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Prevalence and Correlates of Sipping Alcohol in a Prospective Middle School Sample

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Abstract

Research documents an association between early use of alcohol and adverse outcomes. Most studies on drinking initiation exclude sipping or confound sips with consumption of a full drink. Yet, even a few sips of alcohol can constitute a meaningful experience for naïve drinkers. Prior research with this project indicated that sipping prior to middle school predicted subsequent adverse outcomes (at high-school entry), even controlling for child externalizing and sensation seeking and parent alcohol use. The present study extends our prior work by examining the correlates of early sipping and sipping onset. The sample was comprised of 1,023 6th, 7th, and 8th graders (52% female; 24% non-White, 12% Hispanic). Participants completed web-based surveys on five occasions over the course of two years. The prevalence of sipping at Wave 1 was 37%, with 29% of never-sippers initiating sipping within two years. Sipping was associated with stronger alcohol-related cognitions and low school engagement as well as contextual influences in the peer, sibling, and parent domains. Sipping onset among never-sippers was prospectively predicted by sensation seeking and problem behavior as well as parental and sibling influences. Importantly, mere availability of alcohol was a strong correlate both concurrently and prospectively. Further analyses demonstrated that youth who sipped alcohol with parental permission had a lower profile of risk and healthier relationships with parents as compared to youth who reported unsanctioned sipping. Findings point to the importance of considering fine-grained early drinking behavior and call for further attention to sipping in research on initiation of alcohol use.

Keywords

sipping; alcohol; drinking; adolescence; initiation

Adolescence is the greatest period of risk for alcohol use initiation, with drinking rates rising steadily throughout the adolescent years, generally peaking around age 20–21 (Chung, Martin, & Winters, 2005). Early age of first drink is highly predictive of greater rates of subsequent alcohol involvement as well as numerous short- and long-term adverse outcomes. These include problem use of alcohol and other substances (Labouvie, Bates, & Pandina, 1997; McGue et al., 2001) as well as higher rates of depression, risky sexual behaviors, and lower school achievement (McGue et al., 2001; Stueve & O'Donnell, 2005).

Early initiators also report more acute consequences such as unintentional injury and violence (Hingson et al., 2000; Hingson, Heeren, & Zakocs, 2001; Swahn, Bossarte, & Sullivan, 2008), consistent with the opportunistic nature of underage drinking characterized by infrequent, sporadic use.

Initiation of alcohol use is most frequently defined as the first time consuming a full drink of alcohol, but alternate definitions are used, including first intoxication, first regular drinking, or any use of alcohol, either including just a sip or drinking beyond a sip or a few sips/tastes. Yet, even a portion of a full drink can constitute a meaningful experience for naïve drinkers, who may experience alcohol's physical and psychological effects at this level (Donovan, 2009). We recently demonstrated that youth who reported sips of alcohol (but not a full drink) by 6th grade had significantly greater odds of consuming a full drink, getting drunk, drinking heavily (3 or more drinks/occasion), and use of other drugs by 9th grade than non-sippers (reference removed for blinding). Donovan and Molina (2011) also found that sipping is predictive of later alcohol use: age-10 sippers were more likely than nonsippers to initiate drinking (not just a sip or taste) by age 14. Together, these findings suggest that although sipping may be seen by some as an innocuous experience, it may be an even earlier indicator than full drink of alcohol-related risk.

Extant research on correlates of alcohol initiation largely excludes information about sips/tastes (Ward, Snow, & Aroni, 2010), with only two studies to date explicitly examining characteristics of consuming sips/tastes of alcohol (Donovan & Molina, 2008; C. Jackson, Ennett, Dickinson, & Bowling, 2013). Donovan and Molina (2008) hypothesized that sipping would be more strongly associated with parent-related factors than other risk factors for deviant behavior, given that child sipping/tasting often occurs in a family context with parental approval (C. Jackson et al., 2012; Warner & White, 2003). They found partial support for this idea: family factors including parental approval of drinking, knowledge of sipping, and parent drinking were associated with sipping, but there was no association with peer pressure for drinking, deviant behavior, school activities, or value on academic achievement. Donovan and Molina (2008) also observed associations between sipping and expectation for academic achievement, as well as friends' approval of sipping and (for older kids) susceptibility to peer pressure, established risk factors for adolescent drinking. C. Jackson et al. (2013) found that youth who endorsed sipping by third grade reported lower competence in self-regulation, self-esteem, and school engagement, than abstinent peers. Family factors were also prominent predictors, including parental attitudes towards alcohol and parent alcohol use, as were peer norms supporting drinking.

Correlates of Early Alcohol Use

Risk factors for early initiation milestones likely differ from risk factors for subsequent transitions over the course of adolescent drinking (Donovan, 2004). However, given the various definitions of first drink in the literature, the degree to which known correlates of drinking initiation are related specifically to sipping is largely unknown. We present a brief review of prior work on several classes of correlates that guided our selection of constructs in this study.

Demographics

Several studies on race/ethnicity suggest that White youth initiate use at a younger age than Hispanic or Black youth (Johnston et al., 2012; Malone et al. 2012). Gender differences have been inconsistently observed, with the majority of studies failing to find differences between boys and girls (Donovan, 2004).

Alcohol-related cognitions

Research consistently demonstrates that experience with alcohol is related to higher positive alcohol expectancies (see Jones et al., 2001). For example, more positive expectancies were reported among recent high-school initiates of alcohol (compared to non-users) (Bekman et al., 2011). Although reasons *for* drinking comprise most research on motivational aspects of alcohol use, reasons *for not* drinking also affect the decision whether or not to drink (Cox & Klinger, 1988; Stritzke & Butt, 2001) and are particularly relevant during early stages of experimentation with drinking, with reasons for not drinking showing greatest prediction of initiation of drinking and current drinking, as compared to heavy/problematic drinking (Anderson et al., 2011; Bekman, Cummins, & Brown, 2010).

Problem behavior

Delinquent and violent behaviors are associated with use of alcohol (Pasch et al., 2009) and earlier age of first drink (Trim, Schuckit, & Smith, 2010). Poor school achievement, low engagement and low expectations of academic performance also increase the likelihood of initiation (Jessor & Jessor, 1975; Monshouwer et al., 2003; Simons-Morton, 2004).

Personality

Characteristics such as impulsivity, sensation seeking, and novelty seeking are shown to be associated with early alcohol use (Crawford et al., 2003; Masse & Tremblay, 1997). Gunn and Smith (2010) further demonstrated that the tendency to act rashly in response to high negative affect (negative urgency) and positive affect (positive urgency), as well as sensation seeking, was associated with any alcohol use in 5th graders.

