Published in final edited form as:

J Child Fam Stud. 2018 April ; 27(4): 1175–1185.

Parental Problem Drinking and Emerging Adult Problem Behavior: The Moderating Role of Parental Support

Laura J. Finan,

Prevention Research Center, University of California, Berkeley, 180 Grand Avenue, Suite 1200, Oakland, CA 94612, lfinan@prev.org, 510-883-5703

Emily Simpson,

University of Connecticut and Connecticut Children's Medical Center, 282 Washington Street, Hartford, CT 06106. esimpson@connecticutchildrens.org

Jessica Schulz, and

Rutgers University, Camden, 311 N. Fifth Street, Camden, NJ 08102, jschulz2@scarletmail.rutgers.edu

Christine McCauley Ohannessian

University of Connecticut School of Medicine and Connecticut Children's Medical Center, 282 Washington Street, Hartford, CT 06106, COhannessian@connecticutchildrens.org

Abstract

This study examined the relationship between parental problem drinking (maternal and paternal) and emerging adult problem behaviors (alcohol use, drug use, and antisocial behavior). In addition, the moderating role of parental support (maternal and paternal) was explored. Data were drawn from a nationally representative sample of emerging adults ($N = 600$; $M_{age} = 20.00$, $SD = 1.42$; 50% women; 62% White). Results from regression analyses of survey data indicated that both maternal problem drinking and maternal support moderated the relationship between paternal problem drinking and emerging adult alcohol use. For drug use, there was a three-way interaction between paternal problem drinking, maternal problem drinking, and maternal support. The relationship between paternal problem drinking and drug use only was significant for those who reported high maternal problem drinking and low maternal support. For antisocial behavior, there

Corresponding Author: LJ Finan, Prevention Research Center, 180 Grand Avenue, Suite 1200, Oakland, California, 94612, USA. Tel: 510-883-5703, lfinan@prev.org.

Other Authors

E Simpson, Center for Behavioral Health, Connecticut Children's Medical Center, and University of Connecticut

J Schulz, Rutgers University, Camden

CM Ohannessian, University of Connecticut School of Medicine and Connecticut Children's Medical Center

Compliance with Ethical Standards

Conflict of interest: The authors declare that they have no conflict of interest.

Ethical Approval: All procedures performed in the study involving human participants were in accordance with the ethical standards of the institution at which the study was conducted.

Informed Consent: Informed consent was obtained from all individual participants included in the study.

Author Contributions: LJF: conceptualized the study, analyzed and interpreted the data, and wrote parts of the manuscript. ES and JS: contributed to study conceptualization and wrote parts of the manuscript. CMO: conceptualized and conducted the larger research project from which the data were drawn, contributed to current study conceptualization, and provided critical revisions to the manuscript.

were positive relationships between paternal problem drinking and antisocial behavior and between maternal problem drinking and antisocial behavior in contexts of varying levels of parental support. Findings highlight the potential for parental support to both buffer and enhance the adverse influence of parental problem drinking across varied contexts.

Keywords

parental problem drinking; emerging adult; alcohol use; drug use; antisocial behavior

The National Survey on Drug Use and Health estimates that more than 10% of children in the U.S. reside with an alcohol-abusing or alcohol-dependent parent (Substance Abuse and Mental Health Services Administration, 2012). These 7.5 million children face a myriad of difficulties, including impaired cognitive and socio-emotional development, as well as increased risk for abuse and neglect (SAMHSA, 2012). Throughout childhood and adulthood, children of alcoholics (COA) are more likely than their peers to struggle with self-regulation difficulties, such as impulse control issues and substance use (Hussong, Huang, Curran, Chassin, & Zucker, 2010; Marmorstein, Iacono, & McGue, 2009; Park & Schepp, 2014; Rossow, Felix, Keating, & McCambridge, 2016). Parents serve as some of the earliest teachers of emotion regulation, modelers of behavior, providers of emotional support, and enforcers of self-control. As such, parental instability or sub-optimal parenting practices associated with problem drinking may diminish opportunities for learning appropriate self-regulatory skills, therefore leaving children vulnerable to the development of externalizing difficulties across the lifespan (Keller, Cummings, Davies, & Mitchell, 2008; Ohannessian, 2012). Furthermore, social learning theory posits that children may learn to imitate the behaviors of those around them, including parents, potentially resulting in COAs adopting problem behaviors (Bussey & Bandura, 1984). Systemic models of the family system serve as a useful lens to examine the interactive pathways between maternal and paternal behavior and the associations between parental problem drinking and emerging adult adjustment (Broderick, 1993).

Described by Arnett (2007) as a winding road spanning the years from the late teens through the third decade of life, emerging adulthood reflects a developmental period in the Western world characterized by increasing independence and autonomy, exploration, and the delay of permanent commitments (Schwartz, 2016). During these years, many young people establish relationships, residences, and identities independent of their parents (Koepke & Denissen, 2012). Because emerging adults are largely beginning to operate autonomously, this developmental period is especially suited for the examination of regulatory abilities, such as substance use and problem behavior. Given the existing literature documenting the long-term effects of parental drinking on development (Englund, Egeland, Oliva, & Collins, 2008), an important question to ask concerns the extent to which parental problem drinking is associated with externalizing behaviors during the emerging adult developmental period. This question is particularly salient as emerging adulthood is a critical time for the development of substance use disorders and other mental health problems (McGorry, Purcell, Goldstone, & Amminger, 2011). Substance use and antisocial behavior represent salient barriers to the developmental tasks associated with this life course state (e.g.,

academic achievement; El Ansari, Stock, & Mills, 2013; Jeynes, 2002), highlighting the need to examine these problems among emerging adult COAs (Nelson & Padilla-Walker, 2013; Schulenberg, Bryant, & O'Malley, 2004).

