelated with the outcome variables; Rubin, 1976). Outliers were also less than 5% for all variables and were recoded to 3.29 standard deviations of the mean (Tabachnick & Fidell, 2012). Background characteristics such as gender and living

arrangements that have been found to be related to college drinking among Latinos were controlled for where necessary (Fromme, Corbin, & Kruse, 2008; Paschall et al., 2005; Zamboanga et al., 2006). First, t-tests determined whether drinking and consequences were associated with background characteristics (gender or living arrangements). If significant relationships emerged, the background characteristic was entered as a control variable in subsequent analyses. Bootstrapped hierarchical regression analyses tested three models for the outcome variables (peak drinking, weekly drinking, and consequences). Bootstrapping was used to account for non-normality. For each model, relevant background characteristics were entered in the first block, the main effects of the four maternal variables and peer norms were entered in the second block, and the product terms associated with the two-way interactions between each of the maternal variables and peer norms were entered in the third block. A significant F value indicated that block accounted for additional variability in the outcome relative to the preceding block. Significant effects were assumed if the 95% confidence interval associated with the bootstrapped regression coefficient did not contain the value of 0.

3 Results

3.1 Descriptive Analyses

The sample was 69.9% female, and the mean age was 18.54 years ($SD=1.90$). Latino ethnicity was an inclusion criterion for the present study; therefore, 100% of the sample identified as Hispanic or Latino. Racial background was queried separately, and the sample identified as 74.3% Caucasian, 2.2% Black or African American, .6% American Indian or Alaska native, .3% Asian, 9.1% multiracial, and the remaining 13.6% identified as “other.” More than two-thirds of the sample ($N=257$; 71.0%) reported being born in the U.S., and of those born in the U.S., roughly three-quarters reported that one or both of their parents were born outside the U.S. These demographics are consistent with the larger campus community from which the sample was drawn. Table 1 shows the means and standard deviations for the maternal and peer influences.

Gender was not significantly associated with peak drinking, weekly drinking, or consequences ($t=-.47$, $-.60$, and -1.23 , respectively). However, living arrangements were associated with all three drinking outcomes. Students living away from parents reported significantly higher peak drinking (3.26 drinks compared to 1.92 drinks for students living with parents; $t=2.39$, $p<.05$) and significantly higher weekly drinking (3.84 drinks compared to 1.71 drinks; $t=2.70$, $p<.01$). The association between living arrangements and consequences was marginally significant (mean consequences for students living away from parents=8.64, compared to 5.57 for students living with parents, $t=-1.87$, $p=.07$). Because gender was not associated with the drinking outcomes, subsequent analyses were run twice, once with only living arrangements as a covariate and once with both living arrangements and gender entered as covariates. Results were nearly identical in both sets of analyses. For the sake of parsimony, results from the models with the smaller number of covariates (living arrangements only) are presented below.

3.2 Bootstrapped Hierarchical Regression Analyses

Table 2 shows the zero-order correlations between living arrangements, maternal and peer influences, and peak and weekly drinking and consequences. Tables 3a–c show the results of the hierarchical regression analyses for each of the three outcomes. Maternal permissiveness and peer norms were positively associated with peak drinking after controlling for living arrangements ($b=.20$, $p<.05$; $b=.14$, $p<.01$, respectively). No interaction effects were significant. Only peer norms were positively associated with weekly drinking ($b=.23$, $p<.01$), and there were no significant interactions. Permissiveness and peer norms were

positively associated with consequences ($b=.60, p<.05$; $b=.44, p<.01$, respectively). Maternal communication was negatively associated with consequences ($b=-.32, p<.05$). There were no significant interactions.