Social norms

Perceptions of friend and peer alcohol use and approval of drinking predict alcohol initiation and intensity of use (D'Amico & McCarthy, 2006; Pasch et al., 2009; Simons-Morton, 2004); these associations may be particularly pronounced in younger adolescents (Kelly et al., 2012). Perceived sibling norms for alcohol use also are predictive of adolescent drinking (van der Vorst, Engels, & Burk, 2010; Windle, 2000), perhaps even more strongly than peer or friend alcohol-related norms (Johnson et al., 1997). Further, sensitivity to peer approval is associated with concurrent and future problem behavior including alcohol use, perhaps due to reliance upon peers at the expense of family bonding, schoolwork, and adherence to parents' rules (Fuligni & Eccles, 1993). Finally, association with deviant peers is predictive of initiation of alcohol and other substances (Trucco et al., 2011).

Parenting practices

Healthy family functioning, represented by openness and low conflict, is associated with reduced likelihood of alcohol use (Anderson & Henry, 1994; Clark et al., 1998). Perhaps the most consistent predictor of alcohol use is parental monitoring (Dishion & McMahon, 1998; Fletcher et al., 2004), including both traditional active monitoring (i.e., parental knowledge about child's activities) and passive monitoring due to youth self-disclosure (Kerr & Stattin, 2000; Stattin & Kerr, 2000). Not surprisingly, substance use-specific parenting practices such as punishment vs. approval of substances also are highly predictive of substance use (Ary et al., 1993; McMaster & Wintre, 1996; Power et al., 2005).

Alcohol availability

Finally, access to alcohol increases the likelihood of drinking because it presents an opportunity to drink, even for those not intending to drink. Given that higher availability of and greater perceived access to alcohol are associated with greater drinking and related problems (Casswell & Zhang, 1997; Klepp et al., 1996; Komro et al., 2007), it is logical to expect greater availability to predict increased risk of initiation.

Overview

The goal of the present study was to examine the predictive utility of several classes of risk factors for sipping that are shown in the literature to be associated with initiation of alcohol use, variously defined. We draw on prospective data collected over a two-year interval which permits examination of factors that predict sipping onset among non-sippers as well as contemporaneous predictors of sipping. Although several studies have prospectively explored onset of first drink (e.g., D'Amico & McCarthy, 2006; Simons-Morton, 2004; Trucco et al., 2011), none have examined onset of first sip. Modeling data prospectively permits an unambiguous examination of alcohol use initiation, but misses the subset of youth who already initiated at baseline (Trucco et al., 2011), making it important to conduct analyses both prospectively and cross-sectionally (the latter including the full sample of initiates and non-sippers).

The present study expands upon earlier work by examining lifetime sipping behavior at a slightly older age (ages 11–15) relative to the younger samples in the studies by Donovan and Molina (2008) and C. Jackson et al. (2013) (ranging from age 8 to age 10; i.e., the elementary school years). We investigate additional important correlates of adolescent alcohol use that have yet to be explored in the context of sipping, including alcohol-related cognitions, personality traits, sibling alcohol-related norms, family functioning including parental monitoring, conflict, and social support, and availability of alcohol to the participant. Forming a more comprehensive vision of correlates and predictors of sipping will provide information that could support the development of prevention programming to delay the onset of alcohol use.

Method

Participants

The sample was taken from an ongoing prospective study on alcohol initiation and progression among young adolescents. Participants were 1,023 students in six Rhode Island middle schools (one urban, two rural, three suburban), with data collected in five cohorts enrolled six months apart. The sample is 52% female, 24% non-White (5% Black, 3% Asian, 2% American Indian, 8% mixed race, 6% other), 12% Hispanic, and is comprised of roughly equal numbers of 6th, 7th, and 8th graders (33%; 32%; 35%, respectively). All procedures were approved by the university institutional review board and a Certificate of Confidentiality was obtained from NIAAA to preserve participant confidentiality.

Procedure

Using the school roster, study information and consent forms were mailed to each student's home; a second set of packets was distributed in schools by faculty. Incentives were provided to students to return a signed consent form to their school regardless of whether consent to participate in the study was granted. Across the schools, an average of 38% of students returned a consent form, 65% of all of the forms returned were consents allowing for participation, and 88% of these individuals were enrolled into the study. As compared to Rhode Island Department of Education school data (<http://infoworks.ride.ri.gov/>), the resulting sample was largely representative of the schools from which they were drawn, with samples obtained at 5 of 6 schools accurately representing the school gender and grade distribution. There was accurate representation of the proportion of White youth for 4 of 6 schools and Hispanic youth in 3 schools, with a greater proportion of Hispanic students in our sample for the other 3 schools. Students receiving subsidized lunch were underrepresented in 3 schools, suggesting that our sample is more racially diverse than the school populations but also less disadvantaged.

Youth who were interested in participating and who had written informed parental consent were invited to attend a two-hour in-person group orientation session where project staff reviewed the expectations of the project, explained how the students would engage with the project over the project period, defined standard drink measurements, and collected contact information and assent from each student. Emphasis was placed on finding a private location to complete surveys. Following the orientation, participants completed a 45-minute computerized baseline survey (Wave 1). Follow-up assessments were conducted using web-based surveys. Participants were provided with multiple reminders (mailed card, email, text, phone) alerting the participant that the survey was open. Surveys could be completed from any location with Internet access. For the orientation/baseline session, the students were compensated with a \$25 shopping mall gift card; for each follow-up survey completed they received a \$20 mall gift card.

The present study uses data from the first five of six assessments (Waves 1–5), which were spaced six months apart, as data collection is ongoing for the sixth wave. Response rates for a given survey ranged from 92% (Wave 2) to 83% (Wave 5), with 992 respondents (97% of the full sample) contributing follow-up data within the two-year follow-up interval (which

was used to derive outcome measures). Using multivariate logistic regression, we examined correlates of attrition over the follow-up interval. Those who failed to complete a follow-up survey were more likely to be male (odds ratio, $OR=2.65$; $p<.05$) and Black ($OR=5.84$; $p<.01$), but were not more or less likely to sip alcohol or consume a full drink, and did not differ by grade.