The prevalence of alcohol use is highest among emerging adults compared to all other age groups (SAMHSA, 2014), and use has been linked with numerous alcohol related problems (Cleveland, Mallett, White, Turrisi, & Favero, 2013; Lau-Barraco, Linden-Carmichael, Hequembourg, & Pribesh, 2017), particularly for men (Chen & Jacobson, 2012). Parental alcohol use is one important predictor of problem drinking during emerging adulthood (Arteaga, Chen, & Reynolds, 2010; Chassin, Pitts, & Prost, 2002; Englund et al., 2008). Emerging adults are more likely to engage in hazardous drinking and experience problems related to alcohol consumption when they report that either one parent or both parents misused alcohol, compared to those who reported neither parents misused alcohol (Pearson, D'Lima, & Kelley, 2012). Similarly, emerging adults are at an elevated risk of developing a substance abuse disorder when a parent has an alcohol use disorder (Mellentin et al., 2016). Research has shown that COAs are more than twice as likely to develop alcohol dependence in comparison to non-COAs (King & Chassin, 2007; King & Chassin, 2008). Importantly, emerging adults' alcohol use, in turn, has been associated with a range of adverse adjustment outcomes, including poor academic achievement (El Ansari et al., 2013; Jeynes, 2002) and mental health issues (Paschall, Freisthler, & Lipton, 2005).

Drug use also escalates across adolescence and peaks during emerging adulthood (Stone et al., 2012). The annual prevalence rate for illicit drug use peaks at 42% for 21 to 22 year-olds, compared to 28% for 29 to 30 year-olds (Johnston, O'Malley, Bachmann, Schulenberg, & Miech, 2016). As with alcohol, drug use during emerging adulthood increases more sharply for men than for women (Chen & Jacobson, 2012). However, for both men and women, drug use is associated with a host of physical and psychosocial problems, including the risk of overdose, accidents and injuries, death, greater likelihood of experiencing other psychopathology, and the potential for addiction or abuse (Degenhardt & Hall, 2012; Johnson, Giordano, Manning, & Longmore, 2011). It is thought that those same characteristics which help shape the emerging adulthood years as developmentally distinct (e.g., increasing personal freedom) may heighten vulnerability towards substance use (Arnett, 2005; Ravert, 2009; Sussman & Arnett, 2014). Given that research also indicates that COAs face increased risk of substance use (Foroud, Edenberg, & Crabbe, 2010; Palmer et al., 2012), the examination of drug use among emerging adult COAs is especially important (Stone, Becker, Huber, & Catalano, 2012).

Antisocial behavior can be understood broadly as behavior which violates social norms or the basic rights of another person (Burt, 2012). Although not all individuals exhibiting such behavior meet diagnostic criteria for antisocial personality disorder, antisocial behavior represents a serious adjustment problem associated with difficulties across domains, including school, employment, family, and other social relationships (Goldstein, Dawson, Smith, & Grant, 2012). As with substance use, antisocial behavior increases more sharply for men during the emerging adulthood years than it does for women (Hicks et al., 2007). The social commitments associated with the end of emerging adulthood, such as marriage, may help curtail antisocial behavior; however, the absence of such commitments during

these years may heighten the risk for such problem behavior both for men and women (Goldstein & Grant, 2009). Importantly, COAs are at an increased risk for the development of antisocial personality disorder (Hill, Tessner, & McDermott, 2011; Marmorstein, 2009; Ohannessian & Hesselbrock, 2009). Given that alcohol use, drug use, and antisocial behavior threaten the health and wellbeing of emerging adults (Paschall et al., 2005; Westermeyer & Thuras, 2005), these three problem behaviors reflect salient outcomes to investigate during this transitional developmental period.

Given adult COAs are at risk for a range of adverse adjustment outcomes, it is important to understand the unique and additive roles that problem drinking by mothers and fathers may play in influencing adverse outcomes for their children. Within the family, mothers are more likely than fathers to provide care and emotional support for children and adolescents (Monna & Gauthier, 2008), a trend that continues into young adulthood (Arnett & Schwab, 2013; Markiewicz, Lawford, Doyle, & Haggart, 2006). As such, based on social models of development, maternal problem drinking may have a greater negative impact on child adjustment. Indeed, some research indicates that maternal alcohol abuse, but not paternal alcohol abuse, predicts adverse adolescent and young adult adjustment (Rognmo, Torvik, Ask, Røysamb, & Tambs, 2012). Christoffersen and Soothill (2003) found that maternal alcohol abuse was associated with greater odds of emerging adults engaging in self-damaging behavior, including drug addiction. However, paternal problem drinking also has been found to be more problematic for the development of maladaptive behavior than maternal problem drinking in other studies (Handley & Chassin, 2009; Keller et al., 2008). For example, Vermeulen-Smit et al. (2012) found that father's heavy drinking and heavy drinking by both parents predicted adolescent and young adult alcohol use behavior, whereas mother's heavy drinking alone did not. These mixed findings may be the result of sample differences (e.g., clinical vs. community), the age range or demographic characteristics of participants, or other contextual differences.

The interactive pathways by which parental behaviors are associated with emerging adults' adjustment may be obscured by several important limitations of the present literature. First, most studies have separately examined either protective factors or risk factors for COAs (Park & Schepp, 2014), with less examination of how such factors interact to influence adjustment. Relatedly, relative to studies during childhood and adolescence, limited COA research has examined the relationship between parent behavior and adjustment during emerging adulthood, when parents still are actively involved, although the parent-child dynamic may be shifting. Finally, there is a dearth of research exploring the extent to which emerging adult problem behaviors may manifest through interactive effects of maternal or paternal problem drinking and other parent factors (Cleveland, Reavy, Mallett, Turrisi, & White, 2014; Pearson et al., 2012). Given the interdependent nature of relationships proposed by family systems theory (Broderick, 1993), the examination of gendered parent interactions may help to clarify mixed findings in the literature.

