A longitudinal examination of the link between parent alcohol problems and youth drinking: The moderating roles of parent and child gender

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Abstract

The unique and interactive effects of paternal and maternal alcohol problems on the drinking behavior of adolescent girls and boys were investigated. A prospective design was employed to examine changes in youth drinking behavior over a 3-year period in a community-based sample of 695 families. Results revealed that, as maternal alcohol problems increased, the likelihood of adolescent alcohol use increased. Paternal alcohol problems were associated with an increased likelihood of alcohol use for girls only. Findings point to the need for future research to investigate both maternal and paternal alcohol problems in community samples and with a sample size large enough to examine both parent and adolescent gender. Implications for preventive and interventive efforts are considered.

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1. Introduction

Alcohol abuse is both a pervasive and costly problem for the United States. It is estimated that nearly 18 million U.S. adults today meet diagnostic criteria for alcohol abuse or dependence—a figure that includes increased rates of adult alcohol abuse over the past decade (Grant et al., 2004). Statistics, however, do not adequately capture the true impact of alcohol abuse and dependence. Adult alcohol abuse and related problems do not only have severely debilitating effects on our society (e.g., elevated crime rates, health care expenditures, and reduced productivity) but have been consistently associated with a myriad of negative outcomes for family members, particularly children.

An extensive body of literature has demonstrated that children of parents with alcohol problems are at increased risk for early alcohol use and alcohol-related problems (e.g., automobile accidents, homicide, and suicide) in adolescence (e.g., Chassin, Pitts, DeLucia, & Todd, 1999; Loukas, Piejak, Bingham, Fitzgerald, & Zucker, 2001b; Windle, Shope, & Bukstein, 1996) and alcoholism in adulthood (see Sher, 1991 for a review). An area of study that has been relatively neglected, however, is the gender of the parent, as the study of parent alcohol-related problems has historically focused on fathers.

The limited work acknowledging maternal alcohol abuse as a unique construct initially focused on its impact on the developing fetus and, subsequently, fetal alcohol syndrome (e.g., Luke, 1977). More recent investigations of parent alcohol problems have generally excluded mothers from their samples (e.g., DeLucia, Belz, & Chassin, 2001), have included insufficient numbers of women with alcohol problems (e.g., Chassin, Curran, Hussong, & Colder, 1996) to detect potentially significant gender differences, or have included women but focused analyses exclusively on men (Schuckit & Smith, 1996). As adult women currently constitute a substantial proportion of the increasing number of adults in the United States meeting criteria for alcohol abuse and/or dependence (Grant et al., 2004), it is important that the alcohol literature does not overlook this cohort. Furthermore, a number of researchers have failed to distinguish between mothers and fathers (e.g., Rubio-Stipec, Bird, Canino, Bravo, & Alegria, 1991), assuming a general effect of parent alcohol abuse on the children in their samples, irrespective of parent gender. The few studies that have examined the impact of maternal alcohol problems on their offspring, however, have found that differential maladaptive effects on children emerge as a function of parent gender (e.g., Chassin et al., 1999). Further research incorporating larger samples of mothers with alcohol problems is clearly needed.

Just as women with alcohol problems have been neglected in the literature, the association of parent alcohol problems and female adolescent alcohol use represents an underdeveloped area of investigation as well. Most researchers in this area have either limited their investigations of parent alcohol problems to boys (e.g., Loukas et al., 2001b; Poon, Ellis, Fitzgerald, & Zucker, 2000; Schuckit & Smith, 1996) or collapsed across gender (e.g., DeLucia et al., 2001), focusing their analyses on the maladaptive implications for children of parents with alcohol problems and assuming that these effects are uniform across gender. This is unfortunate, as there is empirical evidence to suggest that girls are more sensitive than boys to disruptions in their home environments (e.g., Davies & Lindsay, 2004).

