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## Maternal Perceptions of Alcohol Use by Adolescents Who Drink Alcohol\*

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### Abstract

**Objective**—This research examines correlates of mothers' misperceptions of their adolescent children's regular alcohol consumption. Theories of adolescent autonomy, attribution processes, and stereotypes were used to make predictions about the biasing effects on attribution accuracy of maternal age, relationship satisfaction, and supervision of one's adolescent, as well as the adolescent's age, gender, physical development level, and peers.

**Method**—The present research used a nationally representative sample of approximately 20,000 parent-adolescent dyads from the National Longitudinal Study of Adolescent Health (Add Health). Add Health is a school-based sample of 20,745 adolescents in Grades 7–12. Mothers indicated their perceptions of their adolescent children's alcohol use, and adolescents reported their actual use of alcohol.

**Results**—There was a tendency for mothers to underestimate alcohol use, sometimes substantially so. Maternal attributions followed a correlational pattern consistent with the scientific literature. There was evidence, however, that mothers may overgeneralize the applicability of these correlates, resulting in misattributions.

**Conclusions**—Our analyses have important practical implications for parent-based intervention programs aimed at preventing adolescent alcohol use. First, programs should alert parents to the cues that signify adolescent alcohol consumption. Second, intervention programs should appropriately sensitize parents to identifying adolescent alcohol use in cases in which the child may not fit the stereotype of an adolescent drinker. Third, intervention messages should emphasize firm and consistent parental actions that minimize alcohol use independent of the particular cues that an adolescent is projecting.

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As adolescents now engage in problem behaviors at younger ages than in the past, the ability of their parents to recognize the warning signs of such behaviors is increasingly important.

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Faced with knowledge that their adolescent son or daughter is experimenting with sex, drugs, or alcohol, parents are more apt to intervene to deter such behavior in the future. Researchers have suggested a pathway from parental awareness of their adolescent's risk activities to increased monitoring and communication with the adolescent. Parental perceptions about children's behavior have a decisive role in reducing future problem behaviors (Bogenschneider et al., 1998). Numerous studies have documented the impact of expressions of parental disapproval on adolescent problem behaviors (e.g., Beck and Treiman, 1996; Jaccard and Dittus, 2000; Li et al., 2000), suggesting that parental intervention can make a difference. Parental sensitivity to their children's risk activities is thus an important component of parental influence.

Despite its central importance, only a few studies have explored how accurate parents are in characterizing the drinking activities of their adolescents (Beck et al., 1999; Bogenschneider et al., 1998; Langhinrichsen et al., 1990). Beck et al. (1999) asked older high-school students to indicate if they had ever engaged in each of five alcohol-related behaviors during the past 12 months: (1) drinking and driving, (2) drinking at home without permission, (3) drinking while out, (4) riding with a drinking driver, and (5) going to places where other adolescents were drinking. The authors identified adolescents who had engaged in each activity and then calculated the percentage of parents who said their adolescent child had engaged in that activity. The percentage of parents who made accurate attributions for the five drinking behaviors was about 30%. This reflects generally low levels of alcohol awareness on the part of parents. Langhinrichsen et al. (1990) asked adolescents between the ages of 10 and 16 to indicate how much alcohol they had consumed over the course of their lifetimes and also asked parents their perceptions of the drinking activities of their adolescent. The correlation between parent attributions and adolescent self-reports was 0.36. About 50% of the parents tended to underestimate the drinking activities of their adolescent children. Bogenschneider et al. (1998) reported similar levels of underestimation. Langhinrichsen et al. explored correlates of parental accuracy and found that parents were less accurate for older adolescents and that single mothers were less accurate than those in two-parent households.