Generally, parents remain important during the transition into adulthood. A range of parenting practices and the quality of the emerging adult-parent relationship have been linked with substance use and problem behavior. For example, greater parental warmth, involvement, and communication have been associated with less alcohol use among

emerging adults (Borsari, Murphy, & Barnett, 2007; Merrill & Carey, 2016; Turner, Larimer, & Sarason, 2000). Similarly, maternal drunkenness has been associated with emerging adult drunkenness among women who experience low warmth from mothers and live at home (Cleveland et al., 2014). For drug use, those who perceived greater parental acceptance, especially from fathers, reported less illicit drug use (e.g., cocaine, heroin, etc.) (Schwartz et al., 2009). Likewise, parental support has been associated with fewer criminal offenses (i.e., illicit drug use and antisocial behaviors, such as theft, breaking and entering, assault and battery, and property damage) (Johnson et al., 2011). Finally, Patock-Peckham and Morgan-Lopez (2010) found that paternal care was associated with fewer reported antisocial behavior indicators among men, and maternal care was associated with fewer reported antisocial behavior indicators for women. However, many questions about the complex interactions between parental problem drinking, parental support, and emerging adult problem behavior remain unexamined. Therefore, the current study aims to fill this gap by utilizing a family systems model to a) disentangle mixed findings relating to the relationship between maternal and paternal problem drinking and emerging adult problem behavior and b) clarify the role of maternal and paternal support in the relationship between parental problem drinking and emerging adult problem behavior.

Specifically, this study examined the relations between parental problem drinking, parental support, and emerging adult problem behavior (i.e., alcohol use, drug use, and antisocial behavior). First, relationships between parental problem drinking and emerging adult problem behaviors were examined. Second, the potential moderating effects of maternal and paternal support in the relationship between parental problem drinking and emerging adult problem behaviors were explored. Importantly, in addition to examining the interactive effects within parents (e.g., maternal problem drinking X maternal support), interactive effects across parents (e.g., paternal problem drinking X maternal support) were assessed. We hypothesized positive relationships between maternal and paternal problem drinking and emerging adult problem behavior. Further, we expected that parental support would buffer emerging adults from the adverse impact of parental problem drinking. Finally, we expected that maternal support would play a stronger role than paternal support in moderating the association between parental problem drinking and emerging adult problem behaviors.

Method

Participants

The sample was a nationally representative sample of emerging adults ($N = 600$; $M_{\text{age}} = 20.00$, $SD = 1.42$; 50% women) and was racially and ethnically diverse. Participants identified with the following groups: 62% White, 13% African American, 12% Hispanic/Latino, 8% Asian, and 5% Other. Most participants reported current enrollment in college (60%). Among those not in college ($n = 239$), most reported high school (68%) or 2-years of college (14%) as the highest level of education completed. Almost two-thirds of participants reported living with their parents or grandparents (65%), whereas 35% reported another living arrangement (e.g., with significant other, roommate, or alone).

Procedure

Lightspeed GMI, a web-based recruiting company that specializes in global market research, recruited participants for this study. Lightspeed GMI uses emails, social media, banner advertisements, and affiliates to recruit participants. These specific strategies have been effective in collecting diverse panels nationwide. Panelists who met the criteria of being 18–22 years old and had U.S. residency were invited to complete the online survey. Data collected from Lightspeed GMI undergo substantial reliability and validity checks, such as digital fingerprint technology to eliminate duplicates. Consenting participants received 100 GMI MarketPoints (\$5 value) for completing the survey. All procedures were approved by the Connecticut Children's Medical Center Institutional Review Board.

Measures

Control variables—Given that substance use and antisocial behavior have been found to differ by gender (Chen & Jacobson, 2012; White, Fleming, Kim, Catalano, & McMorris, 2008) as well as by residential and college status (Cleveland et al., 2014; White et al., 2008), participants' gender (0 = men; 1 = women), whether or not they lived with a parent or grandparent (0 = no; 1 = yes), and college status (0 = not in college; 1 = in college) were included in the analyses as controls. Age also was included as a control.

Parental problem drinking—The 9-item Short Michigan Alcoholism Screening Test (SMAST) (Crews & Sher, 1992) was used to assess participants' perceptions of maternal and paternal alcohol use problems (e.g., "Has your mother [or father] ever gotten into trouble at work because of drinking?"). Dichotomous response option scale items were summed to create total scores for both mothers ($\alpha = .88$) and fathers ($\alpha = .89$). Total scores were positively skewed and therefore were logarithmically transformed. Previous research has found the SMAST to be a reliable and valid instrument for emerging adults' reports of parental problem drinking (Crews & Sher, 1992).

Parental support—The 5-item Parental Support Scale (Needham, 2008) was used to measure perceptions of and satisfaction with support from mothers and fathers (e.g., "How much do you think your mother cares about you?"). Response options ranged from 1 (*not at all*) to 5 (*very much*). Summed scores were computed for mothers ($\alpha = .93$) and fathers ($\alpha = .94$), such that greater scores represented greater perceived support. This measure has been shown to be reliable and valid in past samples of emerging adults (Needham & Austin, 2010).

Alcohol use—The 10-item Brief Michigan Alcoholism Screening Test (B-MAST) (Pokorny, Miller, & Kaplan, 1972) was used to assess emerging adults' alcohol use (e.g., "Have you ever gotten into trouble at work because of drinking?"). Dichotomous response options were weighted and scored following the protocol outlined by Pokorny et al. (1972), with greater scores indicating greater problem alcohol use ($\alpha = .77$). A square root transformation was applied to total scores to address normality concerns. The B-MAST has demonstrated acceptable reliability and validity among emerging adult and adult populations (Cherpitel, 1997).

Drug use—To assess drug use, participants were asked how often they used marijuana or hashish, sedatives, stimulants, inhalants, hallucinogens, cocaine, and opiates in the last six months (non-medical use only). The 8 response options ranged from 0 (*never*) to 7 (*every day*). A summary score was calculated, with greater scores indicating greater drug use. This score was square root transformed to address normality concerns.