The limited research examining the moderating roles of parent and child gender has generally illustrated the importance of paternal alcohol problems in impacting alcohol use among adolescent offspring. One study (Zhang, Welte, & Wieczorek, 1999) examining a high-risk sample of male adolescents found paternal drinking to directly impact (i.e., increase) adolescent alcohol use while maternal drinking had no direct effect. Chassin et al. (1999) found that paternal alcohol problems emerged as more detrimental than maternal alcohol problems for female and male adolescents alike and,
subsequently, young adult alcohol problems. Finally, Epstein, Botvin, Baker, and Diaz (1999) found maternal alcoholism to be correlated with experimental alcohol use for adolescent girls, while paternal alcoholism was associated with adolescent experimental alcohol use for both boys and girls. Other research examining adult children of parents with alcohol problems fail to provide a clear picture. Ohannessian and Hesselbrock’s (1994) work suggested that, like the findings of Chassin et al. (1999), paternal, but not maternal, alcohol problems were associated with greater levels of adult child alcohol use and that offspring gender did not moderate the findings. In contrast, Harford, Haack, and Spiegler (1988) found that maternal alcohol problems were associated with more drinking and alcohol-related problems than paternal alcohol problems for adult male, but not adult female, offspring. Finally, in contrast to the studies just noted, one investigation suggests that both parent gender and child gender are important. Specifically, Harburg, Davis, and Caplan (1982) found a same-sex pattern to emerge: maternal alcohol problems were associated with greater alcohol use for adult female offspring, while paternal alcohol problems related to heavier alcohol use among adult male offspring.

Thus, the extant literature fails to provide a consistent picture of the role of parent and child gender in predicting adolescent alcohol use. The inconsistent findings may result, in part, from one or more of the following methodological weaknesses that have characterized many of the studies: an inadequate sample size for detecting potentially salient gender differences; a reliance upon clinical samples; a reliance on a cross-sectional design; and an insufficient number of female participants.

Moreover, the literature on parents with alcohol problems has historically categorized individuals into two distinct groups: alcoholic and nonalcoholic. Recently, however, researchers have used exploratory categorical data analytic techniques (i.e., latent class analysis (LCA)) to statistically test the categorical approach to conceptualizing alcoholism (e.g., Nelson, Heath, & Kessler, 1998). Researchers failed to identify discrete types of individuals with distinct profiles of alcohol problems; rather, evidence for a continuum of severity has emerged from this research (e.g., Heath et al., 1994; Kendler, Karkowski, Prescott, & Pedersen, 1998). In an attempt to extend this literature, a recent study used Latent Trait Modelling (LTM) to formally model the severity and discrimination of a wide range of alcohol problems from a community-based sample of over 1000 participants (Krueger et al., 2004). Consistent with previous research, Krueger et al. concluded that the optimal conceptualization of alcohol problems, at least among community samples, is arrayed along a dimension of severity. In accordance with this literature, the current study adhered to a continuous conceptualization of parent alcohol problems. Moreover, our decision to examine a community sample in which lower base rates exist, yet relatively subtle differences emerge and remain important in the relationship between parent alcohol problems and adolescent alcohol use, was based on this area of research.

In contrast to adults, for children under the age of 14 years, a continuous conceptualization of alcohol use does not appear necessary, as any use at this age is a primary risk factor for serious alcohol problems in adulthood (e.g., Grant & Dawson, 1997; McGue, Iacono, Legrand, & Elkins, 2001; Nelson et al., 1998). For example, Grant and Dawson found that rates of lifetime alcohol dependence among adults whose first drink was at age 14 years or younger are over 40%, in contrast to rates near 10% for those who initiated drinking alcohol after age 19 years. Therefore, in the current study, we assessed several aspects of alcohol use during the 10–14 year age range along a continuous dimension; however, we anticipated that a presence versus absence categorization may be necessary given the young age of our sample (i.e., from low rates of occurrence) but would still be clinically significant and meaningful.

The goal of the present investigation was to systematically address the unique and interactive roles of paternal and maternal alcohol problems in predicting youth alcohol use and related problems, with an
emphasis on adolescent gender differences. A longitudinal design over a 3-year time period was employed so that change in adolescent alcohol use from the initial assessment could be examined. A community-based sample was utilized to avoid problems inherent with clinical samples (e.g., limited generalizability) and further represented a conservative test of our hypotheses. We examined multiple measures of alcohol use in order to detect potential relationships: lifetime use, current use, and alcohol-related consequences (e.g., “got into trouble at school after drinking”). Moreover, as white adolescents tend to report significantly greater levels of both heavy episodic drinking and lifetime alcohol use than African–American youth (Grunbaum et al., 2002), the current study examined a predominantly Caucasian sample. Finally, lifetime alcohol problems among parents were examined as the research has demonstrated that children of parents with both current and past alcohol-related problems are at increased risk for alcohol abuse and/or dependence themselves (e.g., Chassin et al., 1999; Chassin, Rogosch, & Barrera, 1991).

