Parental Socialization and Children's Susceptibility to Alcohol Use Initiation

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ABSTRACT. Objective: This study examined relations between children's susceptibility to alcohol use initiation and parents' alcohol-specific beliefs, attitudes, and practices and whether these relations vary by parental alcohol use. **Method:** The sample comprised 1,050 pairs of mothers or mother surrogates and their third-grade children (51.8% female) recruited for a 4-year intervention trial. Families were recruited from school districts located primarily in North Carolina; the school districts provided permission for study recruitment materials to be distributed to families but were not otherwise involved in the research. Data are from the baseline cross-sectional telephone interviews conducted with the mothers and children. Children's susceptibility to alcohol use initiation is based on child reports, and parental alcohol-specific beliefs, attitudes, and practices are based on maternal reports. **Results:** All parental alcohol socialization attributes were statistically significantly associated as hypothesized with child susceptibility to alcohol use initiation. In the final full model, the mother's disapproving attitude about child sipping and the interaction between mother–child communication and parental alcohol use frequency were uniquely significantly associated with child susceptibility. Talking with the child about harmful consequences of alcohol use was associated with reduced child susceptibility in families where parents drank alcohol more frequently but had no relationship with child susceptibility in families where parents drank infrequently. **Conclusions:** The normative interactions that parents have with their elementary school children may inhibit or facilitate children's susceptibility to alcohol use. To the extent that child susceptibility leads to early onset of use, prevention programs directed at parents to reduce child susceptibility are indicated. (*J. Stud. Alcohol Drugs, 74,* 694–702, 2013)

FROM A STAGE THEORY PERSPECTIVE on the acquisition of substance use, substance-specific cognitions that increase susceptibility to use are acquired during a preparatory stage that occurs before initial use (Elder et al., 2000; Flay, 1985; Jackson et al., 1997; Pierce et al., 1996). In research on cigarette smoking, cognitively susceptible youth are more likely to initiate smoking compared with peers who hold cognitions firmly against smoking (Jackson, 1998; Pierce et al., 1996). Although stage theory has rarely been applied explicitly to alcohol use, stages of use are implicit in conceptualizations of alcohol use as a developmental process that extends from childhood through young adulthood (Masten et al., 2008; Zucker et al., 2009).

That a preparatory stage precedes alcohol use initiation is supported by studies confirming that abstinent children can hold favorable and unfavorable alcohol expectancies (Bauman and Bryan, 1980; Dunn and Goldman, 1996; Johnson and Johnson, 1995; Miller et al., 1990) as well as alcohol-related attitudes, normative beliefs, and behavioral intentions (Andrews et al., 2008, 2011; Gerrard et al., 2006; Hampson et al., 2006; Webb et al., 1996). Furthermore, and most important, longitudinal studies report that children's positive alcohol-related cognitions predict later alcohol use (Andrews et al., 2003, 2008, 2011; Cranford et al., 2010; Donovan et al., 2004; Simons-Morton, 2004; Webb et al., 1996). These studies provide a clear indication that school-aged children can develop cognitive susceptibility to initiating alcohol use (i.e., alcohol expectancies, attitudes, norms, and intentions that indicate cognitive predisposition toward use). However, little research has been conducted to identify factors associated with increased susceptibility during childhood. Our purpose was to investigate mechanisms through which parents might shape children's susceptibility to initiating alcohol use.

In the largest context, children learn about alcohol through culturally transmitted messages in a society in which the majority of adults drink alcohol, responsible adult alcohol use is accepted, and alcohol use of all types is portrayed and promoted in the media. But within this milieu and as suggested by socialization theories (Bronfenbrenner, 1977; Clausen, 1968; Maccoby and Martin, 1983), parents are the most immediate and potent source of child socialization about alcohol use. Although the socializing effects of parental modeling of alcohol use have been examined (Miller et al., 1990; Pieters et al., 2010; Tildesley and Andrews, 2008), other ways in which parents socialize their elementary school–aged children about alcohol have received scant research attention. Research on family socialization about alcohol has instead tended to focus on adolescents and on amounts of alcohol consumption characteristic of older youths. Our study shifts the research

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focus to children and to family socialization factors—parental beliefs, attitudes, and practices related to child alcohol use—that, we hypothesize, might shape children's susceptibility to initiating alcohol use.