4 Discussion

The present study was one of the first to examine maternal influences on drinking among Latino college students, and to explore whether maternal influences moderated the effects of peers. Zero-order correlations revealed associations in the expected directions between all four maternal constructs and drinking and consequences. Regression analyses showed higher levels of maternal permissiveness and peer norms were consistently associated with higher levels of student drinking and consequences, while maternal communication was negatively associated with consequences. These findings are consistent with previous work highlighting the importance of maternal permissiveness, maternal communication, and peer norms as correlates of college drinking and consequences among primarily non-Latino students (Borsari & Carey, 2003; Corbin et al., 2008; Turrisi & Ray, 2010; Varvil-Weld et al., 2012), and suggest that similar constructs are important among Latino college students.

Findings did not reveal any interactive effects. This finding contrasts with the social development model and previous studies that have identified positive interactions between parental permissiveness and peer influences among primarily non-Latino students (Fairlie et al., 2012; Wood et al., 2004). One explanation is that mothers may exert indirect, rather than moderating, influences on their students' drinking. For example, Abar and Turrisi (2008) found that parental influences indirectly affected students' drinking by influencing students' choice of friends. The possibility of ethnic differences should not be ruled out, and future work should examine processes that might account for ethnic variations in these relationships. For example, broader cultural norms shared by mothers and peers who are both Latino (e.g., less favorable attitudes toward excessive drinking while in college) might preclude the opportunity for maternal influences to offset conflicting peer influences. This possibility depends on whether students primarily associate with Latino or non-Latino peers, so future efforts should examine peer ethnicity as a potential moderator of this relationship.

4.1 Implications for Prevention Research

The present findings suggest that in general, maternal and peer influences that are related to college drinking among non-Latino students appear to be similarly important for Latino students. Though existing parent- and peer-based intervention materials were developed based on research conducted with primarily non-Latino students, our findings suggest they may also be beneficial for Latino students. However, possible distinctions should not be ignored. For example, associations between maternal monitoring and the three drinking outcomes were not significant in the full hierarchical regression models, which is inconsistent with previous work with primarily non-Latino students (Wood et al., 2004). Maternal constructs that have already been identified in the literature may be more or less important for Latino college students. Further, additional family-related constructs that may be especially important in Latino culture, such as a sense of obligation to one's parents, may also be relevant (Marsiglia et al., 2009). Future research should explore this possibility in order to determine how intervention materials can best be implemented for Latino students.

In addition, the findings revealed distinct patterns of relationships between maternal and peer influences and drinking and consequences. Maternal communication was not associated with peak or weekly drinking in the regression models, but was associated with consequences. This is consistent with the literature on college drinking, which suggests drinking and consequences are separate outcomes with unique predictors (see Mallett, Varvil-Weld, White, Read, Neighbors, & Borsari, 2013, for a review). Further, data indicate

Latinos tend to experience more consequences as a result of their drinking than non-Latinos (Caetano, 1984; Mulia et al., 2009). The distinction between drinking and consequences may be especially important for Latino college students and should be explored further.

4.2 Limitations and Future Directions

Despite its contribution to the limited literature on drinking among Latino college students, the present study is not without limitations. The study design was cross-sectional, precluding conclusions about causal effects. Future efforts should attempt to replicate these findings using longitudinal methods. Further, the findings may not generalize to all Latino college students. The present sample was drawn from one university. Future research should explore whether findings are consistent among Latino students at other institutions. It is also important to note the heterogeneity within the Latino population. The possibility of subgroup differences (e.g., Cuban, Mexican) should not be ignored, though this issue is complicated by generational status and the possibility for identification with multiple subgroups. Nativity status and acculturation should also be explored as potential moderators.

In addition, the present study assessed maternal influences only. Previous research with primarily non-Latino students has shown that mothers and fathers appear to have distinct influences on their students' drinking, and that these relationships vary by student gender (Patoock-Peckham & Morgan-Lopez, 2010; Patoock-Peckham et al., 2011; Varvil-Weld et al., 2012). Future research should explore whether maternal and paternal influences are similarly unique among Latino college students while accounting for student gender. Further, the present study relied on student-reported data. Though student-reported parenting data is reliably associated with parent-reported data (Varvil-Weld et al., 2013), the present analyses could yield different results if parent-reported data were utilized and should be replicated accordingly.