The picture that emerges from these small-scale studies is that many parents are unaware of the drinking activities of their adolescent children. In some ways, this is not surprising, because adolescents are almost certainly trying to hide such behavior from their parents, and apparently they are fairly successful at doing so. Although it is evident that many parents believe that their adolescents do not drink alcohol when, in fact, they do, almost no research has identified factors that bias parents toward "denying" or "being unaware of" their adolescent's consumption of alcohol. If we can understand such factors, these variables can be addressed in parent-education programs to help parents recognize and deal with alcohol-related behaviors on the part of adolescents. The present research focuses on factors that impact the tendency for mothers to underestimate the alcohol use of adolescents who use alcohol on a regular basis. Misperceptions in such cases are important, because these adolescents have a higher probability of developing drinking problems, and parental intervention could be crucial in terms of prevention efforts.

### **A conceptual framework for parental underestimations**

Unless an adolescent is caught directly in an intoxicated state or in possession of alcohol, parents probably infer that their adolescent is engaging in alcohol-risk activity based on their adolescent's behaviors (e.g., going to many social functions) and on their own implicit theory about what variables are related to adolescent alcohol consumption. Research in social psychology suggests three classes of information-processing variables that affect the nature and accuracy of behavioral attributions (Jussim, 1990, 1991, 1993; Fiske and Taylor, 1991). First, the judgment made by the attributor is influenced by attentiveness to cues in the environment that imply performance of the behavior on the part of the actor. Second, the

judgment made by the attributor is influenced by the stereotypes and implicit theories that the judge holds with respect to factors associated with the behavior. Third, the judgment is influenced by the overall affect characterizing the relationship between the actor and the attributor.

When applied to parental attributions of alcohol use, the attributions parents make should be influenced by (1) parental attentiveness to cues that imply adolescent alcohol use, (2) parental use of stereotypes about adolescents who use alcohol versus those who do not, and (3) the affective environment surrounding the parent-adolescent relationship (e.g., the quality of the relationship).

Social scientists identify a wide range of variables, related to alcohol consumption, that could influence these key processes and predict parental underestimation of alcohol consumption. We consider four classes of distal variables: (1) demographic variables, (2) family dynamics, (3) indirect cues, and (4) direct cues.

**Demographic variables**—Theories of autonomy (Langhinrichsen et al., 1990) suggest that older adolescents tend to separate from parents (e.g., Hartup, 1983; Krosnick and Judd, 1982), resulting in fewer shared activities and more covert behaviors. This greater incidence of unshared behaviors could lead to greater parental inaccuracy in characterizing the alcohol-related behaviors of older versus younger adolescents. As adolescents separate from parents, parents may be less attentive to cues that suggest alcohol use, leading to the prediction that mothers of older adolescents will be more likely to underestimate regular alcohol use on the part of their child than mothers of younger adolescents (Hypothesis 1).

Another variable possibly related to cue sensitivity is maternal age. It may be the case that there is a smaller “generation-gap” between the adolescent and younger, as opposed to older, mothers, making younger mothers more attuned to cues that suggest adolescent alcohol use. There is literature to suggest, however, that an opposite dynamic may be operating. Research has suggested that older mothers have more positive attitudes toward child rearing than younger mothers (e.g., Rauh et al., 1990) and that older mothers tend to provide more supportive family environments than younger mothers (e.g., Wasserman et al., 1990). This might produce a better relationship between mother and adolescent, which could lead to a greater degree of parental monitoring and communication. The result would be a positive, rather than a negative, correlation between maternal age and attribution accuracy, as older mothers are more involved in their adolescents’ lives. A purpose of the present research was to determine the extent to which the data favor one or the other of these competing predictions (Hypothesis 2 vs Hypothesis 3).

It has been well established that many segments of society believe the stereotype that risk taking is more acceptable for boys than for girls (Jaccard and Dittus, 1991). This suggests that parents may be more likely to underestimate regular alcohol use for girls, as opposed to boys. Recognizing that “boys will be boys,” parents may be more apt to attribute regular drinking to boys than girls. The use of gender stereotypical information as a factor that biases parental attributions has been reported in past research (e.g., Langhinrichsen et al., 1990). Another purpose of the present research was to test if there is a tendency for mothers of girls to underestimate regular drinking, compared with mothers of boys (Hypothesis 4).