Measures

Lifetime alcohol use—At all waves, participants were asked whether they had ever had a sip of alcohol and whether they had ever had a full drink of alcohol, not including consumption as part of a religious service.¹ Our analyses examine behavior at Wave 1 and (using responses provided at Waves 2–5) whether sipping onset occurred over the subsequent two-year interval. To avoid confounding of sipping and consuming a full drink, we removed the portion ($n=79$; 7.7%) of the sample who reported having had a full drink at Wave 1. The final sample size was $N=943$.

Descriptive information on correlates (measured at Wave 1) is provided in Table 1.

Demographics—Respondents provided gender, grade, and race/ethnicity, recoded here into White, non-Hispanic; Black, non-Hispanic; Hispanic; and Other, non-Hispanic.

Alcohol-related cognitions—Positive (9 items; $\alpha=.87$) and negative (13 items; $\alpha=.96$) alcohol expectancies included affective, cognitive, and behavioral effects of alcohol use based on a scale adapted from Schell et al. (2005) to be more applicable/understandable to younger respondents. Items were preceded by the question: “How likely is it that the following things would happen to people your age if they had one or more drinks of alcohol?” Sample items are “have fun; feel relaxed” for positive expectancies and “get into fights; say things they wish they hadn’t said” for negative expectancies. Response options ranged from Very Unlikely (1) to Very Likely (4).

A Reasons to Abstain from (or Limit) Drinking (RALD) scale was adapted from Chassin and Barrera (1993). Response options on the 12-item scale ranged from Not True (1) to True and Very Important (4). Two subscales were identified based on factor analytic work and variables were computed by taking the mean across five items corresponding to Performance/self-control ($\alpha=.69$; sample items “Drinking interferes with my studies” and “I like to feel in control of myself”) and the mean across seven items corresponding to Upbringing ($\alpha=.78$; sample items “I wouldn’t want to disappoint my parents” and “I was brought up not to drink”).

School engagement—School engagement was measured using a set of 12 items assessing enjoyment and perceived importance of school work and school ($\alpha=.80$), taken from Bachman, Johnston, & O’Malley (2005). Items followed the prompt “Now thinking back over the past 12 months in school, how often did you...” Responses were on a 5-point

¹The option “only for religious purposes” was not available at Wave 1 for the first school cohort ($N=231$), inflating sipping rates for this group. For this subsample, we recoded the Wave 1 response for the 15 cases with a Wave 2 response “Yes, but part of a religious service only,” to “No” (i.e., non-sippers). Using similar logic, we recoded those two cases whose Wave 3 response was “Yes, but part of a religious service only,” to “No” (i.e., non-sippers) if their Wave 2 response was “No.”

scale ranging from Never (1) to Almost always (5), with sample items including “enjoy being in school; try to do your best work in school; fool around in class.” In addition, we separately examined an academic performance item from the scale: “How often did you get good grades (like As or Bs)?”

Problem behavior—We assessed frequency of past 30-day problem behavior using a set of 20 items taken from Farrell, Danish and Howard (1992) (6 substance use items in the 26-item scale were removed). Sample items included threatened a teacher; shoplifted; shoved or pushed another kid; response options ranged from Never (1) to 20 times or more (6). As is typical with delinquency measures (e.g., Farrington, 2009), a count was taken across the items.

Personality—Three domains of personality were taken from the UPPS+P Impulsive Behavior Scale (Lynam, Smith, Whiteside & Cyders, 2006): sensation seeking, positive urgency, and negative urgency (6 items each; $\alpha=.82$, $\alpha=.85$, and $\alpha=.84$, respectively). Sensation seeking is the tendency to pursue activities that are exciting and novel, negative urgency is the tendency to act rashly in response to high negative affect, and positive urgency is the tendency to act rashly in response to high positive affect (Cyders et al, 2007). Response options ranged from Agree strongly (1) to Disagree strongly (4).

Social norms—Normative influences for peers (two items) and siblings (two items) included both injunctive norms (“How do most of your close friends/siblings feel about kids your age drinking alcohol?”) and descriptive norms (“When your close friends/siblings drink, how much on average does each person drink at a sitting?”); response options ranged from Strongly Disapprove (0) to Strongly Approve (4) and They Don’t Drink (0) to More than 3 Drinks (4). In addition, four items assessed adolescents’ “extreme peer orientation,” or willingness to sacrifice talents, school performance, and parents’ rules in order to be popular and have friends (e.g., “It’s okay to break some of your parents’ rules in order to keep your friends”) (Fuligni & Eccles, 1993). Items were measured on a 7-point scale (endpoints varying across items; $\alpha=.70$).

Peer problem behavior was measured using a set of 19 binary items assessing deviant behavior of respondents’ close friends, using the stem “Think of your 3 best friends (the friends you feel closest to). In the past 12 months, have any of your friends...” Items were taken from several sources, including the National Longitudinal Study of Adolescent Health (1999), Arthur, Hawkins, Catalano, and Pollard (2000) and Zucker et al. (1996). We computed two subscales, one a count of 6 peer substance use items and one a count of other peer problem behavior (e.g., cheated on tests in school; vandalized private property; used or threatened to use a weapon).

Parenting practices—Three 5-item subscales of parental knowledge were administered: child disclosure, parental solicitation, and parental control (Kerr & Stattin, 2000). Response options ranged from No, never (1) to Yes, always (5); $\alpha=.77$, $\alpha=.81$, and $\alpha=.85$, respectively. A set of 8 items ($\alpha=.91$) assessed perceptions about parents’ reactions to finding out that the student was drinking. The measure was adapted from Chassin et al. (1998) and modified to focus on drinking. Response options ranged from Not at all likely (1)

to Very likely (5). Maternal and paternal (mother-figure/father-figure) conflict and social support were assessed using two 3-item subscales from the Network of Relationships Inventory (Furman & Buhrmester, 1985); response options ranged from Little or None (1) to The Most (5), $\alpha=.85$, $\alpha=.86$ for mother and father conflict; $\alpha=.91$, $\alpha=.91$ for mother and father support.

Availability—A binary item from Arthur et al. (2000) queried “If you wanted to get some beer, wine, or hard liquor (for example: vodka, whiskey, or gin) could you get some?”