Antisocial behavior—The 11-item Problems Survey (Rice et al., 1995) was used to assess whether participants engaged in antisocial behavior (e.g. involved in criminal activities, arrested or sent to prison). Scale items with dichotomous response options were summed to create a total score, with greater scores indicating greater antisocial behavior. A square root transformation was applied to address normality concerns. Cronbach's alpha indicated good internal consistency for this sample ($\alpha = .81$).

Data Analysis

Ordinary least squares multivariate linear regression models were conducted to examine whether maternal and paternal problem drinking were associated with emerging adult problem behaviors and if these associations were moderated by maternal and paternal support. Separate regression models were conducted for alcohol use, drug use, and antisocial behavior. The four-way interaction between maternal problem drinking, paternal problem drinking, maternal support, and paternal support was examined for each outcome. All sub-subsumed three-way and two-way interactions were tested. Significant interactions were probed by estimating simple slopes at low and high levels ($\pm 1\ SD$) around the mean of the interaction variables (Aiken & West, 1991). Emerging adult gender, age, college status, and whether or not participants lived with their parents/grandparents were included in models as controls. Analyses were conducted in Stata (version 14).

Results

Descriptive statistics and correlations between study variables are displayed in Table 1. Emerging adult alcohol use, drug use, and antisocial behavior were positively correlated with one another. Both maternal and paternal problem drinking were positively associated with emerging adult alcohol use, drug use, antisocial behavior and negatively correlated with maternal support. However, only paternal problem drinking was negatively correlated with paternal support. Maternal support was negatively correlated with emerging adult alcohol use. Lastly, maternal and paternal problem drinking and maternal and paternal support were positively correlated with one another.

Separate regression models were conducted for emerging adult alcohol use, drug use, and antisocial behavior (see Table 2). Compared to men, women were less likely to report alcohol use ($\beta = -.16, p < .001$) and drug use ($\beta = -.13, p < .01$). Maternal and paternal problem drinking positively predicted antisocial behavior ($\beta = .20, p < .001$; $\beta = .14, p < .01$, respectively). Lastly, maternal support negatively predicted problematic drinking ($\beta = -.11, p < .05$).

In addition to main effects, interactions were observed between the parental problem drinking and support variables and the emerging adult problem behavior outcomes. Only the

highest order interactions were examined for each outcome. The four-way interaction between maternal problem drinking, paternal problem drinking, maternal support, and paternal support did not predict any of the problem behavior outcomes ($ps > .05$).

For emerging adult alcohol use, there was a significant two-way interaction between paternal problem drinking and maternal support ($\beta = .10, p < .05$). Simple slope analysis indicated that the positive relationship between paternal problem drinking and emerging adult alcohol use was significant only for those who reported high maternal support ($b = .11, p < .05$). Paternal problem drinking also interacted with maternal problem drinking ($\beta = .19, p < .01$), such that the positive association between paternal problem drinking and emerging adult alcohol use was significant only for those who reported high maternal problem drinking ($b = .15, p < .01$).

For drug use, there was a significant three-way interaction between paternal problem drinking, maternal problem drinking, and maternal support ($\beta = -.15, p < .05$). Simple slope analyses indicated that there was a significant, positive association between paternal problem drinking and drug use for those who reported high maternal problem drinking and low maternal support ($b = .28, p < .001$) (see Figure 1-part A).

Finally, multiple three-way interactions predicted antisocial behavior. There was a significant interaction between paternal problem drinking, maternal problem drinking, and paternal support ($\beta = .10, p < .05$). However, the positive relationship between paternal problem drinking and antisocial behavior was significant only for those who reported high maternal problem drinking and high paternal support ($b = .21, p < .001$) (see Figure 1-part B). The interaction between paternal problem drinking, maternal support, and paternal support also predicted antisocial behavior ($\beta = -.11, p < .05$). Probing this interaction indicated that the positive relationship between paternal problem drinking and antisocial behavior was significant only for those who reported a) low maternal and low paternal support ($b = .07, p < .05$) or b) high maternal and high paternal support ($b = .19, p < .001$) (see Figure 1-part C). These slopes were not significantly different from one another ($p > .05$). Lastly, there was a significant interaction between maternal problem drinking, maternal support, and paternal support ($\beta = .12, p < .05$). Simple slope analyses suggested that there was a significant, positive relationship between maternal problem drinking and antisocial behavior in contexts of a) low maternal and low paternal support ($b = .10, p < .05$), b) low maternal and high paternal support ($b = .15, p < .05$), and c) high maternal and low paternal support ($b = .25, p < .01$) (see Figure 1-part D). These slopes were not significantly different from one another ($p > .05$).

Discussion

The goal of the current study was to examine relationships among maternal and paternal problem drinking and emerging adult alcohol use, drug use, and antisocial behavior. In addition, the potential moderating role of maternal and paternal support for these relationships was explored. Generally, study findings highlighted the additive ways in which problematic drinking by mothers and fathers was adversely related with emerging adult problem behaviors. Further, results draw attention to the contexts in which parental support

buffers and does not buffer the harmful effects of parental problem drinking on emerging adult problem behavior.

Consistent with the literature, results from the current study indicated that men reported greater alcohol use and drug use than women and that both maternal and paternal problem drinking positively predicted antisocial behavior. These findings are in line with past research which has shown men are more likely to engage in substance use and antisocial behaviors than women and COAs are at risk of developing antisocial behaviors (Hill et al., 2011; Marmorstein et al., 2009; Ohannessian & Hesselbrock, 2009). These findings also support family systems perspectives which suggest that problematic behavior from one family member may have adverse implications for the adjustment of other members of the family system (Broderick, 1993; Dore, 2008).