Another demographic variable that may invoke stereotypes is religiosity. Parents who have religious adolescents may be more likely to believe that the adolescent adheres to religious norms against risk taking. If the adolescent is drinking on a regular basis, parents may be less likely to believe it. An opposite prediction is made by theories suggesting that religiosity leads to more supportive family relationships (e.g., Strayhorn et al., 1990), which increase

communication between parent and adolescent, leading to greater awareness of what is going on in an adolescent's life. It is thus unclear whether religiosity will be positively (Hypothesis 5) or negatively (Hypothesis 6) related to mothers' tendency to underestimate regular drinking, and the present research evaluates this.

**Family dynamics**—We evaluated two aspects of family relationships as possible sources of inaccurate attributions. The first was the degree of control/supervision that parents exert over their adolescents. We hypothesized that mothers who insert themselves into the lives of their adolescents will be more likely to make correct attributions of alcohol consumption. These mothers should have greater access to cues by virtue of the higher level of involvement they have with their adolescent son/daughter (Hypothesis 7). The second variable was the quality of the relationship between the mother and the adolescent. We hypothesized that the better the quality of the relationship, the more likely it is that the mother will accurately perceive the adolescent's use of alcohol (Hypothesis 8). This prediction was based, in part, on the three-component model of attribution accuracy, which asserts that a positive actor-observer environment increases attribution accuracy, and also on the fact that positive relations lead to increased contact and communication between mothers and adolescents, thereby increasing cue accessibility.

**Indirect cues**—Parents have stereotypes of the kinds of adolescents who are likely to use alcohol, and one such stereotype could involve school performance. Parents may assume that as long as an adolescent is doing well in school, he or she is less prone to engage in risk behaviors. The result is lowered attention to relevant cues for those adolescents who are doing better academically and, thus, greater attribution inaccuracy (Hypothesis 9).

Because of individual differences in the timing of the growth spurt, adolescents of the same age often differ in how mature they appear to be. There is research to indicate that parents treat physically early-maturing adolescents differently than later-maturing adolescents (Bulcroft, 1991; Steinberg, 1981; Steinberg and Hill, 1978), with the tendency to treat early maturers as more adultlike and capable of independence. This suggests that mothers may be more likely to attribute cognitive, social, and emotional maturity to adolescents who are physically mature, resulting in a miscalculation of risk-taking tendencies (Hypothesis 10).

**Direct cues**—Variables described above, which are not directly tied to alcohol use, may bias some parents toward insensitivity to drinking behavior on the part of their adolescents. There may be more direct cues that parents can use to make inferences, however (e.g., the tendency for the adolescent to have friends who drink alcohol and the extent to which the adolescent has experienced problems in his or her life because of alcohol). These cues are not as blatant as being actively caught with alcohol or being intoxicated, but, if an adolescent is surrounded by other drinkers and having problems as a result of drinking, one would hope that parents would be sufficiently sensitive to read the signs and make a correct attribution. We thus hypothesized that mothers would be more accurate in their attributions relative to the extent that their adolescent has friends who drink and that he or she reports problems as a result of consuming alcohol (Hypotheses 11 and 12).

Past research suggests that many parents underestimate the drinking activities of their adolescents, but studies have not explored correlates of attribution accuracy. We used a theory of information processing for attribution accuracy to derive predictions about the relationships of demographic variables, family variables, indirect cues, and direct cues to maternal underestimation of adolescent children's regular drinking. The present study uses a large nationally representative sample of adolescents to explore these correlates.

## Method

### Respondents

The analysis used data from the National Longitudinal Study of Adolescent Health (Add Health), collected by Bearman et al. (1997; Udry, 1997). This is a school-based sample of 20,745 adolescents in Grades 7–12. The sampling frame selected a stratified random sample of 80 high schools. For each school, a set of “feeder” schools was identified; these schools included seventh graders and sent their graduates to the high school. Because some high schools spanned Grades 7 to 12, they functioned as their own feeder school. There were 134 schools in the study. All students listed on the school’s roster were used as a sampling frame to select a sample of 12,105 adolescents, stratified by gender and grade. Approximately 200 adolescents were selected from each pair of schools. In addition, there was oversampling, focused on different ethnic groups. The interviews were conducted in the student’s home, and a parent, the resident mother, also was interviewed.