Mechanisms of parental influence on children's susceptibility to initiating alcohol use

Parental beliefs. As suggested by a recent study (Jackson et al., 2012) and by reports in the popular press (Beck, 2011; Belkin, 2009; Cloud, 2008), parents hold strong beliefs about the consequences of allowing younger children to try alcohol. Jackson et al. (2012) reported that substantial minorities of parents, between 15% and almost 40%, endorsed an array of beliefs that allowing children to sip alcohol at home with parents can have protective consequences. Some parents believed, for example, that early sips of alcohol could satisfy children's curiosity about alcohol and could protect against peer influences on alcohol use later in adolescence. In the present study, we tested the hypothesis that parents who believe that sipping can have protective consequences will have children who report higher susceptibility to initiating alcohol use.

Parental attitude. According to expectancy-value theories (Ajzen and Fishbein, 1985), parents' general attitude about children having sips of alcohol is formed from specific underlying beliefs, such as those described above. Several studies have reported that parental attitude about underage alcohol use is associated with the alcohol use behaviors of early and older adolescents. Greater parental disapproval of underage alcohol use is related to lower likelihood of adolescent alcohol initiation and other alcohol behaviors (Andrews et al., 1993; Ary et al., 1993; Donovan and Molina, 2008; Jackson et al., 1997; Kandel and Andrews, 1987; Kosterman et al., 2000). Conversely, when parents are more accepting of underage alcohol use, adolescents are more likely to report use (Komro et al., 2007; McMorris et al., 2011; Peterson et al., 1994; Sieving et al., 2000). Taken together, at least for adolescents, findings consistently support a deterrent effect on alcohol use behaviors of parental disapproval and an opposite, enabling effect of a more permissive attitude.

Although these prior studies test whether parents' attitudes influence their offspring's alcohol use behaviors, other studies suggest that parental attitude could also exert an indirect influence through shaping children's cognitions about alcohol (Martino et al., 2006; Sieving et al., 2000; Simons-Morton, 2004). This evidence is consistent with a staged model of alcohol use, which would posit progression from developing favorable cognitions about alcohol to initiating alcohol use. Thus, we hypothesized that parental attitude about child alcohol use would be associated with children's cognitive susceptibility to initiate alcohol use. We expected that children's susceptibility would be negatively related to a disapproving parental attitude.

Parenting practices. Parents' specific beliefs and general attitude about child alcohol use become explicit through specific practices they enact with their children. Key alcohol-specific parenting practices include talking with children about the harmful consequences of alcohol use, letting children know that they do not want them to drink alcohol, and setting specific rules about alcohol use by children (Jackson et al., 1997, 1999). Andrews et al. (1993) found that parental communication about alcohol use related negatively to early adolescent alcohol use, although two other studies found no relationship between parental communication and child use (Jackson et al., 1999; Pasch et al., 2009). Van der Vorst et al. (2006) found that having strict rules about alcohol use was related to delayed drinking initiation, especially among younger adolescents. We hypothesized that the parenting practices of talking with children about the harmful consequences of alcohol use and of setting rules about child alcohol use would have negative associations with child susceptibility to initiating alcohol use.

At the other end of the spectrum, the parenting practice of allowing children sips of alcohol is likely to positively influence child susceptibility to initiating alcohol use. Several studies have reported that substantial percentages of children—between 20% and 50%—have ever sipped or tasted alcohol, with almost all sips occurring in the family context with the knowledge or permission of parents (Andrews et al., 2003; Bush and Iannotti, 1993; Dielman et al., 1989; Donovan, 2007; Donovan and Molina, 2008; Johnson et al., 1997). Although common, sips and tastes of alcohol are typically excluded from research definitions of alcohol use initiation, which instead use higher levels of consumption to define initiation. Sipping behavior can therefore be conceptualized as a component of the preparation (i.e., pre-initiation) stage of alcohol use, a component that can increase children's susceptibility to subsequent initiation of use. This hypothesized increase in susceptibility could occur because sipping generally occurs in the home and is usually parent instigated or at least under parental purview. Children allowed sips or tastes of alcohol could interpret this experience as parental approval of experimenting with alcohol, which could increase their susceptibility to initiating alcohol use.

Parental modeling of alcohol use has rarely been examined in tandem with other mechanisms by which parents socialize elementary school–aged children about alcohol. Parental modeling might convey alcohol norms more demonstrably than anything else parents might say or do and could thereby trump and account for all other indicators of parental alcohol-specific socialization. Alternatively, parental modeling might condition the effects of other parental alcohol socialization variables by providing a context for such socialization. Because parental modeling of alcohol use has generally been found to be a risk factor for child use (Miller et al., 1990; Pieters et al., 2010; Tildesley and Andrews, 2008), we hypothesized that greater parental use would

weaken the hypothesized negative relations between child susceptibility and parental disapproval of child sipping, communication with the child about alcohol use, and rules for child alcohol use. However, parental use would strengthen the expected positive relations between child susceptibility and parental beliefs in support of allowing children sips of alcohol and permissiveness in letting children have sips.