Study findings indicated that maternal problem drinking moderated the relationship between paternal problem drinking and emerging adult alcohol use. Supporting hypotheses, there was a positive relationship between fathers' drinking and their emerging adult child's alcohol use in the context of high maternal problem drinking. This finding supports past research which illustrates the harmful impact that simultaneous parental drinking can have on their emerging adult children's lives. For example, studies have shown that when both parents abuse alcohol, emerging adult children are over two times more likely to develop a substance use disorder (Mellentin et al., 2016) and are more likely to engage in hazardous drinking and experience problems related to alcohol use (Pearson et al., 2012), compared to those with parents who do not abuse alcohol. Parents continue to play important roles in the lives of their children as they traverse the developmental tasks associated with emerging adulthood (Fingerman & Yahirun, 2016; Lefkowitz, 2005). Therefore, it is not that surprising problematic alcohol use by both parents negatively impacts their adult children's behavior, as parents are salient models in the family system. If emerging adults model past or current parental alcohol use behavior, those with two problem drinking parents may be at greater risk for alcohol use problems than those with a non-problem drinking parent. Further, given studies suggest that parental alcohol use is associated with both partner and child abuse (Foran & O'Leary, 2008; Lee, Lee, & Park, 2016; Wolf & Freisthler, 2016), perhaps problem drinking by parents may influence emerging adult alcohol use through other family problem mechanisms. Future research should explore additional moderators and mediators of these associations.

The positive relationship between paternal problem drinking and emerging adult alcohol use also was moderated by maternal support. Interestingly, this positive relationship was observed only for those who experienced high maternal support. Although maternal support alone (i.e., as a main effect) was a negative predictor of emerging adult drinking, perhaps the positive effect of support on emerging adult drinking was overshadowed by problematic drinking by fathers. Alternatively, as maintainers of the family system relationships (Arnett & Schwab, 2013; McGraw & Walker, 2004), mothers may provide support in response to problematic drinking by both fathers and their adult children. Future longitudinal studies should attempt to explore these relationships over time to clarify these associations.

In line with past research (Stone et al., 2012) and study hypotheses, paternal and maternal problem drinking were synergistically associated with emerging adult drug use in this study. Specifically, the positive relationship between paternal problem drinking and drug use was observed for those who experienced high maternal problem drinking and low maternal support. This finding again draws attention to the harmful effects of co-parental problem drinking on emerging adults' risk behavior and illustrates the importance of maternal support. Emerging adults continue to rely on mothers during this transitory developmental period (Markiewicz et al., 2006). If mothers are engaged in problematic drinking behaviors, this may reduce the quality and/or quantity of support they provide, which in turn may negatively influence young adult behavior.

Finally, results highlighted the contexts in which the additive negative influence of co-parental problem drinking may be particularly harmful for emerging adult antisocial behavior. Supporting hypotheses, maternal problem drinking was positively associated with antisocial behavior in contexts in which emerging adults experienced low support from one or both parents. Similarly, paternal problem drinking was positively related to antisocial behaviors among those who reported low support from both parents. Taken together, these findings are consistent with past research which suggests that parental support and care shield young adult children from problem behavior, such as criminal activity (Johnson et al., 2011) and other antisocial behaviors (Patock-Peckham & Morgan-Lopez, 2010).

Study findings also suggested that parental support may enhance the harmful impact of parental problem drinking. For instance, this study found that the positive relationship between paternal problem drinking and antisocial problems was *stronger* when the emerging adult reported high support from both parents. A similar pattern emerged with high maternal problem drinking and high paternal support. Contrary to the protective role of parental support posited to function in the presence of parental problem drinking, it appears that support from both parents may relate to more antisocial problems in this sample. It is possible that parents increase support in response to antisocial behavior, especially when fathers struggle with problem drinking. Alternatively, parental support from a problem drinking parent in this context may foster emotional ambivalence and impaired emotion regulation, leaving emerging adults more vulnerable to antisocial behavior via empathy difficulties and problems with behavioral inhibition. A recent qualitative investigation of empathy in adult COAs reported that ambivalent feelings about problem drinking parents emerged as a major theme (Jarvinen & Bloch, 2017), suggesting that support from problem drinking parents may sometimes complicate, rather than aid, psychosocial wellbeing.

Limitations

Although decades of research have demonstrated a robust relationship between parental substance use and subsequent offspring substance use, contemporary scholars are tasked with continuing to explore the mechanisms and contexts in which this transmission occurs in family systems (Stone et al., 2012). The current study contributes to current understanding of the ways in which maternal and paternal problem drinking and support work in concert to influence emerging adult problem behaviors. However, study findings should be interpreted in light of several limitations. First, this study relied on a cross-sectional sample which limits

the ability to draw conclusions about causal inferences and the direction of relationships. Future research should attempt to replicate study findings using longitudinal samples. The current study also was limited by the reliance on self-report survey data. Interviewers or focus groups may help clarify the unique and shared ways parental support and problem drinking influence young adults' use of substances and engagement in problem behaviors. Relatedly, these alternative methods may allow for 1) a deeper exploration of how different types of maternal and paternal support influence emerging adult problem behaviors and 2) how parental drinking and support work together to influence behavior in emerging adulthood.

Despite these limitations, this study contributes to the literature by exploring how experiences with multiple members of the family system work in concert to influence emerging adult problem behaviors. Results from this study demonstrated the cumulative negative effect of paternal and maternal problem drinking on emerging adult problem behavior. Further, findings highlighted the contexts in which parental support may buffer or enhance the harmful influence of parental drinking on problem behavior. These findings are important as they underscore the salience of family experiences for understanding emerging adults' health risk behaviors and highlight predictors of these behaviors. Given substance use and antisocial behavior have implications for a range of other adjustment issues (El Ansari et al., 2013; Paschall et al., 2005), reducing these problems behaviors is key to supporting individuals' overall health. These findings may be helpful for programs and interventions aimed at reducing emerging adult problem behaviors. Specifically, results call for family systems based approaches to understand and address the influence of parental behaviors.