### Procedure

The in-home interviews took from 1 to 2 hours. Data were recorded on laptop computers. For more sensitive sections, the respondent listened to prerecorded questions through earphones and entered the answers directly onto the laptop. Respondents were assured of the confidentiality of their responses, and the importance of providing honest answers was stressed. Respondents were told they could skip questions they were uncomfortable answering. These practices tend to increase truthful responding. A measure of social desirability response tendency was obtained to include as a covariate in model estimation.

The topics covered in the interviews were diverse, covering health status, health facility use, nutrition, peer networks, decision-making processes, family composition and dynamics, educational aspirations and expectations, employment experience, the ordering of events in the formation of romantic partnerships, substance use, and criminal activities.

### Measures

**Adolescent alcohol use**—Adolescents were asked, “During the past 12 months, on how many days did you drink alcohol?” Respondents answered on a 7-point scale, in which 1 = “never,” 2 = “1 or 2 days in the past year,” 3 = “once a month or less,” 4 = “2 or 3 days a month,” 5 = “1 or 2 days a week,” 6 = “3–5 days a week,” and 7 = “every day or almost every day.” This measure was only weakly correlated with social desirability response tendency ( $r = -.12$ ) and has been commonly used in research on adolescent alcohol consumption.

**Maternal perception of adolescent alcohol use**—Mothers were asked to respond “yes” or “no” to the question, “Does your adolescent drink alcohol at least once a month?” The focus of this measure was on assessing maternal perceptions of regular alcohol use on the part of the adolescent, a crucial predictor of future alcohol misuse in young adulthood. This measure also revealed a near-zero correlation with the measure of social desirability response tendency ( $r = -.03$ ).

**Parental control**—The extent to which adolescents perceive their parents as controlling was assessed with seven items about the degree to which adolescents are permitted to make their own decisions regarding certain behaviors. Participants responded with either “yes” or “no.” A composite measure of overall perceived parental control was derived by averaging across the seven items; a higher score indicates greater degree of parental control. Each of the items began with the phrase, “Do your parents let you make your own decisions about . . .” The items were “the time you must be home on weekend nights,” “the people you hang around with,” “what you wear,” “how much television you watch,” “which television programs you watch,”



“what time you go to bed on week nights,” and “what you eat.” Each item was scored 1 = “no” and 0 = “yes,” and responses were averaged across items and then multiplied by 100. Scores could range from 0 to 100, with higher scores indicating greater levels of control and supervision. The  $\alpha$  coefficient was .71.

**Maternal satisfaction with relationship**—The extent to which mothers were satisfied with their relationship with their adolescent child was measured with the following item: “Overall, I am satisfied with my relationship with \_\_\_\_\_.” This statement was responded to on a 5-point agree-disagree scale and scored from 1 to 5; higher numbers indicated greater agreement. This single-item measure has been found to be highly correlated with more complex multi-item measures of relationship satisfaction (Jaccard et al., 1996).

**School performance**—Adolescents were asked to report their most recent grades in four content areas: English or Language Arts; Math; History or Social Studies; and Science. Students reported their grades as A, B, C, and D or lower. These were scored from 4 to 1 and averaged across the four topic areas.

**Physical development**—Adolescents were asked to describe the extent of their physical maturity by responding to a number of statements (four items for boys; three for girls). An overall index of physical development was formed within gender by standardizing the responses to a given item and averaging the responses across the items. The items for male respondents focused on underarm hair growth, facial hair growth, degree to which the voice was lowered from what it had been in grade school, and how advanced physical development was, overall, compared with other boys of the same age. The items for female respondents measured development of breasts, how curved the body had become, and how advanced physical development was, overall, compared with other girls of the same age. Measures based on this approach are widely used in studies on physical development (Morris and Udry, 1980; Udry et al., 1986) and are typically highly correlated with more detailed measures based on direct physical observations.