Consistent with previous research and several theoretical models, we tested three hypotheses. First, increases in both paternal and maternal alcohol problems were expected to be associated with higher levels of adolescent alcohol use. This is congruent with most of the extant literature (e.g., Chassin et al., 1999; Epstein et al., 1999) and with social learning theory (Bandura, 1977), which proposes that behaviors are learned through observation/imitation (i.e., modeling) and, in this case, occurs as a result of the child modeling the parent’s inappropriate alcohol use.

Second, we hypothesized that child gender would moderate the influence of paternal and maternal alcohol problems. We tested two competing hypotheses. First, social learning theory maintains that children are more likely to emulate same-sex role models (e.g., Bussey & Bandura, 1984) and, accordingly, greater paternal alcohol problems may predict more pronounced rates of alcohol use for boys, while greater maternal alcohol problems may result in more pronounced rates of alcohol use among girls. Moreover, as has been noted, there is some support for same-sex transmission of alcohol problems (e.g., Harburg et al., 1982), although the research is not consistent (McGue et al., 2001). Alternately, there is literature to suggest that girls appear more sensitive to stress and disruptions in their home environments (e.g., Davies & Lindsay, 2004; Ge, Lorenz, Conger, Elder, & Simons, 1994) and both paternal and maternal alcoholism have been associated with alcohol use for girls (Epstein et al., 1999). Furthermore, the gender intensification hypothesis (Davies & Lindsay, 2004) proposes that, in early adolescence, boys are socialized to become more independent and self-directed, whereas girls are socialized to become more communal (i.e., interpersonally connected and concerned with the welfare of others). The communal dispositions of girls can result in them becoming more reactive to dysfunctional families (Davies & Lindsay, 2004), potentially resulting in problem behaviors including, but not limited to, alcohol use. Thus, one hypothesis proposes same-sex outcomes of parent alcohol problems, while the competing hypothesis proposes that girls will be more reactive to the alcohol problems of either parent.

Finally, we examined whether having two parents with alcohol problems would result in worse outcomes on the youth alcohol use measures than having one parent with such problems. In addition, based on the gender intensification hypothesis, we examined whether alcohol use would be more pronounced among girls than boys when both parents had alcohol problems. Harford et al. (1988) found that adult daughters reported more alcohol problems when both parents had alcohol problems. This finding is consistent with cumulative risk theory, which proposes that as the number of risks increases, child maladjustment increases (Rutter, 1979). Substantial research (e.g., Forehand, Bigger, & Kotchick, 1998; Miller, Forehand & Kotchick, 2000) has supported the detrimental effects of cumulative risk on children; however, it is important to note that an increase from three to four risk factors typically has
been associated with a disproportionate increase in the deterioration of adolescent psychosocial adjustment (e.g., Blazer, Hughes, & George, 1987; Forehand et al., 1998; Jones, Forehand, Brody, & Armistead, 2002; Rutter, 1979). Therefore, an increase from one (i.e., one parent with alcohol problems) to two risk factors (i.e., both parents with alcohol problems), or from two to three risk factors (i.e., both parents with alcohol problems and offspring gender is female) may not be sufficient to increase levels of adolescent alcohol use. As a consequence, the proposed hypothesis is viewed as exploratory.

2. Method

2.1. Overview

The Dartmouth Prevention Project (DPP) was an NIAAA-funded randomized control trial (1992–1996) aimed at preventing child and adolescent substance use (Stevens et al., 2002). The original cohort for this project was recruited from 12 pediatric primary care practices in Massachusetts, New Hampshire, and Vermont. Pediatric clinicians in these practices attempted to recruit all families with fifth- or sixth-grade children who visited their clinics during a 21-month period. Of the 4096 families approached, 86% agreed to participate, 85% met eligibility criteria, and 77% (3145) completed both the child and parent baseline surveys, and were thus enrolled in the original cohort. Of the 3145 that completed baseline, 2183 completed a final assessment 3 years later. Reasons for attrition included parents’ voluntary withdrawal from the study and relocation.

Pediatric practices were randomly assigned to one of two groups. Accordingly, parent–child dyads were either administered an alcohol/tobacco prevention protocol (n = 1780), or a gun storage and bicycle helmet/seatbelt safety [control] intervention (n = 1331). The purpose of the substance use intervention group was to implement regular communication between the primary care pediatrician and the child/parent dyad pertaining to alcohol/tobacco use prevention. The control group was administered no intervention procedures pertaining to substance use prevention. Instead, this cohort was given information regarding safe bicycle helmet, seatbelt use, and gun storage in a similar fashion to that described above.