Finally, the present study examined the effect of peer norms on drinking and consequences, but as noted previously, it did not consider peers' ethnicity. Previous research suggests the effect of peer norms on drinking varies according to the ethnic specificity of the referent group (Larimer et al., 2009), and that the campus's ethnic make-up moderates the strength of this association (LaBrie et al., 2012). Future work should examine how ethnic specificity of normative referent groups is related to the present findings, and whether findings would replicate on other campuses that are not majority-Latino.

4.3 Conclusions

The present study was one of the first to examine the influences of mothers on drinking and consequences among Latino college students, and to explore whether maternal influences moderated the impact of peers. Findings revealed maternal and peer influences that are important among primarily non-Latino students are also relevant for Latino students. Findings also highlight future directions to address the dearth of research in this area.

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Highlights

- Research on social influences on college drinking has neglected Latino students
- Social development models suggest parent influences can offset peer influences
- Examined the interacting influences of mothers and peers among Latino students
- Maternal monitoring and communication and peer norms were associated with drinking
- No significant interactions were observed

Table 1

Means (SDs) for peer and maternal influences and drinking outcomes.

Peer and Maternal Influences	
Friend norms	8.22 (9.64)
Maternal positive communication (range: -8 to 8)	3.15 (3.89)
Maternal monitoring** (range: -6 to 6)	3.24 (2.68)
Maternal permissiveness (range: 0 to 13)	2.43 (2.76)
Maternal modeling (range: 0 to 4)	.43 (.71)
Drinking Outcomes	
Peak drinking	2.15 (3.38)
Weekly drinking	2.08 (4.30)
Consequences	6.09 (10.07)

Note:

**
 $p < .01$.

Table 2

Zero-order correlations between living arrangements, maternal and peer influences, and drinking outcomes.

	1.	2.	3.	4.	5.	6.	7.	8.
1. Living arrangements	1							
2. Monitoring	-.25***	1						
3. Communication	-.01	.30**	1					
4. Permissiveness	.06	-.10	.02	1				
5. Modeling	.02	-.02	-.10	.29**	1			
6. Friend DDQ	.13*	-.02	-.04	.21**	.14**	1		
7. Peak drinking	.15**	-.13*	-.12*	.26**	.13**	.46**	1	
8. Weekly drinking	.19**	-.12*	-.13*	.23**	.16**	.56**	.79**	1
9. Consequences	.12*	-.10	-.15**	.27**	.17**	.47**	.67**	.71**

Note:

*** $p < .01$;

* $p < .05$.

Table 3a

Results of bootstrapped hierarchical regression analysis for maternal and peer influences predicting peak drinking.

	b (95% CI)	R²	F	df
Step 1 – Background Control Variables				
Intercept	1.93 (1.58, 2.30)**	.02	8.03**	1,346
Living arrangements	1.40 (.27, 2.68)*			
Step 2 – Maternal and Peer Influences				
<i>Intercept</i>	.85 (.24, 1.54)	.25	20.08**	6,341
<i>Living arrangements</i>	.61 (-.37, 1.64)			
Monitoring	-.07 (-.22, .07)			
Communication	-.08 (-.18, .01)			
Permissiveness	.20 (.06, .37)*			
Modeling	.09 (-.39, .59)			
Friend DDQ	.14 (.09, .20)**			
Step 3 – Maternal and Peer Interactions				
<i>Intercept</i>	.32 (-.31, 1.11)	.26	13.00**	10,337
<i>Living arrangements</i>	.52 (-.46, 1.53)			
<i>Monitoring</i>	-.04 (-.19, .10)			
<i>Communication</i>	-.05 (-.16, .05)			
<i>Permissiveness</i>	.30 (.13, .52)			
<i>Modeling</i>	.36 (-.22, 1.02)			
<i>Friend DDQ</i>	.21 (.09, .30)			
Friend x Monitoring	-.01 (-.02, .01)			
Friend x Communication	.00 (-.02, .01)			
Friend x Permissiveness	-.01 (-.03, .02)			
Friend x Modeling	-.03 (-.10, .04)			

Note:

**
p<.01;

*
p<.05.