**Peer alcohol use**—Adolescents were asked about their peers’ drinking and responded to the following question: “Of your three best friends, how many drink alcohol at least once a month?”

**Problems because of alcohol use**—Adolescents responded to five questions about trouble they got into as a result of alcohol: “I got into trouble with my parents because I had been drinking,” “I had problems at school or with school work because I had been drinking,” “I had problems with my friends because I had been drinking,” “I had problems with someone I was dating because I had been drinking,” and “I did something I later regretted because I had been drinking.” The metric for each item was 0 = “never,” 1 = “once,” 2 = “twice,” 3 = “three to four times,” and 4 = “five or more times”; items were then averaged.

**Demographic variables**—Adolescents’ religiosity was measured on a 4-point scale asking how important religion was to them, with 1 = “not at all important,” 2 = “fairly unimportant,” 3 = “fairly important,” and 4 = “very important.” Two ways of representing the age of the adolescent were considered: chronological age in years and grade level in school. The two variables are highly correlated (.79 in our data); thus, they cannot both be included in the same estimating equation because of collinearity problems. Valid arguments can be made for the inclusion of one or the other. Some scientists would argue that grade in school is the more appropriate covariate, because it reflects the age-related cultural milieu of the adolescent. According to this viewpoint, it is not so much the chronological age of the adolescent that matters as does, for example, what it means to be in the eighth grade and all that goes along

with being an eighth grader. Others would argue that what is more important is sheer maturation, which is best captured by chronological age. We tend to favor the former position (although we agree that the latter position has merit); therefore, we chose grade as our key age-related covariate. We conducted our analyses using grade as a covariate in one analysis, however, and age as the covariate in the other; the conclusions and results were comparable for all variables in both analyses.

**Social desirability**—The tendency for adolescents to respond to items in a socially desirable manner was measured using three items: “I never argue with anyone,” “I never get sad,” and “I never criticize other people.” These statements are generally untrue of everyone. If a respondent is trying to create a favorable impression by distorting his or her answers, he or she would tend to agree with these statements. Respondents answered each question on a 5-point, agree-disagree scale, with 5 indicating the highest degree of a socially desirable response. The  $\alpha$  coefficient for the scale was .63. An overall score was derived by averaging the three items. This scale was based on the work of Paulhus (1991) and was shortened for use in this large national survey.

### Analytic strategy

The major analyses used logistic regression. Add Health employed a stratified-cluster sampling design, in which schools were sampled from the Quality of Education Database. Student-level sampling weights were developed by Add Health statisticians to take into account design effects (Tourangeau and Shin, 1998). These weights were used to derive parameter estimates and standard errors in the statistical models. The community from which the school was sampled served as the primary sampling unit, and strata were defined based on procedures recommended by Add Health statisticians. Significance tests and confidence intervals were based on Binder’s (1983) robust estimation strategy, used in conjunction with Taylor linearization in the computer package SUDAAN (Research Triangle Institute, Research Triangle Park, NC).

## Results

### Descriptive analyses

Table 1 presents the frequency distribution for the amount of alcohol consumed by adolescents and the percentage of mothers who estimated that their adolescent drinks at least once a month. Approximately 45% of the student sample ( $n = 6,992$ ) had tried alcohol. Almost none of the mothers of adolescents who reported not drinking or seldom drinking thought their children drank at least once a month; this reflects accurate attributions of alcohol nonuse. The vast majority (about 75%) of mothers of adolescents who drank on a fairly regular basis (2 or 3 days a month or more) did not think their adolescents were regular drinkers. This reflects misattributions in the direction of underestimation. A striking result is that more than 77% of mothers of adolescents who reported drinking almost every day thought their adolescents drank less than once a month.