We used baseline data from a cohort of third-grade children and their mothers participating in a longitudinal study to test the proposed relationships between parental socialization factors and child susceptibility to alcohol use. We measured children's self-reported susceptibility and mothers' self-reported alcohol beliefs, attitudes, and practices. Because cultural factors could be related to how parents approach socializing their children about alcohol, we included in our analysis examination of relations with sociodemographic factors.

Method

Human subjects review

All protocols for collecting data in telephone interviews with pairs of third-grade children and their mothers or mother surrogates were reviewed and approved by the institutional review boards at the institutions of the investigators. Mothers provided written consent for their own and their children's study participation. In addition, mothers provided verbal consent at the beginning of the telephone interviews, and children provided verbal assent.

Participants

The sample comprised 1,050 pairs of mothers and their third-grade children who were recruited for a 4-year family alcohol prevention intervention trial with a two-group, randomized controlled design. Because of the intervention focus on mother–child interactions about alcohol, fathers were not included in the research. Data are from the baseline cross-sectional interviews with the mothers and children. Families were recruited from 72 school districts in North Carolina ($n = 68$), South Carolina ($n = 3$), and Tennessee ($n = 1$); the school districts provided permission for study recruitment materials to be distributed to families but were not otherwise involved in the research.

A total of 2,557 parents submitted a consent form and intake screener, of whom 1,193 families did not meet inclusion criteria, leaving 1,364 potentially eligible families. Having a sibling age 13 years or older ($n = 677$) or having no adults in the household who had consumed alcohol during the prior 3 years ($n = 414$) accounted for 92% of excluded families. The latter exclusionary criterion, necessary for the intervention trial, is noteworthy: families with abstinent parents are not included in the sample, although families with infrequent alcohol use are (i.e., no use in the past month). Of the 1,364 families eligible for the baseline interview, 1,050 (77%) mother-and-child pairs were interviewed. Of the remaining 314 families, 160 (51%) were never available by phone, 76 (24%) provided only a child interview, and 78 (25%) were refusals.

Most mothers (85%) lived in households shared with fathers or other adult caretakers. The majority of the mothers were either White non-Hispanic (69%) or Black non-Hispanic (21.3%); the remainder was approximately equally divided between those who were Hispanic (4.6%) or were non-Hispanic and of other race/ethnicity (5.2%). The sample distribution by race/ethnicity is very similar to the population distribution in North Carolina (where 95% of participants resided) (U.S. Census Bureau, 2012). Approximately half of the mothers (49.2%) had obtained a bachelor's degree or higher, with the remainder reporting some college or vocational training (35.7%) or high school graduate or lower (15.1%). Mothers with the highest education level are overrepresented in that approximately 27% of adult women in North Carolina have obtained a bachelor's degree or higher (U.S. Census Bureau, 2012). Most mothers worked for pay full time (41.1%) or part time (29.9%); 29% of mothers did not work for pay. The sample was almost equally divided between female (51.8%) and male (48.2%) third-grade children ($M_{age} = 9.2$ years, $SD = 0.4$).

Telephone interviews

The 25-minute parental interview followed a standard adult telephone interview protocol. Mothers were interviewed at a time they indicated was convenient; interviews were rescheduled if background noise indicated that the parent was distracted. Each child's interview, also 25 minutes, began with a semi-structured chat session, where topics unrelated to the interview were discussed (e.g., sports, hobbies) to establish rapport with the child. Once the interview began, interviewers adhered to the interview script.

Measures

Child susceptibility to alcohol use. We constructed a multi-item measure using 13 items to evaluate the following: children's expectancies about alcohol (e.g., drinking alcohol would get me into trouble with my parents) (7 items), future intentions to use alcohol (3 items), attitude toward alcohol use (1 item), and perceived peer norms for alcohol use (2 items). Inclusion of items from multiple domains of cognitions is consistent with how susceptibility to smoking has been measured (Jackson, 1998; Pierce et al., 1996). In addition, following measurement of smoking susceptibility, each item was coded to contrast those whose answers suggested any susceptibility to alcohol use (coded 1) to those with answers suggesting no susceptibility (coded 0). For

example, children who answered "really agree" or "sort of agree" to the expectancy item "drinking alcohol would make me more popular" were contrasted with those who did not agree. To avoid losing cases because of missing data on one or more items (16% of children), we averaged rather than summed responses to create a summary measure ($\alpha = .63$). The possible range of values for the summary measure was 0 to 1, with higher values indicating greater susceptibility to alcohol use; the actual mean was .22, with a value of .07 for children in the bottom quartile and .31 for children in the top quartile.