2.2. Participants

The control group of 1331 child/parent dyads from the DPP was examined as they were not administered preventive intervention procedures pertaining to child/adolescent alcohol use. Of the 1331 dyads, 17% (224) were eliminated because the participating parent was not currently married, and this study was interested in examining the equal exposure of adolescents to the drinking problem of both mothers and fathers. Of the 1107 remaining families at baseline, 26% (285) did not complete the final assessment, and thus were eliminated. Finally, of the remaining 822 dyads, participants who were missing data (n = 127) on relevant measures were eliminated from our analyses. Thus, this study was based on a final sample of 695 families from the DPP. At baseline, all children were in fifth or sixth grade and, at the final wave of the study, were all in eighth or ninth grade. One parent from each family participated, who completed measures on him/herself as well as the spouse, and this was the mother in 90% of cases. Demographic data for this sample at time 1 are presented in Table 1.
2.3. Measures

The participating parent provided all demographic information and data on both parents. Adolescents provided data on their own alcohol use.

2.3.1. Demographic and background variables

Data on parents’ ethnicity, age, gender, highest education level, annual family income, and age/gender of the child were collected. All demographic/background variables were examined at time 1, and are reported in Table 1.

2.3.2. Parent alcohol problems

Evidence of current and/or lifetime maternal and paternal alcohol problems at time 1 were derived from the Short Michigan Alcoholism Screening Test (SMAST; Selzer, Vinokur, & van Rooijen, 1975). The SMAST has demonstrated strong internal consistency and validity in detecting alcoholism and alcohol problems among clinical and community samples (e.g., Barry & Fleming, 1993; Selzer et al., 1975). This particular measure assesses the extent to which alcohol problems are (i.e., current) or were ever (i.e., lifetime) present, and include such items as, “Has your drinking ever created problems between you and your husband or wife, parent, or other near relative?” and “Can you stop drinking when you want?” All 13 items from the SMAST were included as part of the assessment battery and were answered by the participating parent for her/himself and for her/his spouse. The items were originally coded as 1 = yes and 2 = no. For scoring purposes, “no” was recoded as 0, and items were summed to obtain a total score. The number of indicators of alcohol problems endorsed on the SMAST was used as

Table 1
Demographic characteristics of cohort at baseline assessment of DPP (n = 695)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adolescent</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>10.89</td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td>Gender (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td>46.9</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td>53.1</td>
</tr>
<tr>
<td><strong>Parent</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>40.27</td>
<td>5.08</td>
<td></td>
</tr>
<tr>
<td>Education(^a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paternal</td>
<td>15.18</td>
<td>3.05</td>
<td></td>
</tr>
<tr>
<td>Maternal</td>
<td>14.82</td>
<td>2.40</td>
<td></td>
</tr>
<tr>
<td><strong>Family</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income(^b)</td>
<td>14.90</td>
<td>2.09</td>
<td></td>
</tr>
<tr>
<td>Ethnicity (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian(^c)</td>
<td></td>
<td></td>
<td>98.8</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td>1.2</td>
</tr>
</tbody>
</table>

\(^{a}\) Mean years of education.

\(^{b}\) 14 = US$40,000–44,999; 15 = US$45,000–49,999.

\(^{c}\) Non-Hispanic.
a continuous measure of parent drinking problem, with possible responses ranging from 0 to 13. Paternal and maternal alcohol problem scores were calculated separately to yield two separate measures.

2.3.3. Adolescent alcohol use

Adolescents self-reported their alcohol use on three separate outcome measures: lifetime alcohol use (“How many times have you had alcohol to drink in your lifetime?” scored on a seven-point scale, with 0 = 0 times and 7 = 40+ times); current alcohol use (“How many times have you had alcohol to drink in the past 30 days?” scored on a seven-point scale, with 0 = 0 times and 7 = 40+ times); and frequency of alcohol-related consequences (nine-item checklist; e.g., “got in trouble at school after drinking,” “got into trouble with the police after drinking,” “passed out,” “vomited,” scored as yes = 1 and no = 2). The alcohol-related consequence items were recoded so that no endorsement of a consequence was scored 0 and positive endorsement of a consequence remained 1. Possible scores ranged from 0 to 9. Adolescent alcohol use was examined at times 1 and 4.