### Accuracy of attributions

The measure of maternal attribution of adolescent alcohol use was a dichotomous one focused on the adolescent who was a regular user of alcohol (i.e., uses alcohol once a month or more). We identified adolescents who self-reported drinking a minimum of 2 or 3 days a month (adolescents who had scores of 4, 5, 6, or 7 on the adolescent alcohol-use measure) and conducted our analyses on their mothers only. Thus, in all cases, the mother had an adolescent who reported consuming alcohol “once a month or more.” The maternal perception of whether the child consumed alcohol once a month or more served as the outcome variable and was scored either 1 = “mother said her adolescent consumes alcohol once a month or more,” or 0

= “mother said her adolescent does not consume alcohol once a month or more.” Scores of 1 represent an accurate attribution and scores of 0 represent an inaccurate attribution in the direction of underestimation.

Our focus was on underestimation rather than overestimation of regular alcohol use on the part of adolescents, because this is most relevant from an intervention and policy-based perspective. A logistic regression was performed regressing this outcome variable onto measures of all predictors described in Hypotheses 1–12. In addition, we included as covariates the actual reported drinking levels of the adolescent (using dummy variables to represent the different gradations of alcohol consumption). These variables were included to ensure that the evaluation of the predictors of accuracy of attributions did not simply reflect variables that are correlated with increasingly higher levels of alcohol use within the subsample of adolescents we focused on. Some adolescents drink quite a bit more than “at least once a month,” for example, whereas others drink just more than once a month. If mothers of the former group of adolescents are more accurate in their attributions, then the correlates of accuracy will simply reflect confounds with the higher levels of adolescent drinking. By including adolescent drinking levels as a covariate, we effectively held these variations constant, evaluating accuracy at a given level of drinking activity or when drinking activity was “held constant.” We also included the index of social desirability response tendencies to control for such bias. In addition to these covariates, we explored models with a variety of additional covariates (e.g., ethnicity, social class, and religion). Inclusion or exclusion of these covariates did not affect any of the conclusions made in this article (i.e., the results for the parameters were comparable across forms of analysis).

Table 2 presents the logistic coefficients and relevant significance tests and confidence intervals for each of the predictors. As predicted by Hypothesis 1, grade of the adolescent was positively associated with the accuracy of maternal attributions. Mothers tended to be more accurate in their attributions as adolescents aged (as reflected by grade in school) and as they exhibited greater levels of physical development, which suggests sensitivity on the part of mothers to cues associated with maturation. For every additional grade level that adolescent regular drinkers were in, the maternal perception of the odds that the adolescent was a regular drinker increased by a multiplicative factor of 1.68. Mothers of 12th graders, for example, were about 13 times more likely to recognize their child was drinking at least once a month than mothers of 7th graders.

Neither maternal age nor gender of the adolescent was a statistically significant predictor of maternal attribution accuracy. These results are not consistent with Hypotheses 2, 3, or 4.

Mothers of relatively religious adolescents were more likely to underestimate adolescent drinking behavior, a result that is counter to Hypothesis 5 but consistent with Hypothesis 6. For every additional unit on the religiosity scale, the odds that the mothers of regular drinkers identified their adolescent as being a regular drinker decreased by a multiplicative factor of 0.77. A mother whose child said religion was “very important” to him or her was just more than half as likely to perceive their regular-drinking adolescent as a regular drinker than a mother whose child said religion was “not at all important.”

It was found that the more supervision and control mothers exerted over their adolescents, the less accurate they were in their attributions. This result is opposite to the prediction of Hypothesis 7. For every 20 units that parental control increased (representing an additional 20% of behaviors that parents did not permit their adolescent to make their own decisions about), the odds that the mother thought the adolescent was a regular drinker decreased by a multiplicative factor of 0.69.