Parental alcohol socialization beliefs, attitudes, and practices. All parental socialization variables were based on multiple items from the interviews with mothers. Except for the two variables measuring parental drinking and family rules about child alcohol use, we used a maximum likelihood exploratory factor analysis strategy to identify whether each parental variable was uni-dimensional or multi-dimensional. For the set of constituent items for each variable, we set the communality estimates to the squared multiple correlation of each item with all other items. In all cases, examination of the eigenvalues and scree plots showed that only one factor should be extracted. All factor loading across all measures exceeded .50. We therefore averaged responses to the items measuring each parental variable.

Mothers' beliefs about the consequences of child sipping were assessed by respondents' agreement with eight items, such as sipping being a safe introduction to alcohol and a way to avoid making alcohol a "forbidden fruit." A four-point scale ranging from "strongly disagree" to "strongly agree" was used. Higher values on the scale indicated a more pro-sipping belief system ($\alpha = .89$).

Mothers' attitudes about child sipping were assessed using three items: her approval/disapproval of her own child sipping alcohol, her approval/disapproval of sipping among children generally, and the age at which it is acceptable for children to sip alcohol. Each item had four response categories, with higher values indicating a more disapproving attitude about alcohol use by children ($\alpha = .64$).

Alcohol-related practices include mother–child communication about alcohol, family rules about child alcohol use, and parental permissiveness for child alcohol use. Mother–child communication about alcohol use was formed from five items that measured how often the mother talked with the child about alcohol use, such as about the harmful consequences of use, her expectations regarding child use, and her willingness to answer questions about alcohol. Four response choices ranged from "never" to "frequently." Higher values on the scale indicated more frequent communication ($\alpha = .80$).

Family rules about child alcohol use were measured using two items that allowed the construction of an ordinal variable with three response categories: the mother reported that the family had rules about what the child can do with alcohol and had the specific rule that the child is never allowed to sip beer, wine, or other alcohol; the mother reported having family rules but not a specific anti-sipping rule; and the mother reported having no family rules about child alcohol use. Higher values indicated stricter rules.

Parental permissiveness for child sipping was based on four items measuring how often the mother and father/other adults let the child sip alcohol, how often the child was allowed to sip at family celebrations, and how willing the mother was to provide a sip if requested by the child. Higher values indicated greater permissiveness for child sips ($\alpha = .73$).

Parental alcohol use was measured by the average frequency of drinking in the past month by the parents in the household. Mothers answered separate questions about their own frequency of drinking and, if relevant, that of fathers or other adult caregivers in the home. Values ranged on a 6-point scale from *none at all* to *almost every day*. Responses were averaged to construct a measure comparable in two-parent and single-mother homes.

Sociodemographic characteristics. Using maternal reports, we assessed the child's sex, mother's race/ethnicity (non-Hispanic White, non-Hispanic Black, Hispanic, or other race/ethnicity), educational attainment (high school graduate or less, some college or vocational training, or bachelor's degree or higher), employment status (full-time, part-time, or no paid employment), and family structure (mother only vs. mother and father or other adult caregiver).

Statistical analysis

We report descriptive statistics for child susceptibility to alcohol use and the parental alcohol socialization variables and bivariate correlations among these variables. We examined variation in the child and parental variables by sociodemographic characteristics using analysis of variance and *t* tests. For the main analysis, we compared a linear regression model that included all the parental alcohol use socialization variables, the interactions between parental alcohol use and each of the remaining five socialization variables, and the demographic controls to a model that did not include the interaction terms. We used a Wald test to evaluate the statistical significance of the change in the squared multiple correlation between the two models to determine whether the set of interactions contributed to the model. The predictor variables were mean-centered, and significant interactions were probed at the mean and 1 *SD* above and below the mean of the moderator, parental alcohol use, and at the highest and lowest observed values of the focal socialization variable (Preacher et al., 2006). Because the variables were mean-centered, the regression coefficients for main effects represent the effects of the predictors at the mean of the other predictors. Regression coefficients for the interactions can be interpreted as the number of units by which the slope of susceptibility on a focal parental socialization variable is predicted to change for every one-unit change in the modera-

TABLE 1. Means, standard deviations, ranges, and correlations between study variables (N = 1,050)