2.4. Procedure

Participating parents and their children signed informed consent prior to their participation. Self-administered questionnaires were distributed to children and parents at time 1 (baseline; 0 months), time 2 (12 months), time 3 (24 months), and time 4 (36 months). The separate child and parent surveys were completed independent of one another, and returned separately by mail in prepaid postage envelopes. The child was compensated US$5 upon receipt of both parent and child questionnaires. If surveys were not returned within 4 weeks, the child and parent received a reminder telephone call. Only time 1 and time 4 assessments were examined in the current study.

3. Results

3.1. Preliminary analyses

Demographic variables (e.g., paternal/maternal education, ethnicity, and annual family income) were correlated with each of the outcome measures to determine those variables that should be controlled for in the primary analyses. Maternal education was significantly correlated with adolescent lifetime alcohol use \((r = -0.07, p < 0.05)\), and thus this variable was controlled for in the corresponding primary analyses.

Next, an examination of the distributions for each of the three dependent variables revealed significant positive skewness. As expected, a variety of data transformation procedures (i.e., square root, logarithmic, and inverse) failed to normalize the highly skewed distribution of each of the adolescent alcohol use measures (i.e., lifetime, current, and related consequences); thus, each of these variables was dichotomized. For lifetime alcohol use, never having had alcohol to drink was scored 0, while one or more instances of drinking alcohol was scored as 1. Given the new meaning of this variable (i.e., never vs. ever using alcohol), current (past 30 days) use could be subsumed under the former outcome measure and, therefore, was not examined as a dependent variable in the primary analyses. Moreover, the lifetime alcohol use variable is best conceptualized as “adolescent alcohol use” and that terminology will be used henceforth. Alcohol-related consequences were scored as never (0) or ever (1) having experienced any consequences due to alcohol use/abuse (e.g., trouble at school after drinking, vomiting, and passing out).
The percent of youth reporting their own behavior at times 1 and 4, respectively, was as follows for the two outcome measures: ever using alcohol—6.5% and 20.0% and alcohol-related consequences—0.0% and 4.5%. As would be expected with very young adolescents in a community sample, the percent responding positively on each measure was low at time 1 and increased from times 1 to 4, but was still relatively low at time 4. Also, as expected, alcohol-related problems reported for mothers (mean=.39, S.D.=1.02, range 0–11) and fathers (mean=.86, S.D.=1.88, range 0–12) at time 1 were low; however, there was some distribution of scores (e.g., 19% and 29% of mothers and fathers, respectively, reported one or more problems with alcohol, and 9% and 17% of mothers and fathers reported two or more problems with alcohol).

Chi-square statistics were conducted to determine if retained participants differed on demographic, independent, and/or dependent variables from the sample that was not retained over the 3-year study period. The results indicated that the two groups did not differ on mean levels or percentages of parent age, ethnicity, or parent alcohol problem scores at baseline. In contrast, participants who were not retained over the 3 years were significantly lower on measures of annual family income \( t(421.33)=-2.27, p<.05 \), and paternal \( t(1086)=-3.19, p<.01 \) and maternal \( t(1098)=-3.69, p<.01 \) education. In terms of the dependent variables, differences emerged with respect to adolescent lifetime alcohol use. Retained participants were more likely to have a child who reported having consumed alcohol at baseline (i.e., fifth or sixth grade) than participants who dropped out \( \chi^2(1)=3.86, p<.05 \). No differences emerged for alcohol-related consequences.

3.2. Primary analyses: multivariate prediction of youth drinking

Logistic regression analyses were used to examine each of the dependent variables (i.e., youth alcohol use and alcohol-related consequences). All outcome measures were from the final assessment (time 4) and all predictor variables were from the baseline assessment (time 1). The predictor variables were the same for all analyses and were entered as follows. In block one, the time 1-dependent variable was entered so that change from time 1 could be examined. In addition, significantly correlated demographic variables were entered to control for their associations with the dependent measures. In block 2, time 1 paternal alcohol problems, maternal alcohol problems, and child gender were entered. In block 3, paternal alcohol problems × maternal alcohol problems, paternal alcohol problems × child gender, and maternal alcohol problems × child gender were entered. Finally, in the fourth block, the three-way interaction of paternal alcohol problems × maternal alcohol problems × child gender was entered.