Analytic Plan

A series of univariate logistic regressions was conducted to predict (1) Wave 1 sipping from correlates also measured at Wave 1, and (2) onset of sip over a two-year interval from correlates measured at Wave 1. The latter series of regressions excluded the subset of respondents who had reported sipping at Wave 1. These univariate analyses were followed by two multivariate models with the full set of correlates entered simultaneously as predictors into the model, one model for the Wave 1 cross-sectional analysis and one model for the onset analysis. We sought to comprehensively explore established variables of importance in order to add to the limited literature on sipping; at the same time, we were cognizant of alpha inflation. As such, we note all significant associations but we focus our substantive conclusions more heavily on the results of the multivariate models which are less prone to inflation of Type I error.²

Results

Wave 1 Prevalence and Onset of Sipping over Two Years

At Wave 1, the lifetime prevalence of having sipped alcohol among those who had never consumed a full drink was 37.2% (351/943). The rise in prevalence for sip was apparent at 7th grade, with 40.4% and 43.2% for 7th and 8th graders, respectively versus 28.7% for 6th graders. Prospective examination of onset during the subsequent two-year interval revealed that 29.4% of the never-sippers at Wave 1 (174 of the 592 with data at Waves 2–5) reported having a sip of alcohol within the subsequent two-year period.

Cross-Sectional Correlates of Lifetime Sipping at Wave 1

Univariate models—Correlates of sipping at Wave 1 are listed in Table 2 (left column).³ Racial/ethnic differences emerged with lower odds of reporting having a sip for Hispanic

²We also explored our findings utilizing a Bonferroni correction of .05/33=.0015. For the Wave 1 analyses, we observed significance for all correlates that had been significant without correction, with the exception of seven of 29 significant variables: expectancies (positive and negative), problem behavior, and parenting (parent solicitation, dad conflict, social support, parent reaction to drinking). For the onset analyses, the only two significant predictors were sensation seeking and availability. We are cognizant of the fact that the Bonferroni correction can become very conservative as the number of tests increases, which increases the risk of generating false negatives (Type II errors); thus, we report both univariate and multivariate analyses, but base our conclusions primarily on the multivariate analyses.

³Given that the sample was selected from six schools, ancillary analyses were conducted controlling for school using five dummy-coded variables. Results were virtually identical with respect to both odds ratio and significance values. In addition, we conducted analyses controlling for demographics (grade, sex, and racial/ethnic group) and likewise, findings were virtually identical to those obtained without these covariates.

youth than White non-Hispanic youth. Relative to 6th graders, odds for sipping were greater for both 7th and 8th graders. Odds of sipping did not differ for boys versus girls at Wave 1.

Both positive and negative expectancies were positively associated with sipping. Upbringing-related RALD were associated with lower odds of sipping, but performance/self-control-related RALD failed to predict sipping. Odds of sipping alcohol were lower for those with higher school performance and greater for those with problem behavior. A sensation-seeking personality or possessing the traits of positive and negative urgency also increased odds of sipping. Perceived peer and sibling norms favoring alcohol use and self-reported extreme peer orientation were associated with increased odds of sipping, with particularly strong effects for peers vs. siblings. For peer norms there were stronger effects for descriptive norms than injunctive norms. Positive associations were observed for both general and substance-specific peer problem behavior.

All indices of parental monitoring showed effects consistent with prior studies of associations with alcohol initiation, with reduced odds of sipping among youth reporting higher child disclosure, parental control, and parent solicitation. High parental conflict with mother and with father both were associated with increased odds of sipping. Perceived social support from father was negatively associated with sipping although social support from mother was unassociated with sipping. Anticipated parent reaction to alcohol use also differentiated between sippers and non-sippers, with stronger negative reactions associated with lower odds of sipping. Finally, youth reporting that alcohol was readily available had significantly greater odds of sipping.

Multivariate models—Table 3 (left column) portrays the associations between correlates and Wave 1 sipping. In the multivariate model, none of the demographic variables were significant predictors. Although expectancies no longer predicted sipping, both performance/self-control and upbringing RALD were significant correlates, but in opposite directions, with a positive association with performance/self-control RALD and a negative association with upbringing RALD. School engagement, but not the specific facet of academic achievement, predicted in the multivariate context; youth problem behavior was no longer a significant predictor.

With regard to social norms, only injunctive norms (for both peer and sibling) predicted in the multivariate context. Maternal social support was unexpectedly associated with greater odds of sipping. Finally, higher alcohol availability continued to predict sipping.

Prospective Predictors of Sipping Onset between Waves over Two Years

Univariate models—Onset of sipping among Wave 1 never-sippers was modeled using the same set of correlates (see right column of Table 2). Among those who had not yet sipped alcohol at Wave 1, boys had decreased odds of having sipped two years later. Relative to youth enrolled in 6th grade, youth who began the study as 7th or 8th graders had increased odds of sipping onset. There were no associations between race/ethnic group and sipping onset.

Reported performance/self-control RALD at Wave 1 was associated with greater odds of sipping within two years; however, the other alcohol-related cognitions and measures of school engagement failed to prospectively predict onset of sip. Onset of sipping was associated with prior problem behavior, and having the personality facets of sensation seeking and positive urgency. Although peer norms were the strongest concurrent correlate of Wave 1 sipping, they failed to prospectively predict onset of sipping alcohol. Likewise, although significant concurrent correlates of sipping, the two peer problem behavior variables failed to prospectively predict sipping within two years. Descriptive norms for drinking for siblings, however, did prospectively predict onset. The only parenting variable significantly predicting onset of sip was parent reaction to drinking, which showed a surprising positive association (i.e., the stronger the negative reaction the child anticipated from parents, the more likely he/she was to have onset sipping). Finally, alcohol availability strongly positively predicted onset of sipping alcohol.

Multivariate models—Multivariate prospective predictors of sipping onset among were non-sippers at Wave 1 are presented in Table 3, right column. These models again showed that girls were more likely to begin sipping during the subsequent two years. Consistent with univariate models, youth high on sensation seeking and who reported more problem behavior were more likely to onset sipping, and those who reported that their siblings used alcohol and that alcohol was readily available were more likely to begin sipping. Odds of sipping were greater among youth who reported that their parents would react strongly to their child drinking alcohol. In addition, greater parental control was uniquely associated with reduced odds of drinking onset.

Do sipping correlates differ if the sipping was done with parental permission?

In a final set of analyses (see Supplemental Table 1), we conducted a multinomial logistic regression with three levels for the sipping variable (no sipping; sipping with alcohol obtained with parental permission; sipping without parental permission) in order to contrast correlates of sipping with parental permission vs. without parental permission (contrasts with no sipping are not reported here, as they are somewhat redundant with the earlier results). Parental permission was coded if the participant reported obtaining the alcohol from either their mother or father, and that he/she was offered the alcohol.⁴

Wave 1 sipping was endorsed by 310 (34.7%) of the 893 participants with available data; of these, 158 (51.0%) sipped with parental permission. In univariate models predicting sipping at Wave 1, there were several significant differences in correlates as a function of whether sipping was done with parental permission. Odds of sipping without permission (Sip-NP) compared to sipping with permission were greater for those with lower upbringing RALD, OR=0.59. Several indices of problem behavior were associated with Sip-NP, including poorer school engagement and academic performance, OR=0.60, OR=1.08. Descriptive peer norms and injunctive sibling norms favoring drinking were higher for Sip-NP (OR=2.77, OR=1.57). All indices of parental monitoring were protective against Sip-NP (OR=0.71;

⁴Because the items querying source of alcohol were added after data collection had begun, data on these variables are missing for 50 participants.