Variables	*N*	*M*	*SD*	Range	1.	2.	3.	4.	5.	6.	7.
1. Child susceptibility	1,050	0.22	0.16	0–1	–	.18****	-.23****	-.14****	-.08*	.17****	.17****
2. Maternal pro-sipping beliefs	1,050	1.82	0.70	1–4		–	-.57****	-.05	-.13****	.63****	.18****
3. Maternal attitude about child sips	1,050	3.48	0.69	1–4			–	.07*	.14****	-.66****	-.17****
4. Mother–child communication	1,049	2.63	0.75	1–4				–	.44****	-.05	-.06
5. Family rules	1,031	1.18	0.95	0–2					–	-.18****	-.03
6. Parental permissive practices	1,050	1.20	0.38	1–4						–	.16****
7. Parental alcohol use frequency	1,050	2.50	1.22	1–6							–

*p < .05; ****p < .0001.

tor variable, parental alcohol use frequency (Aiken and West, 1991). All analyses were conducted using SAS Version 9.2 (SAS Institute Inc., Cary, NC).

Results

Descriptive results

Among the parental socialization variables, the highest levels of endorsement were for mothers' disapproving attitudes about child alcohol use and frequency of communication with the child about alcohol (Table 1). Almost all correlations between the parental variables were statistically significant, and all were in the expected directions. Mothers' disapproving attitudes about child alcohol use were significantly related to all other parental socialization variables; the strongest correlations were the expected negative associations between it and permissive practices around child sipping (r = -.66) and beliefs in the benefits of allowing children to sip (r = -.57). Mother–child communication about alcohol use had the fewest significant correlations but was positively associated with the mother's disapproval of alcohol use and with having family rules about child alcohol use. Parental alcohol use frequency was significantly positively correlated with pro-sipping beliefs and permissive sipping practices and negatively associated with the mother's disapproval of child alcohol use, although the magnitudes of the correlations were relatively modest. Overall, none of the correlations between the parental variables was high enough to suggest collinearity.

Child susceptibility to alcohol use was significantly correlated with all parental alcohol socialization variables as hypothesized: The association was negative with the mother's disapproving attitude about child alcohol use, mother–child communication, and family rules, and positive with the mothers' pro-sipping beliefs, parental permissiveness for child sipping, and parental alcohol use frequency.

Sociodemographic variation in parental alcohol socialization variables and child susceptibility to alcohol use

A consistent pattern of covariation was observed between most of the parental alcohol socialization variables and three sociodemographic characteristics: mother's race/ethnicity, education, and employment (Table 2). White non-Hispanic compared with Black non-Hispanic mothers held more positive pro-sipping beliefs, were less disapproving of child alcohol use, communicated less frequently with their child about alcohol, had less strict rules about child alcohol use, were more permissive in allowing children sips of alcohol, and reported higher drinking frequency among parents in the household. Mothers with the lowest level of education (high school graduate or less) and mothers who did not work for pay, compared with mothers who had attained higher education levels and who worked part-time or full-time jobs, held less positive pro-sipping beliefs, were more disapproving of child alcohol use, communicated more frequently with their child about alcohol, had stricter rules about child alcohol use, were less permissive in allowing children sips of alcohol, and reported lower drinking frequency among parents in the household. With the exception of parental alcohol use frequency being significantly higher in families with two parents versus the mother only, $t(1041) = 2.31$, $p = .0212$, there were no differences in the parental alcohol socialization variables by either family structure or child sex.

Child susceptibility to initiating alcohol use also varied significantly by the mother's race/ethnicity, $F(3, 1045) = 3.23$, $p = .0217$; education, $F(2, 1049) = 9.77$, $p < .0001$; and employment status, $F(2, 1041) = 3.28$, $p = .0379$. Susceptibility was greater ($p < .05$) among children whose mothers were White non-Hispanic compared with Black non-Hispanic; had a bachelor's or higher degree compared with a lower education level; and who worked part-time versus either full-time jobs or not at all.

Relations between parental alcohol socialization variables and child susceptibility to alcohol use conditional on parental alcohol use

When all parental socialization variables and the sociodemographic variables were included in the same model, three parental socialization variables were uniquely associated with child susceptibility to alcohol use (Table 3, Model 1). Having a disapproving attitude about child alcohol use and communicating with the child about alcohol were significantly negatively associated with child suscep-

TABLE 2. Means and standard deviations of the parental alcohol socialization variables by sociodemographic characteristics (N = 1,050)