Hypothesis 1. We hypothesized that both paternal and maternal alcohol problems would be associated with greater adolescent alcohol use and alcohol-related problems in block 2 of the regression analyses. Partial support for this hypothesis was found as a significant main effect of maternal alcohol problems for adolescent alcohol use emerged \( b=.18, p<.05; \) OR=1.20; 95% CI=1.01–1.41). The odds ratio indicates that higher levels of maternal drinking problem were associated with an increased likelihood of early adolescent drinking. For paternal alcohol problems, the \( p \)-levels approached traditionally accepted levels of significance for adolescent alcohol use \( b=.09, p<.07; \) OR=1.09; 95% CI=1.00–1.20) and youth alcohol-related consequences \( b=.13, p<.08; \) OR=1.13; 95% CI=0.99–1.31). In both cases, the odds ratio suggests that higher levels of paternal drinking problem were associated with an increased likelihood of adolescent alcohol use and alcohol-related consequences.
Hypothesis 2. We tested two competing hypotheses in block 3 of the regression: (1) greater paternal alcohol problems would predict more pronounced rates of adolescent alcohol use for boys and greater maternal drinking would predict more pronounced rates of adolescent alcohol use for girls versus (2) relative to boys, girls would manifest greater alcohol use and alcohol-related problem behaviors in response to alcohol problems by either parent. A significant interaction between paternal alcohol problems and child gender emerged for adolescent alcohol use ($b=.29$, $p<.01$; $OR=1.33$; 95% CI=1.06–1.67). When analyses were conducted separately for boys and girls, paternal alcohol problems significantly predicted lifetime alcohol use for girls ($b=.19$, $p<.01$; $OR=1.21$; 95% CI=1.07–1.36) but not for boys ($b=-.08$, $p>.30$; $OR=0.92$; 95% CI=0.77–1.10). For girls, the odds ratio indicates that as paternal alcohol problems increase, there was an increased likelihood of adolescent alcohol use. Thus, the second of the two competing hypotheses was partially supported: girls demonstrated elevated rates of alcohol use compared to boys in response to paternal drinking. Significant interactions did not emerge for youth alcohol-related consequences ($p>.30$ in all cases).

Hypothesis 3. Finally, we hypothesized that having two parents with alcohol problems would be associated with worse outcomes on both adolescent alcohol measures than having either an alcoholic mother or father alone (block 3: maternal × paternal alcohol problems interaction), and that, when both parents had alcohol problems, the outcomes would be worse for girls than boys (block 4: paternal alcohol problems × maternal alcohol problems × child gender). This hypothesis was not supported. Neither the two-way paternal × maternal alcohol problem interaction nor the three-way interaction of paternal × maternal alcohol problems × child gender was significant for either of the regression analyses ($p>.25$ in all cases).

4. Discussion

Although the existing literature has investigated the relationship between parent alcohol problems and adolescent alcohol use outcomes, a paucity of research has examined the moderating roles of parent and child gender on this association. Our hypotheses were based on the notion that relatively subtle differences in parent alcohol problems would predict adolescent alcohol use in a community sample. We were specifically interested in discerning: (1) whether greater levels of paternal and maternal alcohol problems predict higher levels of two different indicators of adolescent alcohol use; (2) whether same-gender dyads (i.e., boys of fathers with alcohol problems and girls of mothers with alcohol problems) demonstrate more pronounced rates of problem behavior and alcohol use, or whether girls manifest greater levels of drinking and problem behavior in response to parent alcohol problems; and (3) whether two parents (versus one) with alcohol problems represent a cumulative risk and, further, whether female gender is a third risk factor.

Overall, our findings suggest that maternal alcohol problems are associated with an increased likelihood of alcohol use by early adolescents. As expected, greater alcohol problems among mothers significantly predicted whether adolescents had ever used alcohol 3 years later. Furthermore, some weak support emerged for paternal alcohol problems, increasing the likelihood of both adolescent alcohol use and alcohol-related consequences. Our findings provide some support for the hypotheses that both maternal and paternal alcohol problems are related to adolescent alcohol use. These findings are consistent with social learning theory (Bandura, 1977) and with previous research (e.g., Epstein et al.,
However, the relationship between paternal alcohol problems and adolescent drinking was weak based on two aspects of the findings: the association only approached traditional levels of significance for both measures of adolescent drinking and, consistent with the gender intensification hypothesis (Davies & Lindsay, 2004), the association between paternal alcohol problems and adolescent alcohol use was qualified by adolescent gender.