Acknowledgments

Funding: Research reported in this publication was supported by funding from the Connecticut Children's Medical Center to Christine McCauley Ohannessian. For Laura Finan, the preparation of this manuscript was supported by grant number T32AA014125 from the National Institute on Alcohol Abuse and Alcoholism (NIAAA) of the National Institutes of Health (NIH). The content is solely the responsibility of the authors and does not necessarily represent the official views of NIAAA or the NIH.

References

- Aiken, L.S., West, S.G. Multiple regression: Testing and interpreting interactions. Newbury Park, CA: SAGE; 1991.
- Arnett, J.J., Schwab, J. Parents and their grown kids: Harmony, support, and (occasional) conflict. Worcester, Massachusetts: The Clark University Poll of Parents of Emerging Adults; 2013.
- Arnett J.J. The developmental context of substance use in emerging adulthood. *Journal of Drug Issues*. 2005; 35(2):235.
- Arnett J.J. Emerging adulthood: What is it, and what is it good for? *Child Development Perspectives*. 2007; 1(2):68–73. DOI: 10.1111/j.1750-8606.2007.00016.x
- Arteaga I, Chen C, Reynolds AJ. Childhood predictors of adult substance abuse. *Children & Youth Services Review*. 2010; 32(8):1108–1120. DOI: 10.1016/j.childyouth.2010.04.025 [PubMed: 27867242]
- Borsari B, Murphy JG, Barnett NP. Predictors of alcohol use during the first year of college: Implications for prevention. *Addictive Behaviors*. 2007; 32(10):2062–2086. DOI: 10.1016/j.addbeh.2007.01.017 [PubMed: 17321059]

- Broderick, CB. Understanding family processes: Basics of family systems therapy. Newbury Park, CA: Sage; 1993.
- Burt SA. How do we optimally conceptualize the heterogeneity within antisocial behavior? an argument for aggressive versus non-aggressive behavioral dimensions. *Clinical Psychology Review*. 2012; 32(4):263–279. DOI: 10.1016/j.cpr.2012.02.006 [PubMed: 22459789]
- Bussey K, Bandura A. Influence of gender constancy and social power on sex-linked modeling. *Journal of Personality and Social Psychology*. 1984; 47(6):1292–1302. [PubMed: 6527216]
- Chassin L, Pitts SC, Prost J. Binge drinking trajectories from adolescence to emerging adulthood in a high-risk sample: Predictors and substance abuse outcomes. *Journal of Consulting & Clinical Psychology*. 2002; 70(1):67. [PubMed: 11860058]
- Chen P, Jacobson KC. Developmental trajectories of substance use from early adolescence to young adulthood: Gender and racial/ethnic differences. *Journal of Adolescent Health*. 2012; 50(2):154–163. DOI: 10.1016/j.jadohealth.2011.05.013 [PubMed: 22265111]
- Cherpitel CJ. Brief screening instruments for alcoholism. *Alcohol Health & Research World*. 1997; 21(4):348–351. [PubMed: 15706747]
- Christoffersen MN, Soothill K. The long-term consequences of parental alcohol abuse: A cohort study of children in denmark. *Journal of Substance Abuse Treatment*. 2003; 25(2):107–116. [PubMed: 14629993]
- Cleveland MJ, Mallett KA, White HR, Turrissi R, Favero S. Patterns of alcohol use and related consequences in non-college-attending emerging adults. *Journal of Studies on Alcohol & Drugs*. 2013; 74(1):84–93. [PubMed: 23200153]
- Cleveland MJ, Reavy R, Mallett KA, Turrissi R, White HR. Moderating effects of positive parenting and maternal alcohol use on emerging adults' alcohol use: Does living at home matter? *Addictive Behaviors*. 2014; 39(5):869–878. DOI: 10.1016/j.addbeh.2014.01.028 [PubMed: 24583277]
- Crews TM, Sher KJ. Using adapted short MASTS for assessing parental alcoholism: Reliability and validity. *Alcoholism: Clinical and Experimental Research*. 1992; 16(3):576–584. DOI: 10.1111/j.1530-0277.1992.tb01420.x
- Degenhardt L, Hall W. Extent of illicit drug use and dependence, and their contribution to the global burden of disease. *Lancet (London, England)*. 2012; 379(9810):55–70. DOI: 10.1016/S0140-6736(11)61138-0
- Dore, MM. Family systems theory. In: Thyer, BA., editor. *Comprehensive handbook of social work and social welfare: Human behavior in the social environment*. Hoboken, NJ: Wiley; 2008. p. 431–462.
- El Ansari W, Stock C, Mills C. Is alcohol consumption associated with poor academic achievement in university students? *International Journal of Preventive Medicine*. 2013; 4(10):1175–1188. [PubMed: 24319558]
- Englund MM, Egeland B, Oliva EM, Collins WA. Childhood and adolescent predictors of heavy drinking and alcohol use disorders in early adulthood: A longitudinal developmental analysis. *Addiction*. 2008; 103(Suppl 1):23–35. DOI: 10.1111/j.1360-0443.2008.02174.x [PubMed: 18426538]
- Fingerman, KL., Yahirun, JJ. Emerging adulthood in the context of family. In: Arnett, JJ., editor. *The oxford handbook of emerging adulthood*. New York, NY: Oxford University Press; 2016. p. 163–176.
- Foran HM, O'Leary KD. Alcohol and intimate partner violence: A meta-analytic review. *Clinical Psychology Review*. 2008; 28(7):1222–1234. DOI: 10.1016/j.cpr.2008.05.001 [PubMed: 18550239]
- Foroud T, Edenberg HJ, Crabbe JC. Genetic research: Who is at risk for alcoholism. *Alcohol Research & Health: The Journal of the National Institute on Alcohol Abuse and Alcoholism*. 2010; 33(1–2): 64–75. [PubMed: 23579937]
- Goldstein RB, Dawson DA, Smith SM, Grant BF. Antisocial behavioral syndromes and three-year quality of life outcomes in united states adults. *Acta Psychiatrica Scandinavica*. 2012; 126(2):doi: 10.1111/j.1600-0447.2012.01848.x