Demographic variables	Parental alcohol socialization variables					
	Pro-sipping beliefs *M* (*SD*)	Attitude about child sips *M* (*SD*)	Mother–child communication *M* (*SD*)	Family rules *M* (*SD*)	Permissive practices *M* (*SD*)	Alcohol use frequency *M* (*SD*)
Maternal race/ethnicity	$F(3, 1045) = 6.96$, $p < .0001$	$F(3, 1045) = 5.64$, $p = .0008$	$F(3, 1044) = 2.27$, $p = .0794$	$F(3, 1026) = 6.45$, $p = .0002$	$F(3, 1045) = 9.95$, $p < .0001$	$F(3, 1045) = 2.28$, $p = .0708$
White non-Hispanic	1.87 (0.72)[a]	3.44 (0.72)[a]	2.59 (0.74)[a]	1.09 (0.95)[a]	1.22 (0.40)[a]	2.57 (1.23)[a]
Black non-Hispanic	1.63 (0.52)[c]	3.64 (0.52)[b,c]	2.71 (0.76)	1.40 (0.90)	1.08 (0.21)[b,c]	2.36 (1.20)
Hispanic	1.84 (0.79)	2.35 (0.79)	2.69 (0.17)	1.28 (0.91)	1.29 (0.46)	2.39 (1.17)
Other non-Hispanic	1.93 (0.74)	3.42 (0.67)	2.75 (0.79)	1.30 (0.94)	1.22 (0.43)	2.31 (1.20)
Maternal education	$F(2, 1047) = 8.82$, $p = .0002$	$F(2, 1047) = 15.74$, $p \leq .0001$	$F(2, 1046) = 39.49$, $p < .0001$	$F(2, 1028) = 18.70$, $p \leq .0001$	$F(2, 1047) = 9.35$, $p < .0001$	$F(2, 1047) = 25.11$, $p \leq .0001$
≤ High school graduate	1.72 (0.68)[e]	3.59 (0.59)[e]	2.97 (0.71)[d,e]	1.48 (0.83)[d,e]	1.11 (0.27)[e]	2.12 (1.19)[d]
Some college	1.74 (0.65)[f]	3.59 (0.61)[f]	2.72 (0.78)[f]	1.28 (0.78)[f]	1.17 (0.34)[f]	2.29 (1.18)[f]
≥ Bachelors degree	1.91 (0.74)	3.36 (0.75)	2.46 (0.70)	1.24 (0.43)	2.76 (1.21)	2.76 (1.21)
Maternal employment	$F(2, 1041) = 3.36$, $p = .0350$	$F(2, 1041) = 4.05$, $p = .0177$	$F(2, 1040) = 8.50$, $p = .0002$	$F(2, 1022) = 5.08$, $p = .0064$	$F(2, 1041) = 3.91$, $p = .0204$	$F(2, 1041) = 4.39$, $p = .0139$
None	1.73 (0.65)[g,h]	3.57 (0.63)[g,h]	2.77 (0.76)[g,h]	1.32 (0.92)[g,h]	1.14 (0.31)[g,h]	2.33 (1.19)[g,h]
Part time	1.73 (0.65)	3.44 (0.71)	2.52 (0.72)	1.08 (0.95)	1.14 (0.31)	2.33 (1.19)
Full time	1.86 (0.75)	3.44 (0.71)	2.61 (0.76)	1.14 (0.95)	1.22 (0.42)	2.57 (1.23)

Notes: Because of missing data, the sample for specific measures ranged from N = 1,025 parents to N = 1,050 parents. [a]Comparison between White non-Hispanic vs. Black non-Hispanic is significant at $p = .05$; [b]comparison between Black non-Hispanic vs. Hispanic is significant at $p = .05$; [c]comparison between vs. Black non-Hispanic vs. other race/ethnicity is significant at $p = .05$; [d]comparison between high school graduate or less vs. some college is significant at $p = .05$; [e]comparison between high school graduate or less vs. bachelor's degree or higher is significant at $p = .05$; [f]comparison between some college vs. bachelor's degree or higher is significant at $p = .05$; [g]comparison between no employment vs. part-time employment is significant at $p = .05$; [h]comparison between no employment vs. full-time employment is significant at $p = .05$.

tibility, whereas parental alcohol use was positively associated with child susceptibility. Adding the set of interactions between parental alcohol use frequency and the other parental socialization variables contributed significantly to the model, $F(5, 1008) = 4.59$, $p < .01$ (Model 2). The coefficients for the interactions between parental alcohol use frequency and both mother–child communication about alcohol and rules about alcohol use were statistically significant; thus, we ran a final model that retained only these two interaction terms (Model 3).