Mothers reporting higher levels of satisfaction in their relationship with their adolescent were less likely to deduce that the adolescent was a regular drinker. This finding is opposite to the



prediction of Hypothesis 8. For every additional unit on the satisfaction scale, the odds that the mother of a regular drinker correctly identified him or her as such decreased by a multiplicative factor of 0.64. A mother of a regular drinker who strongly agreed with the statement, "Overall, I am satisfied with my relationship with my son/daughter," for example, was less than half as likely to perceive her adolescent as being a regular drinker than a mother who neither agreed nor disagreed with the statement.

Consistent with Hypothesis 9, the better adolescents were doing in school (as reflected by self-reports of grade point average [GPA]), the more likely the mother was to underestimate whether the adolescent was a regular drinker. For every one unit that GPA increased, the maternal perceived odds of the adolescent being a regular drinker was reduced by a multiplicative factor of 0.78 even though their adolescent was indeed a regular drinker. A "C" student would be seen as being 1.67 times more likely to be a regular drinker than an "A" student.

Hypothesis 10 predicted a statistically significant relationship between physical development and accuracy of maternal attributions. As seen in Table 2, this was found to be the case. For every one standard score that physical development increased, the maternal perception of the odds that the adolescent was a regular drinker increased by a multiplicative factor of 1.24.

Last, mothers showed some sensitivity to cues that are indirectly related to drinking. The more alcohol-consuming friends an adolescent had, the more accurate the mother was in attributing regular drinking to the adolescent. For every additional alcohol-consuming friend the adolescent reported having, the odds that the mother perceived the adolescent as drinking at least once a month increased by a multiplicative factor of 1.51. The mother of an adolescent with three friends who drank, for example, was 3.4 times more likely to identify her adolescent as a regular drinker than was a mother whose child had no friends who consumed alcohol. These results are consistent with Hypothesis 11. The same trend was evident for the extent to which the adolescent reported having problems as a result of drinking (Hypothesis 12); however, this was only marginally significant ( $p < .08$ ).

## Discussion

Past research suggests that parents have an important role in impacting the alcohol-related behaviors of their adolescents. An important feature of this influence process is parental sensitivity to the alcohol consumption of their son or daughter. Research suggests that parents often underestimate the drinking activities of their adolescents, sometimes substantially so. This research generally has been conducted with small local samples and has failed to consider the processes that might underlie parental underestimations and the factors that influence such processes. The present study used a nationally representative sample of adolescents in Grades 7–12 and identified factors associated with maternal misattributions of adolescents' regular drinking activity.

A number of interesting results emerged, some of which were counterintuitive. The most striking of these was the fact that maternal tendencies to attribute regular drinking to adolescents who are regular drinkers followed a pattern consistent with theories of alcohol use in the scientific literature (i.e., that adolescents who are older tend to drink more, those who are doing well in school tend to drink less, those who have a good relationship with their mothers tend to drink less, religious adolescents tend to drink less, adolescents who are physically more mature tend to drink more, and adolescents with parents who supervise and monitor them tend to drink less). Most of these relationships have been well publicized in the popular media. Parents apparently are either savvy consumers of scientific information about the risks of adolescent alcohol use (as conveyed by the media and word of mouth) or they are good armchair social scientists, able to accurately infer relationships between variables based

on informal observations and interactions in everyday life. The problem is that parents may overapply the principles and overlook regular and consistent alcohol use on the part of their adolescent.

We know from scientific research, for example, that despite the overall tendency for adolescents who do well in school to drink less than adolescents who do not do well in school, there are many adolescents who do well in school and who, despite this, consume alcohol on a regular basis (i.e., the effect size between GPA and regularized alcohol consumption is not large). Parents of an adolescent who is doing well in school, is being carefully supervised, has a good relationship with the parent, and is religious may tend to assume that their adolescent is not a regular drinker. The fact is, however, that many such adolescents still consume alcohol on a regular basis. Parents may be unaware that there are many “exceptions to the rule,” and thus be more likely to overlook serious drinking tendencies on the part of their adolescents. Intervention programs aimed at parents should either try to sensitize parents so they can better appreciate the pervasiveness of “exceptions to the rule” or simply convince parents to take firm and consistent actions that minimize alcohol use, independent of the particular cues that the adolescent is projecting. Striking an appropriate balance is key: We neither want to advise parents to parent in ways that assume their adolescents have drinking problems and are avid drinkers, nor do we want parents to ignore the fact that many underage kids who do not fit the profile of a drinker are, in fact, drinking.