OR=0.76; OR=0.80 for child disclosure, parental control, parent solicitation), as were maternal (OR=0.80) and paternal (OR=0.79) social support. Finally, odds of Sip-NP were greater with higher availability of alcohol, OR=1.45.

Multivariate models supported univariate model findings with regard to upbringing RALD, positive urgency, norms, and availability, although associations were generally smaller and less significant: upbringing RALD, OR=0.57; positive urgency, OR=1.71; availability, OR=1.30; descriptive peer norms, OR=3.14; injunctive sibling norms, OR=1.74. Additionally, in the multivariate model, odds of Sip-NP were lower with higher injunctive peer norms, OR=0.61. No indices of problem behavior or parenting were multivariately associated with Time 1 Sip-NP.

Among Wave 1 non-sippers, 165 of 583 (28.3%) reported sipping within two years; of these, 58 (35.2%) sipped with parental permission. Odds of Sip-NP onset were greater for those with a greater problem behavior count, OR=1.13. Positive and negative urgency were associated with onset of Sip-NP (OR=2.41, OR=1.65) (positive urgency was also significant in the multivariate model, OR=4.06). Additionally, greater maternal and paternal conflict were associated with onset of Sip-NP (OR=1.61, OR=1.92; OR=2.34 for paternal conflict in the multivariate model). Greater parental control yet lower parent solicitation were multivariately associated with Sip-NP (OR=2.44, OR=0.59), as was having a extreme peer orientation, OR=0.53.

Discussion

The focus of this study was on a very early drinking milestone, the consumption of sips (but not a full drink) of alcohol, among a young adolescent sample. Although drinking rates were relatively low for this young sample, with less than 8% reporting ever having consumed a full drink at Wave 1, a sizeable minority (over one-third) reported having consumed at least a sip of alcohol that was not taken as part of a religious service, and nearly one-third of non-sippers at Wave 1 reported sipping alcohol within two years. Several factors shown in the literature to be associated with initiation of a full drink of alcohol and level of alcohol consumption were also correlates of consuming sips (but not a full drink) of alcohol.

There were no differences between boys and girls in reporting having tried sips of alcohol, consistent with Donovan and Molina's (2008) finding of no sex differences in sipping/tasting alcohol in their young sample. However, we found that girls were more likely to begin sipping within two years. The broader literature is inconclusive with regard to sex being a risk factor for alcohol initiation, with some recent studies showing that girls consume alcohol at an earlier age and at higher rates than boys (Chen & Jacobson, 2012; Grucza et al., 2009). There also is some evidence that girls progress more rapidly through early drinking milestones (e.g., K. Jackson, 2010). One might conjecture that gender differences in alcohol involvement are developmentally stage limited, with no gender differences observed among (pre-pubescent) youth in elementary school (Donovan & Molina, 2008; C. Jackson et al., 2013) but with a greater transition to alcohol use among girls, who are more likely than boys to reach puberty within two years. Contrary to much of the literature showing that White youth drink earlier and more heavily than Black youth, we

observed no significant differences in sipping between Black and White youth; however, Hispanic youth were less likely to have sipped at baseline.

Like Anderson, Briggs, and White (2013), we found that reasons for abstaining/limiting drinking predicted adolescent alcohol use cross-sectionally but did not predict future drinking above and beyond measures of disinhibition and harm avoidance. Both upbringing and performance/self-control reasons were significantly associated with lifetime sipping, but in opposite directions, with an unexpected positive association with performance/self-control reasons. In other words, participants who reported that they abstained from/limited drinking because of control reasons (e.g., “I like to feel in control of myself”) were *more likely* to have sipped. On the other hand, in middle schoolers, having reasons for not drinking that are related to how they were raised appears to be protective against trying alcohol. Although cognitions about alcohol often are present before an adolescent has personal experience with alcohol (Donovan, Molina, & Kelly, 2009), once youth gain experience, they may adjust their beliefs in response to their experiences. Even just a few sips of alcohol may quickly teach an adolescent that alcohol can interfere with or reduce their performance. Yet, our findings also support alcohol-related cognitions as a precursor of sipping behavior, as the univariate models predicting onset over two years also revealed a significant positive effect for performance/self-control RALD.

Anticipated parent reaction to drinking failed to distinguish those who sipped from those who did not at Wave 1, but positively predicted onset of sipping such that odds of sipping were greater for youth who reported that their parents had rules about the consequences of finding out their child was drinking. It is possible that communicating these rules to children somehow serves to convey norms accepting of alcohol to their children, or that greater parental discussion of alcohol use and related discipline is taking place for precocious youth who exhibit other problem behaviors, but clearly this finding needs replication before drawing any firm conclusions. The odds of sipping were lower for youth who reported greater parental monitoring (child disclosure for cross-sectional analyses and parental control for prospective onset analyses) and for youth who reported strong paternal social support, consistent with a body of literature supporting delayed alcohol initiation (variously defined) with greater parental monitoring and parent–child relationship quality (Ryan, Jorm, & Lubman, 2010). Although maternal social support was unexpectedly contemporaneously associated with greater sipping in the multivariate analysis, subsequent analyses showed that this relationship was significantly weaker for sipping that was not sanctioned by parents, suggesting that maternal support may not be a risk factor per se. One might speculate that there are some parents with whom youth have a positive relationship who also provide alcohol, perhaps misguidedly.

Interestingly, peer injunctive norms, reflecting the perceived approval of drinking behavior among peers, were significant cross-sectional correlates of sipping, but descriptive norms, reflecting perceived peer use of alcohol, were not. Norms theory suggests that salient injunctive norms may have a greater impact on behavior than descriptive norms (Cialdini, Reno, & Kallgren, 1990). In addition, descriptive norms about actual drinking behavior may be less important for setting up early stage drinking because of the low prevalence of alcohol use in this young sample. Adolescents may have more access to information about what

their friends think about alcohol use than actual exposure to their friends' use. In contrast, descriptive norms for siblings were predictive of onset; this referent group is likely older and more experienced with alcohol (indeed, rates of sibling drinking are higher in our sample than peer drinking; data not shown). It may be that sibling behavioral norms are more influential on substance use (by providing an older and influential drinking model) than friend norms, although this idea has not been borne out in recent smoking studies (Kelly et al., 2011; McCutcheon et al., 2012).