In the final model, the mother's disapproval of child alcohol use and mother–child communication about alcohol remained significantly negatively related to child susceptibility, and parental alcohol use frequency was positively related

TABLE 3. Relations between parental alcohol socialization variables and child susceptibility to alcohol use initiation

Parental variables	Child susceptibility to alcohol use initiation		
	Model 1 *B* (*SE*)	Model 2 *B* (*SE*)	Model 3 *B* (*SE*)
Maternal pro-sipping beliefs	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Maternal attitude about child sips	-0.04 (0.01)****	-0.04 (0.01)***	-0.04 (0.01)****
Mother–child communication	-0.02 (0.01)**	-0.02 (0.01)**	-0.02 (0.01)**
Family rules about alcohol	0.03 (01)	0.00 (0.01)	0.00 (0.01)
Parental permissive practices	0.00 (0.01)	-0.00 (0.02)	0.00 (0.02)
Parental alcohol use frequency	0.01 (0.00)***	0.01 (0.00)**	0.01 (0.01)***
Communication × Alcohol Use	–	-0.02 (0.01)***	-0.02 (0.01)***
Rules × Alcohol Use	–	0.01 (0.00)*	0.01 (0.00)†
Disapproval × Alcohol Use	–	-0.01 (0.01)	–
Pro-sipping × Alcohol Use	–	0.01 (0.01)	–
Permissive × Alcohol Use	–	0.00 (0.02)	–
R^2	.0896	.1093	.1005

Notes: Parental variables are mean-centered. Mother's race/ethnicity, education, and employment are included in all models.
†$p < .1$; *$p < .05$; **$p < .01$; ***$p < .001$; ****$p < .0001$.

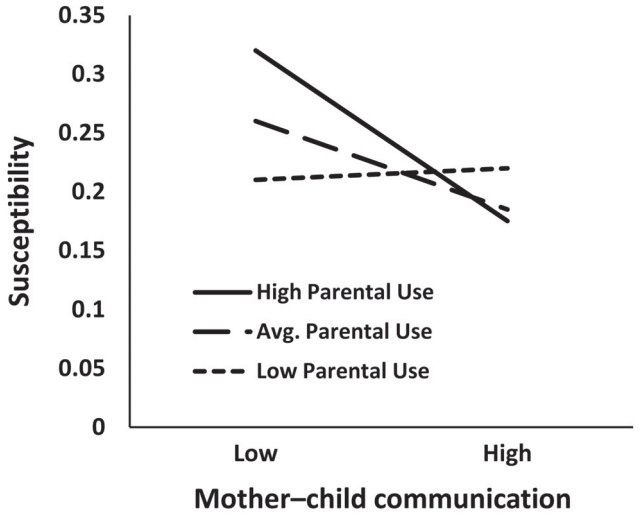

FIGURE 1. Interaction between mother–child communication about alcohol use and parental alcohol use frequency in predicting child susceptibility to alcohol use initiation. Avg. = average. Note: Susceptibility ranges from 0 to 1; mother child communication ranges from 1 to 4.

to susceptibility. The interaction between parental alcohol use and mother–child communication remained statistically significant, whereas the interaction with family rules was reduced to nonsignificance ($p < .1$). Figure 1 displays the interaction between mother–child communication about alcohol and parental alcohol use frequency. Among parents whose frequency of drinking was average (simple slope = -.02 [.01], $t = 3.17$, $p < .01$), or above average (simple slope = -.05 [.01], $t = 4.30$, $p < .0001$), increased communication was associated with significantly lower child susceptibility. For parents below the mean on alcohol use, however, there was no relationship between communication and child susceptibility (simple slope = .00 [.01], $t = 0.13$, $p = .90$). Among the demographic variables, as in both prior models, the mother's employment had the only significant relationship with child susceptibility; child susceptibility increased with the mother's employment status ($B = 0.01$, $SE = 0.01$, $p < .05$) (results not shown). Despite being strongly significant, all of the coefficients for the statistically significant variables and interaction term in Model 3 were small in magnitude as reflected in the small amount of variance in child susceptibility to alcohol use explained by Model 3 ($R^2 = .10$).

Discussion

Findings from this sample of third-grade children and their mothers suggest that origins of children's susceptibility to alcohol initiation reside at least partially in how parents socialize their children about alcohol. Bivariate relations between the parental socialization variables and children's susceptibility were as hypothesized, in that a disapproving attitude about child sipping, mother–child communication about alcohol use, and family rules about child alcohol use were associated with lower child susceptibility. In addition, beliefs in benefits associated with child sipping and permissiveness in allowing sips were associated with greater susceptibility. A disapproving attitude about child alcohol use, mother–child communication, and parental alcohol use frequency were significantly associated with child susceptibility after adjusting for sociodemographic variables, all other parental socialization variables, and interactions between parental alcohol use frequency and parental socialization variables. In addition, parental alcohol use significantly moderated the effect of talking with children about alcohol. These relationships were present even with our use of mothers' reports of their own alcohol use beliefs and practices rather than more commonly used and more often predictive measures of children's perceptions of parental characteristics.