Significant effects for variables appearing in the preceding block (italicized) are not shown. Living arrangements were coded so 0=living with parents or other family, 1=not living with parents or other family.

Table 3b

Results of bootstrapped hierarchical regression analysis for maternal and peer influences predicting weekly drinking.

	b (95% CI)	R²	F	df
Step 1 – Background Control Variables				
Intercept	1.71 (1.31, 2.18)**	.04	14.82**	1,346
Living arrangements	2.40 (.69, 4.25)*			
Step 2 – Maternal and Peer Influences				
<i>Intercept</i>	-.03 (-.68, .77)	.35	32.19**	6,341
<i>Living arrangements</i>	1.29 (-.09, 2.69)			
Monitoring	-.08 (-.26, .09)			
Communication	-.10 (-.22, .03)			
Permissiveness	.16 (-.01, .35)			
Modeling	.30 (-.33, .92)			
Friend DDQ	.23 (.16, .30)**			
Step 3 – Maternal and Peer Interactions				
<i>Intercept</i>	-.45 (-1.23, .28)	.37	21.01**	10,337
<i>Living arrangements</i>	1.12 (-.15, 2.45)			
<i>Monitoring</i>	.01 (-.13, .13)			
<i>Communication</i>	-.01 (-.14, .10)			
<i>Permissiveness</i>	.18 (.01, .39)			
<i>Modeling</i>	.01 (-.62, .59)			
<i>Friend DDQ</i>	.28 (.12, .42)			
Friend x Monitoring	-.01 (-.03, .02)			
Friend x Communication	-.01 (-.03, .01)			
Friend x Permissiveness	-.01 (-.03, .03)			
Friend x Modeling	.03 (-.08, .13)			

Note:

**
p<.01;

*
p<.05.

Significant effects for variables appearing in the preceding block (italicized) are not shown. Living arrangements were coded so 0=living with parents or other family, 1=not living with parents or other family.

Table 3c

Results of bootstrapped hierarchical regression analysis for maternal and peer influences predicting consequences.

	b (95% CI)	R²	F	df
Step 1 – Background Control Variables				
Intercept	5.48 (4.37, 6.63)**	.02	5.38*	1,346
Living arrangements	3.41 (.03, 6.68)			
Step 2 – Maternal and Peer Influences				
<i>Intercept</i>	<i>1.74 (-.34, 3.81)</i>	.28	21.67**	6,341
<i>Living arrangements</i>	<i>1.23 (-2.24, 4.38)</i>			
Monitoring	-.09 (-.50, .32)			
Communication	-.32 (-.60, -.05)*			
Permissiveness	.60 (.16, 1.08)*			
Modeling	.66 (-.86, 2.40)			
Friend DDQ	.44 (.30, .59)**			
Step 3 – Maternal and Peer Interactions				
<i>Intercept</i>	<i>1.02 (-.95, 3.31)</i>	.30	14.19**	10,337
<i>Living arrangements</i>	<i>.79 (-2.82, 3.74)</i>			
<i>Monitoring</i>	<i>-.03 (-.42, .34)</i>			
<i>Communication</i>	<i>-.22 (-.51, .05)</i>			
<i>Permissiveness</i>	<i>.96 (.38, 1.56)</i>			
<i>Modeling</i>	<i>-.94 (-2.52, .37)</i>			
<i>Friend DDQ</i>	<i>.52 (.20, .78)</i>			
Friend x Monitoring	-.01 (-.05, .05)			
Friend x Communication	-.01 (-.05, .03)			
Friend x Permissiveness	-.04 (-.09, .04)			
Friend x Modeling	.17 (-.02, .42)			

Note:

**
p<.01;

*
p<.05.

Significant effects for variables appearing in the preceding block (italicized) are not shown. Living arrangements were coded so 0=living with parents or other family, 1=not living with parents or other family.