- Goldstein RB, Grant BF. Three-year follow-up of syndromal antisocial behavior in adults: Results from the wave 2 national epidemiologic survey on alcohol and related conditions. *The Journal of Clinical Psychiatry*. 2009; 70(9):1237–1249. DOI: 10.4088/JCP.08m04545 [PubMed: 19538901]
- Handley ED, Chassin L. Intergenerational transmission of alcohol expectancies in a high-risk sample. *Journal of Studies on Alcohol and Drugs*. 2009; 70(5):675–682. [PubMed: 19737491]
- Hicks BM, Blonigen DM, Kramer MD, Krueger RF, Patrick CJ, Iacono WG, McGue M. Gender differences and developmental change in externalizing disorders from late adolescence to early adulthood: A longitudinal twin study. *Journal of Abnormal Psychology*. 2007; 116(3):433–447. [PubMed: 17696699]
- Hill SY, Tessner KD, McDermott MD. Psychopathology in offspring from families of alcohol dependent female probands: A prospective study. *Journal of Psychiatric Research*. 2011; 45(3): 285–294. DOI: 10.1016/j.jpsychires.2010.08.005 [PubMed: 20801463]
- Hussong AM, Huang W, Curran PJ, Chassin L, Zucker RA. Parent alcoholism impacts the severity and timing of children's externalizing symptoms. *Journal of Abnormal Child Psychology*. 2010; 38(3): 367–380. [PubMed: 20084453]
- Jarvinen M, Bloch C. Sympathy and misery in families with drinking problems. *Acta Sociologica*. 2017; 60(1):75–88. DOI: 10.1177/0001699316652210
- Jeynes WH. The relationship between the consumption of various drugs by adolescents and their academic achievement. *The American Journal of Drug and Alcohol Abuse*. 2002; 28(1):15–35. [PubMed: 11853131]
- Johnson W, Giordano P, Manning W, Longmore M. Parent-child relations and offending during young adulthood. *Journal of Youth & Adolescence*. 2011; 40(7):786–799. DOI: 10.1007/s10964-010-9591-9 [PubMed: 20865307]
- Johnston, LD., O'Malley, PM., Bachmann, JG., Schulenberg, JE., Miech, RA. Monitoring the future national survey results on drug use, 1975–2015: Volume 2, College students and adults ages 19–55. Ann Arbor, MI: Institute for Social Research, The University of Michigan; 2016. Available at <http://monitoringthefuture.org/pubs.html#monographs>.
- Keller PS, Cummings EM, Davies PT, Mitchell PM. Longitudinal relations between parental drinking problems, family functioning, and child adjustment. *Development & Psychopathology*. 2008; 20(1):195–212. DOI: 10.1017/S0954579408000096 [PubMed: 18211734]
- King KM, Chassin L. A prospective study of the effects of age of initiation of alcohol and drug use on young adult substance dependence. *Journal of Studies on Alcohol and Drugs*. 2007; 68(2):256–265. [PubMed: 17286344]
- King KM, Chassin L. Adolescent stressors, psychopathology, and young adult substance dependence: A prospective study. *Journal of Studies on Alcohol and Drugs*. 2008; 69(5):629–638. [PubMed: 18781237]
- Koepke S, Denissen JJA. Dynamics of identity development and separation-individuation in parent-child relationships during adolescence and emerging adulthood-A conceptual integration. *Developmental Review*. 2012; 32(1):67–88.
- Lau-Barraco C, Linden-Carmichael AN, Hequembourg A, Pribesh S. Motivations and consequences of alcohol use among heavy drinking nonstudent emerging adults. *Journal of Adolescent Research*. 2017; 32(6):667–695. DOI: 10.1177/0743558416630812 [PubMed: 29151670]
- Lee J, Lee R, Park M. Fathers' alcohol use and spousal abuse and mothers' child abuse in multicultural families in south korea: The mediating role of acculturation and parenting stress. *Children and Youth Services Review*. 2016; 63(Supplement C):28–35. doi.org/10.1016/j.childyouth.2016.02.003.
- Lefkowitz ES. "Things have gotten better": Developmental changes among emerging adults after the transition to university. *Journal of Adolescent Research*. 2005; 20(1):40–63. DOI: 10.1177/0743558404271236
- Markiewicz D, Lawford H, Doyle AB, Haggart N. Developmental differences in adolescents' and young adults' use of mothers, fathers, best friends, and romantic partners to fulfill attachment needs. *Journal of Youth and Adolescence*. 2006; 35(1):121–134.