The negative association between child susceptibility to alcohol use and the mother's disapproval of child alcohol use, after adjusting for parental alcohol use and other variables, indicates that anti–alcohol use socialization with children can be protective. Moreover, it suggests that parental alcohol use is not the only alcohol socialization variable relevant to children's developing cognitions about alcohol. The mother's disapproval of child alcohol use was the strongest correlate of child susceptibility to alcohol use and the only parental variable related to all other socialization beliefs and practices. Mothers who do not approve of early child exposure to alcohol likely enact a complex of practices discouraging of child alcohol use that inhibit susceptibility to alcohol use.

Yet, the relation between one parenting practice—communicating with the child about alcohol use—and child susceptibility was conditional on parental alcohol use. The mother's communication was only beneficial in households with average to higher frequency alcohol use by parents. Such communication was not related to child susceptibility in households where parents drank alcohol infrequently. These results are opposite our expectation that the association between mother–child communication and child susceptibility would be weaker in families with higher alcohol use frequency. Perhaps at this young age, talking about alcohol, including warning children about harmful consequences, is only meaningful when children have some direct opportunity to be socialized about actual alcohol use though observing their parents. An implication of this finding is that children do learn about alcohol use by observing parental use, and these observations are linked with more positive cognitions about alcohol. But parents who drink alcohol can mitigate social learning effects and avoid accelerating children's alcohol use susceptibility by having early conversations with their children.

We observed differences in the parental alcohol socialization variables and child susceptibility by sociodemographic

variables. Black non-Hispanic mothers, less well-educated mothers, and mothers who did not work for pay held a more negative attitude toward child alcohol use and were more likely to engage in anti–alcohol use socialization practices compared with their sociodemographic counterparts. Correspondingly, children of mothers with these characteristics reported less susceptibility to alcohol use. In the full analytic model, neither mothers' race/ethnicity nor education was related to child susceptibility, suggesting that parental socialization practices may mediate the relationships between these sociodemographic characteristics and children's developing cognitions about alcohol use. Whether this mediation occurs is an area for future prospective research.

Our cross-sectional data and lack of data from fathers are limitations of this study. Prior research has demonstrated that mothers and fathers have unique effects on youth alcohol use (Andrews et al., 1993). An additional limitation is the use of a nonprobability sample. Having a sample from the southern region of the United States and one that overrepresents college-educated mothers limits generalizability. In addition, the sample is biased by excluding families in which no adults in the household consumed alcohol even once in the prior 3 years (as necessary for the intervention trial from which these data come). Our sample did, however, include families in which parental alcohol use was very infrequent. The reliability of the measure of child susceptibility was lower than desired, which may have contributed to the modest amount of variance explained.

Confirmation of the role of parents in shaping child susceptibility awaits research like that conducted with adolescents (e.g., Dal Cin et al., 2009), in which parental variables are examined simultaneously with characteristics of other socializing agents, notably media and peers, that may have as or more potent influence on children's cognitions about alcohol use. The amount of variance in child susceptibility explained in this study indicates the need for investigation of a broader set of explanatory factors. In addition to investigating factors related to peers and the media, examination of child personality factors could be useful. Hampson et al. (2006), for example, found that childhood sociability and hostility predicted alcohol use intentions, attitudes, and subjective norms in a longitudinal study of children in first through fifth grades. The hostility findings are consistent with studies that have demonstrated associations between childhood temperament characteristics and later substance use (e.g., Kaplow et al., 2002; Màsse and Tremblay, 1997). Longitudinal studies beginning in childhood also are needed to determine whether parental socialization factors, such as those examined in this study, predict a change in children's susceptibility to alcohol use and, in turn, their alcohol use behavior.

Despite the limitations, this study contributes to the understanding of child socialization about alcohol use before initiation of drinking. The probable importance of the parental factors examined is suggested by the consistency of our bivariate findings; the primacy of parents as socializing agents and the lower salience of the peer context during middle childhood; and the likely temporal precedence of mothers' alcohol-related beliefs, attitudes, and practices relative to children's developing cognitions about alcohol. To the extent that early susceptibility to alcohol use leads to earlier initiation or more problematic use in adolescence, prevention programs directed at parents, and particularly parents who drink, is indicated. Such programs could boost awareness that middle childhood is not too early to begin socializing children about alcohol and could help parents enhance age-appropriate alcohol use prevention practices.

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