Youth with poorer school engagement reported having sipped alcohol in the past, but were no more likely to begin sipping if they had not yet sipped alcohol, and actual academic performance was not multivariately associated with sipping either concurrently or prospectively. Yet, youth who endorsed problem behaviors such as physical and non-physical aggression and delinquency were more likely to initiate sipping over the following two-year period. Problem behavior was also a correlate of sipping in univariate analyses. This expands on findings by C. Jackson et al. (2013) showing associations between self-reported sipping and poor self-regulation and school engagement but stands in contrast to findings by Donovan and Molina (2008) who found no association between sipping/tasting and deviant behavior, intolerance of deviance, or value on academic achievement, albeit in a younger sample who reported sipping occurring primarily in the family context. This inconsistency with regard to whether taking sips or tastes of alcohol in early adolescence is a manifestation of underlying deviance raises the need for continued research on early alcohol use, with consideration of the context of first use.

Sensation seeking discriminated between those who did vs. did not progress to sipping, consistent with Malmberg et al. (2012) who found sensation seeking to predict onset of drinking (defined as a "glass" of alcohol). In that study, impulsivity and anxiety sensitivity failed to predict drinking, somewhat in line with the present findings that showed no association of sipping with personality traits characterized by acting rashly in response to negative affect (or positive affect, in the multivariate model). Indices of temperament have been shown to exert their influence early (Caspi, Moffitt, Newman, & Silva, 1996; Masse & Tremblay, 1997), and there is evidence that the effect of such distal impulsive personality traits on drinking is mediated through more proximal influences such as alcohol expectancies (Gunn & Smith, 2010) and deviant peer affiliation (Yanovitzky, 2005). However, prospective studies with younger samples may be necessary to more fully resolve this issue.

One of the strongest predictors in was perceived availability of alcohol, even controlling for a wide array of psychosocial constructs. Although availability certainly becomes more salient as an adolescent gains experience with alcohol, our prospective findings support a directional effect where merely having alcohol available in the home or elsewhere may facilitate the development of youth drinking. C. Jackson et al. (2013) found that perceived access to alcohol in the home was not associated with sipping, but the present study did not limit the measure to access in the home. In fact, although roughly half of the early initiates (those endorsing sipping prior to Wave 1) reported sipping with parental permission, i.e., were offered the alcohol by a mother or father; the remainder reported obtaining alcohol from another family member or adult and/or asking for the beverage or accidentally

consuming it (details reported in our other work, reference removed for blinding). The proportion of youth who reported that their sipping over the subsequent two-year period was done with parental permission was lower (35%), which is perhaps not surprising given that these youth are now older.

Our investigation of whether sipping was sanctioned by parents revealed an interesting pattern, one which supported a greater profile of risk associated with unsanctioned sipping. Among earlier sippers (those reporting sipping by Wave 1), unsanctioned sipping was more likely among youth who reported greater problem behavior and norms favoring drinking as well as greater access to alcohol, and less likely among youth whose parents closely monitored them and youth whose cognitions reflected being raised not to drink alcohol. Likelihood of unsanctioned sipping among those reporting sipping onset subsequent to Wave 1 was greater among youth with greater problem behavior and those with personality pathways to impulsive behavior, as well as youth who reported having parental relationships characterized by conflict. Of interest, two facets of parental monitoring were differentially associated with sanctioned sipping: youth who reported their parents exerted more control were more likely to report sipping that was unsanctioned, whereas youth whose parents gathered information about the adolescent's activities were less likely to do so. This is line with research showing that high behavioral control (controlling activities) is protective but high psychological control (controlling ways of thinking) can be risky (Barber, Olsen, & Shagle, 1994). It is also possible that more controlling parents may not provide permission to drink alcohol, so youth inclined to consume alcohol would seek it elsewhere, without permission. It is important to acknowledge, however, that youth whose drinking was unsanctioned on this first occasion may still be consuming alcohol with parental permission on other occasions.

Strengths and Limitations

The present study addressed a gap in the literature by identifying the correlates of sipping alcohol, focusing on youth at the very early stages of alcohol involvement, a time when drinking has not yet occurred yet personal norms accepting of sipping emerge (Prins, Donovan, & Molina, 2011). In addition, the study drew on prospective data to unambiguously explore onset of sipping, while at the same time our cross-sectional analyses were informative with regard to understanding risk in the important group of early initiators.

Some study limitations must be noted. Our sample is drawn from a subset of schools in a single geographic region and thus is not representative of the U.S. In addition, although there was reasonable racial/ethnic heterogeneity in the sample, there were low numbers of Asian, American Indian, and mixed race/ethnicity participants, and the Other category is comprised of these different groups that typically have very different profiles of drinking. However, for the most part, our sample either over-represented or was reflective of the racial/ethnic distribution of each of the schools. We also experienced lower than expected participation rates, which we believe was due in part to the intensive study design. Frissell et al. (2004) note that parental nonresponse to traditional active consent procedures appears to reflect failure of parents to attend to the request (e.g., due to inconvenience), with parents not intending for their nonresponse to represent refusal. Compared to subsamples without

active consent, youth in active-consent studies seem to exhibit fewer risk characteristics and behavioral problems, but studies have not consistently identified bias for alcohol involvement (Frissell et al., 2004).

Present study findings may miss sippers who initiate at earlier or later ages and findings may differ for those youth. Along the same lines, we potentially excluded the highest risk group by eliminating those who had consumed a full drink. Additionally, given that our sample includes youth who had already had a sip of alcohol at Wave 1, our prospective data are left censored. Endorsement of sipping was based on self-reported use. However, studies suggest that self-report measures of alcohol consumption can be valid in youth (Donovan et al., 2004; Smith, McCarthy, & Goldman, 1995), particularly when using web-based data collection (Turner et al., 1998). We also relied on participant report of peer, sibling, and parent alcohol use and behaviors, which may have introduced some bias due to misperception (e.g., Perkins, 2012).