The gender intensification hypothesis proposes that in early adolescence, girls become more communal and, as a consequence, reactive to dysfunctional families (Davies & Lindsay, 2004). Other research have confirmed that adolescent girls appear generally more sensitive to stressful events and disruptions in their home environments (e.g., Ge et al., 1994). Our finding that paternal alcohol problems are associated only with alcohol use by girls is consistent not only with the gender intensification hypothesis but with some existing research. In contrast, no support emerged for the competing hypothesis we examined: that same-sex role modeling of alcohol use would occur. Thus, our findings suggest that, in terms of adolescent early alcohol use, both parent and child gender are important, and that a cross-gender association emerges for fathers and daughters.

Finally, our hypothesis that two parents with alcohol problems would result in more problem behaviors among offspring, particularly females, was not supported. Thus, it appears that the risk associated with having a parent with alcohol problems is not cumulative, at least among this particular sample. Furthermore, being female does not contribute to the cumulative risk index. As we noted, the existing literature (e.g., Forehand et al., 1998; Rutter, 1979) has suggested that cumulative risks are not substantially detrimental for children until four or more risk factors have accumulated. Thus, the additional risk of having two parents with alcohol problems and, based on the gender intensification hypothesis, of being female may not have been sufficient to enhance alcohol use among their children. Alternatively, the extant literature has examined a wider array of risk factors (e.g., parent depression, interparental conflict, and low socioeconomic status), while this study restricted its analyses to risk factors specifically pertaining to alcohol use and gender.

The current study has several limitations that are important to consider when interpreting our findings. One limitation pertains to external validity, as several characteristics of the study sample restrict generalizability. First, the sample was almost 99% Caucasian. Although Caucasian youth are at the greatest risk for abusing alcohol (Grunbaum et al., 2002; Stewart & Power, 2003), extrapolating these results to ethnically diverse populations must occur with caution. Moreover, this sample was drawn from the New England region only; thus generalizing these findings to Caucasian persons in geographically diverse areas is questionable. In addition, non-married (e.g., single and divorced) participants were eliminated from the analyses, again limiting generalizability to married parents with alcohol problems. Finally, the retained and non-retained sample differed on some demographic, control, and outcome measures, again imposing limits on generalizability. A second limitation is the reliance on self-report for each of the variables of interest. Self-report measures may have led to an underreporting of both parent and adolescent use. It is important to note, however, that parent alcohol problems and adolescent alcohol use were reported by different individuals, thus eliminating concerns about common method variance. A third limitation is that the participating parent reported on his/her spouse’s alcohol problems. Next, one of our outcome measures (i.e., adolescent lifetime alcohol use) was constituted by a single item. Although this is not unusual in the adolescent alcohol use literature, multi-item measures may have better assessed the constructs of interest. Finally, our study did not assess for, and thus did not take into account, genetic factors implicated in the transmission of alcohol problems from parent to child. However, recent research has indicated that for early adolescent substance use (including alcohol), the
environment, including parental behavior, makes a substantially larger contribution than heredity (McGue, Iacono, Burt, & Elkins, 2004).

The current research has several noteworthy strengths. First, problems with alcohol were conceptualized along a continuum of severity and investigated among a large community-based sample. Alcohol research often, although not always, relies upon clinical samples and upon a categorical representation of alcoholism. The findings from the current study suggest that, even in community samples and in families where alcohol use may not meet criteria for alcoholism, parent alcohol problems relate to the alcohol use of their young adolescents. Another strength of this study is its prospective design and large sample size, the latter of which allowed us to incorporate a larger number of women with alcohol problems than much of the previous research in this arena. Finally, the current research examined primarily Caucasian adolescents, who have demonstrated higher rates of alcohol consumption (Stewart & Power, 2003) and related problems than ethnic minority adolescents (Grunbaum et al., 2002).

Findings from this study have implications for prevention and intervention efforts, as well as future research. The current study suggests that preventive interventions aimed at reducing alcohol problems should be initiated prior to the transition to adolescence. As the current study provided evidence that both maternal and paternal drinking problems are associated with adolescent alcohol use, clinical treatments and/or prevention efforts need to be family-based, and include both parents. From a research perspective, future studies in this area should examine community-based samples, include both parents, and be sufficiently large to analyze for parent and adolescent gender differences. Moreover, families with female adolescents may represent a group worthy of special attention, as their initiation of alcohol use at an early age appears related to alcohol problems of either parent.

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References