In addition to the use of stereotypical information conforming to a presumed profile of an adolescent drinker, mothers seem to be attuned somewhat to the social contexts of the adolescent. Mothers are more likely to recognize regular alcohol use in their own adolescents if those adolescents report having friends who drink alcohol. Mothers also are more likely to recognize regular alcohol use in their adolescents who report experiencing problems because of alcohol (although this latter result is only marginally significant).

As with any study, this one has limitations that must be kept in mind. First, the alcohol measures relied on self-reports and may be subject to some degree of measurement error. Add Health respondents were not required to report their alcohol-related behavior directly to an interviewer. These questions were self-administered, using audio Computer Assisted Survey Instrument technology. Respondents also were assured of the confidentiality of their responses. These techniques are used routinely to reduce reporting bias. Second, as the analyses are correlational in nature, no causal inferences can be made unambiguously. Third, our results characterize general trends around which there are considerable exceptions and variability. The exponent of the logistic coefficients in Table 2 and the corresponding confidence limits provide an appreciation of effect sizes and sampling error. Despite these weaknesses, we believe the present research provides interesting insight into maternal attributions of regular alcohol use on the part of adolescent children.

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**Table 1**

Parent perceptions of adolescent alcohol use as a function of adolescent self-report

<b>Adolescent alcohol use</b>	<b>Parent says adolescent drinks at least once a month %</b>
Never ( <i>n</i> = 8,738)	1.0
1 or 2 days in past year ( <i>n</i> = 2,634)	2.4
Once a month or less ( <i>n</i> = 1,811)	7.0
2 or 3 days a month ( <i>n</i> = 1,145)	16.0
1 or 2 days a week ( <i>n</i> = 912)	29.9
3–5 days a week ( <i>n</i> = 357)	32.7
Almost every day ( <i>n</i> = 133)	22.7

*Note:* Percentages are within category (e.g., of those adolescents who say they never consumed alcohol, 1% of their parents thought they drink alcohol at least once a month).

**Table 2**

Logistic coefficients for prediction of parent accuracy of perceptions

Variable	B (SE)	p value	Exp.	Lower	Upper
1–2 times a week	0.732 (0.200)	.000	2.079	1.400	3.088
3–5 times a week	0.869 (0.274)	.002	2.385	1.388	4.100
Almost every day	–0.308 (0.602)	.610	0.735	0.223	2.419
Social desirability	–0.113 (0.125)	.367	0.893	0.698	1.143
Grade	0.517 (0.073)	.000	1.677	1.452	1.938
Maternal age	–0.013 (0.015)	.412	0.988	0.959	1.018
Gender	0.193 (0.182)	.291	1.213	0.846	1.740
Religiosity	–0.267 (0.070)	.000	0.766	0.667	0.881
Control	–0.018 (0.005)	.001	0.982	0.973	0.993
Relationship satisfaction	–0.442 (0.092)	.000	0.643	0.536	0.771
Grade point average	–0.251 (0.124)	.046	0.778	0.609	0.995
Physical development	0.212 (0.103)	.042	1.236	1.008	1.515
No. of friends	0.409 (0.131)	.000	1.505	1.161	1.950
Problems drinking	0.226 (0.127)	.077	1.254	0.975	1.613

Notes: “1–2 times a week,” “3–5 times a week,” and “almost every day” are scored as dummy variables using scores of 0’s and 1’s. The reference group is a score of 1 in a given dummy variable indicating that the adolescent reported alcohol use at the corresponding frequency. *B* is the logistic coefficient, *SE* is the standard error of the coefficient, *exp.* is the exponent of the logistic coefficient, and lower and upper are the 95% confidence limits for the exponent of the coefficient.