Implications and Future Directions

The findings described herein lay the groundwork for other research that focuses on sipping/tasting alcohol as the earliest distinct drinking milestone. This line of inquiry is important in its focus on whether differential risk factors could inform prevention/early intervention strategies. Identifying early stage risk factors will increase the likelihood of changing a youth's trajectory away from problems and toward positive behaviors (Ialongo et al. 2001). Interventions enhancing parent-child communication and monitoring (e.g., Family Check Up; Van Ryzin, Stormshak, & Dishion, 2012) might be instrumental in preventing initiation of unsanctioned sipping while skills training (e.g., drink-refusal skills) might be more effective in preventing progression. Study findings supported injunctive norms as a more powerful correlate of sipping initiation than descriptive norms; intervention strategies that incorporate friends and siblings may show more promise in reducing underage alcohol consumption than descriptive drinking norms education (Neighbors et al., 2007), although Valente et al. (2007) caution that social network-oriented interventions might be iatrogenic for those in social networks with norms favoring substance use.

It is clear that parents play a central role in their children's initiation to alcohol. The degree to which childhood sipping/tasting of alcohol within a family context is protective has been a topic of recent debate. Although research has shown that permission to drink at home (C. Jackson et al., 1999; van der Vorst et al., 2010) and explicit provision of alcohol (Kaynak et al., 2014; Komro et al. 2007; Shortt et al., 2007) are prospectively associated with greater adolescent alcohol use, a substantial proportion of parents believe that children can benefit from sipping drinks with alcohol and mistakenly expect that the way children drink at home, under parental supervision, is how they will drink with peers (C. Jackson et al., 2012). Our study findings suggest that, among youth who sip alcohol, those who sip with parental permission do in fact have a lower profile of risk and healthier relationships with parents as compared to youth who sip an alcoholic beverage obtained from someone other than a parent (and are presumably drinking outside of a home context). This converges with a recent review article by Kaynak et al. (2014) showing lower drinking rates among youth receiving alcohol from parents or drinking with parents relative to drinking with peers.

Regardless of whether it is sanctioned, however, sipping is still clearly associated with a number of well-established risk factors for problem behavior. There is much remaining to be learned with regard to the potential importance of sipping for understanding adolescent alcohol use. We hope that the present study findings on sipping alcohol will stimulate the field to consider this important milestone.

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Table 1

Descriptive information on correlates of sipping.

	Mean (SD) or Percentage (freq.)	Range
ALCOHOL-RELATED COGNITIONS		
Alcohol expectancies – positive	2.35 (0.75)	1–4
Alcohol expectancies – negative	3.22 (0.81)	1–4
RALD – performance/self-control	3.12 (0.76)	1–4
RALD – upbringing	3.25 (0.62)	1–4
SCHOOL ENGAGEMENT		
School engagement	4.03 (0.49)	2–5
Academic performance	4.32 (0.95)	1–5
PROBLEM BEHAVIOR		
Problem behavior count	2.78 (3.44)	1–20
PERSONALITY		
Sensation seeking	2.17 (0.79)	1–4
Positive urgency	1.66 (0.67)	1–4
Negative urgency	1.98 (0.76)	1–4
SOCIAL NORMS		
Injunctive peer norm – peers	0.54 (0.80)	0–4
Descriptive peer norm – peers	3.5% (33/943)	
Extreme peer orientation	1.91 (0.98)	1–4
Injunctive peer norm – sibling	0.49 (0.79)	0–4
Descriptive peer norm - sibling	0.27 (0.68)	0–4
PEER PROBLEM BEHAVIOR		
Peer problem behavior – non sub use	0.63 (1.40)	0–12
Peer problem behavior –sub use	0.16 (0.64)	0–6
PARENTING		
Parental monitoring – child disclosure	3.93 (0.87)	1–5
Parental monitoring – parental control	4.34 (0.90)	1–5
Parental monitoring – parent solicitation	3.24 (1.07)	1–5
Parental conflict – mom	1.82 (0.84)	1–5
Parental conflict – dad	1.70 (0.78)	1–5
Parental social support – mom	3.05 (1.19)	1–5
Parental social support – dad	2.47 (1.09)	1–5
Parent reaction to drinking	4.31 (0.98)	1–5
CONTEXTUAL		
Alcohol availability	0.52 (0.98)	0–4

Note. N ranges from 890 (sibling norms) to 944. RALD=Reasons for abstaining/limiting drinking.

Table 2

Odds ratios (95% Confidence Intervals) for the univariate prediction of Wave 1 sipping and onset of sipping two years later.

	Sipping at Wave 1	Onset of sipping over a two-year follow-up
DEMOGRAPHIC		
Sex	1.07 (0.82, 1.40)	0.57** (0.40, 0.82)
Hispanic (vs White, non-Hispanic)	0.62* (0.39, .96)	1.24 (0.74,2.08)
Black (vs White, non-Hispanic)	1.00 (0.50, 1.97)	0.91 (0.35,2.36)
Other (vs White, non-Hispanic)	1.24 (0.82, 1.89)	1.26 (0.70, 2.26)
7 th grade (vs 6 th grade)	1.69** (1.21, 2.34)	1.67* (1.08,2.57)
8 th grade (vs 6 th grade)	1.90*** (1.36, 2.64)	1.83** (1.18,2.84)
ALCOHOL-RELATED COGNITIONS		
Alcohol expectancies – positive	1.30** (1.08,1.56)	1.15 (0.91,1.46)
Alcohol expectancies – negative	1.25* (1.05,1.48)	1.13 (0.92,1.40)
Reason abstain/limit drink (RALD) – performance/self-control	1.08 (.91, 1.28)	1.29* (1.02, 1.64)
Reason abstain/limit drink (RALD) – upbringing	.60*** (.49, .74)	1.10 (0.83, 1.46)
SCHOOL ENGAGEMENT		
School engagement	.31*** (.23, .41)	0.85 (0.57, 1.28)
Academic performance	.82** (.72, .94)	1.07 (0.88, 1.30)
PROBLEM BEHAVIOR		
Problem behavior count	1.15*** (1.11, 1.20)	1.10*** (1.04, 1.17)
PERSONALITY		
Sensation seeking	1.66*** (1.40, 1.97)	1.51*** (1.20, 1.91)
Positive urgency	1.60*** (1.31, 1.95)	1.32* (1.01, 1.74)
Negative urgency	1.68*** (1.40, 2.01)	1.15 (0.90, 1.46)
SOCIAL NORMS		
Injunctive peer norm – peers	2.25*** (1.88, 2.69)	1.24 (0.96, 1.60)
Descriptive peer norm – peers	4.77*** (2.19,10.38)	1.94 (0.52, 7.33)
Extreme peer orientation	1.50*** (1.30, 1.73)	1.17 (0.97, 1.42)
Injunctive peer norm – sibling	1.99*** (1.66, 2.39)	1.09 (0.84, 1.42)
Descriptive peer norm - sibling	1.66*** (1.34, 2.04)	1.60** (1.18, 2.18)
PEER PROBLEM BEHAVIOR		
Peer problem behavior – non sub use	1.22*** (1.10, 1.34)	1.13 (0.99, 1.29)
Peer problem behavior –sub use	1.68*** (1.30, 2.18)	1.16 (0.82, 1.63)
PARENTING		
Parental monitoring – child disclosure	.62*** (.53, .72)	0.82 (0.66, 1.02)

	Sipping at Wave 1	Onset of sipping over a two-year follow-up
Parental monitoring – parental control	.79** (.68, .91)	0.91 (0.75, 1.12)
Parental monitoring – parent solicitation	.84** (.74, .95)	0.96 (0.81, 1.13)
Parental conflict – mom	1.43*** (1.22, 1.68)	1.09 (0.87, 1.37)
Parental conflict – dad	1.31** (1.10, 1.55)	1.02 (0.80, 1.31)
Parental social support – mom	.96 (.86, 1.08)	0.93 (0.80, 1.08)
Parental social support – dad	.83** (.73, .94)	0.88 (0.75, 1.04)
Parent reaction to drinking	.86* (.75, .98)	1.31* (1.06, 1.62)
CONTEXTUAL		
Alcohol availability	1.83*** (1.58, 2.12)	1.67*** (1.33, 2.11)

Note. N ranged from N=933 to N=943 for the Wave 1 sip analysis, except for sibling injunctive and descriptive norms (N=889) and for report of parental conflict and parental support for dad (N=902 and N=899, respectively). N ranged from N=587 to N=591 for the Onset analyses (i.e., the subset of those who did not endorse sipping at Wave 1), except for sibling injunctive and descriptive norms (N=570) and for report of parental conflict and parental support for dad (N=571 and N=569, respectively).

 $p < .001$;

**
 $p < .01$;

*
 $p < .05$.

Table 3

Odds ratios (95% Confidence Intervals) for the multivariate prediction of Wave 1 sipping and onset of sipping two years later.

	Sipping at Wave 1	Onset of sipping over a two-year follow-up
DEMOGRAPHIC		
Sex	1.06 (0.75, 1.51)	0.40 ^{***} (0.25, 0.65)
Hispanic (vs White, non-Hispanic)	0.64 (0.37, 1.12)	1.38 (0.73, 2.62)
Black (vs White, non-Hispanic)	0.90 (0.34, 2.35)	0.55 (0.14, 2.20)
Other (vs White, non-Hispanic)	1.47 (0.88, 2.44)	1.06 (0.53, 2.10)
7 th grade (vs 6 th grade)	1.27 (0.84, 1.92)	1.64 (0.97, 2.77)
8 th grade (vs 6 th grade)	1.25 (0.82, 1.92)	1.40 (0.81, 2.42)
ALCOHOL-RELATED COGNITIONS		
Alcohol expectancies – positive	1.01 (0.80, 1.29)	1.21 (0.90, 1.64)
Alcohol expectancies – negative	1.08 (0.84, 1.40)	0.88 (0.65, 1.20)
Reason abstain/limit drink (RALD) – performance/self-control	1.45 [*] (1.08, 1.94)	1.14 (0.79, 1.64)
Reason abstain/limit drink (RALD) – upbringing	0.65 [*] (0.46, 0.92)	0.96 (0.62, 1.48)
SCHOOL ENGAGEMENT		
School engagement	0.60 [*] (0.37, 0.95)	1.22 (0.65, 2.30)
Academic performance	1.01 (0.82, 1.25)	1.00 (0.76, 1.33)
PROBLEM BEHAVIOR		
Problem behavior count	1.04 (0.98, 1.10)	1.11 [*] (1.01, 1.21)
PERSONALITY		
Sensation seeking	1.20 (0.92, 1.53)	1.55 [*] (1.10, 2.17)
Positive urgency	0.72 (0.51, 1.07)	0.97 (0.60, 1.57)
Negative urgency	1.17 (0.84, 1.63)	0.66 (0.42, 1.03)
SOCIAL NORMS		
Injunctive peer norm – peers	1.39 ^{**} (1.08, 1.77)	1.06 (0.74, 1.53)
Descriptive peer norm – peers	1.84 (0.58, 4.97)	1.92 (0.27, 13.86)
Extreme peer orientation	1.10 (0.89, 1.34)	1.14 (0.87, 1.49)
Injunctive peer norm – sibling	1.48 ^{***} (1.15, 1.81)	0.90 (0.63, 1.27)
Descriptive peer norm - sibling	1.22 (0.97, 1.59)	1.66 ^{**} (1.16, 2.35)
PEER PROBLEM BEHAVIOR		
Peer problem behavior – non sub use	0.96 (0.87, 1.20)	1.08 (0.86, 1.35)
Peer problem behavior –sub use	0.86 (0.65, 1.32)	0.59 (0.34, 1.02)
PARENTING		
Parental monitoring – child disclosure	0.85 (0.64, 1.13)	1.00 (0.68, 1.46)
Parental monitoring – parental control	1.08 (0.86, 1.36)	0.74 [†] (0.55, 1.00)
Parental monitoring – parent solicitation	1.02 (0.83, 1.24)	1.02 (0.78, 1.33)

	Sipping at Wave 1	Onset of sipping over a two-year follow-up
Parental conflict – mom	1.19 (0.94, 1.49)	1.02 (0.73, 1.42)
Parental conflict – dad	0.93 (0.73, 1.19)	0.83 (0.58, 1.17)
Parental social support – mom	1.30 ^{**} (1.07, 1.58)	1.03 (0.78, 1.35)
Parental social support – dad	0.94 (0.77, 1.15)	0.90 (0.69, 1.18)
Parent reaction to drinking	0.89 (0.73, 1.09)	1.86 ^{***} (1.31, 2.65)
CONTEXTUAL		
Alcohol availability	1.27 [*] (1.05, 1.55)	1.61 ^{**} (1.19, 2.18)

Note. N=828 for the Wave 1 sip analysis and N=513 for the Onset analyses (i.e., the subset of youth who did not endorse sipping at Wave 1).

 $p < .001$;

**
 $p < .01$;

*
 $p < .05$,

[†]
 $p = .05$