- Marmorstein NR. Longitudinal associations between alcohol problems and depressive symptoms: Early adolescence through early adulthood. *Alcoholism: Clinical & Experimental Research*. 2009; 33(1):5911.doi: 10.1111/j.1530-0277.2008.00810.x
- Marmorstein NR, Iacono WG, McGue M. Alcohol and illicit drug dependence among parents: Associations with offspring externalizing disorders. *Psychological Medicine*. 2009; 39(1):149–155. DOI: 10.1017/S0033291708003085 [PubMed: 18410699]
- McGorry PD, Purcell R, Goldstone S, Amminger GP. Age of onset and timing of treatment for mental and substance use disorders: Implications for preventive intervention strategies and models of care. *Current Opinion in Psychiatry*. 2011; 24(4):301–306. DOI: 10.1097/YCO.0b013e3283477a09 [PubMed: 21532481]
- McGraw, LA., Walker, AJ. Gendered family relations: The more things change the more they stay the same. In: Coleman, M., Ganong, LH., editors. *Handbook on contemporary families: Considering the past, contemplating the future*. Thousand Oaks: Sage Publications; 2004. p. 174-191.
- Mellentin AI, Brink M, Andersen L, Erlangsen A, Stenager E, Bjerregaard LB, Christiansen E. The risk of offspring developing substance use disorders when exposed to one versus two parent(s) with alcohol use disorder: A nationwide, register-based cohort study. *Journal of Psychiatric Research*. 2016; 80:52–58. DOI: 10.1016/j.jpsychires.2016.06.001 [PubMed: 27295121]
- Merrill JE, Carey KB. Drinking over the lifespan: Focus on college ages. *Alcohol Research: Current Reviews*. 2016; 38(1):103–114. [PubMed: 27159817]
- Monna B, Gauthier AH. A review of the literature on the social and economic determinants of parental time. *Journal of Family and Economic Issues*. 2008; 29(4):634–653.
- Needham BL. Reciprocal relationships between symptoms of depression and parental support during the transition from adolescence to young adulthood. *Journal of Youth & Adolescence*. 2008; 37(8): 893.doi: 10.1007/s10964-007-9181-7
- Needham BL, Austin EL. Sexual orientation, parental support, and health during the transition to young adulthood. *Journal of Youth and Adolescence*. 2010; 39(10):1189–1198. DOI: 10.1007/s10964-010-9533-6 [PubMed: 20383570]
- Nelson LJ, Padilla-Walker LM. Flourishing and floundering in emerging adult college students. *Emerging Adulthood*. 2013; 1(1):68–78. DOI: 10.1177/2167696815587422
- Ohannessian CM. Parental problem drinking and adolescent psychosocial adjustment: The mediating role of adolescent-parent communication. *Journal of Research on Adolescence*. 2012; 22(3):498–511. DOI: 10.1111/j.1532-7795.2012.00791.x
- Ohannessian CM, Hesselbrock VM. A finer examination of the role that negative affect plays in the relationship between paternal alcoholism and the onset of alcohol and marijuana use. *Journal of Studies on Alcohol and Drugs*. 2009; 70(3):400–408. [PubMed: 19371491]
- Palmer RHC, McGeary JE, Francazio S, Raphael BJ, Lander AD, Heath AC, Knopik VS. The genetics of alcohol dependence: Advancing towards systems-based approaches. *Drug and Alcohol Dependence*. 2012; 125(3):179–191. DOI: 10.1016/j.drugalcdep.2012.07.005 [PubMed: 22854292]
- Park S, Schepp KG. A systematic review of research on children of alcoholics: Their inherent resilience and vulnerability. *Journal of Child and Family Studies*. 2014; 24(5):1222–1231. DOI: 10.1007/s10826-014-9930-7
- Paschall MJ, Freisthler B, Lipton RI. Moderate alcohol use and depression in young adults: Findings from a national longitudinal study. *American Journal of Public Health*. 2005; 95(3):453–457. DOI: 10.2105/AJPH.2003.030700 [PubMed: 15727976]
- Patock-Peckham J, Morgan-Lopez A. Direct and mediational links between parental bonds and neglect, antisocial personality, reasons for drinking, alcohol use, and alcohol problems. *Journal of Studies on Alcohol and Drugs*. 2010; 71(1):95–104. [PubMed: 20105419]
- Pearson MR, D'Lima GM, Kelley ML. Maternal and paternal alcohol misuse and alcohol-related outcomes among college students. *Substance use & Misuse*. 2012; 47(6):708–717. DOI: 10.3109/10826084.2012.664237 [PubMed: 22404170]
- Pokorny AD, Miller BA, Kaplan HB. The brief MAST: A shortened version of the michigan alcoholism screening test. *American Journal of Psychiatry*. 1972; 129(3):342–345. DOI: 10.1176/ajp.129.3.342 [PubMed: 5053717]

- Ravert RD. "You're only young once": Things college students report doing now before it is too late. *Journal of Adolescent Research*. 2009; 24(3):376–396.
- Rice JP, Reich T, Bucholz KK, Neuman RJ, Fishman R, Rochberg N, Begleiter H. Comparison of direct interview and family history diagnoses of alcohol dependence. *Alcoholism: Clinical and Experimental Research*. 1995; 19(4):1018–1023.
- Rognmo K, Torvik FA, Ask H, Røysamb E, Tambs K. Paternal and maternal alcohol abuse and offspring mental distress in the general population: The nord-trondelag health study. *BMC Public Health*. 2012; 12(448) (18 June 2012).
- Rossow I, Felix L, Keating P, McCambridge J. Parental drinking and adverse outcomes in children: A scoping review of cohort studies. *Drug and Alcohol Review*. 2016; 35(4):397–405. DOI: 10.1111/dar.12319 [PubMed: 26332090]
- Schulenberg JE, Bryant AL, O'Malley PM. Taking hold of some kind of life: How developmental tasks relate to trajectories of well-being during the transition to adulthood. *Development and Psychopathology*. 2004; 16(4):1119–1140. [PubMed: 15704830]
- Schwartz SJ. Turning point for a turning point: Advancing emerging adulthood theory and research. *Emerging Adulthood*. 2016; 4(5):307–317. DOI: 10.1177/2167696815624640
- Schwartz SJ, Zamboanga BL, Ravert RD, Kim SY, Weisskirch RS, Williams MK, Finley GE. Perceived parental relationships and health-risk behaviors in college-attending emerging adults. *Journal of Marriage and Family*. 2009; 71(3):727–740. DOI: 10.1111/j.1741-3737.2009.00629.x
- Stone AL, Becker LG, Huber AM, Catalano RF. Review of risk and protective factors of substance use and problem use in emerging adulthood. *Addictive Behaviors*. 2012; 37(7):747–775. [//dx.doi.org/10.1016/j.addbeh.2012.02.014](http://dx.doi.org/10.1016/j.addbeh.2012.02.014). [PubMed: 22445418]
- Substance Abuse and Mental Health Services Administration. Data spotlight: More than 7 million children live with a parent with alcohol problems, 2012. 2012. Retrieved from <http://media.samhsa.gov/data/spotlight/Spot061ChildrenOfAlcoholics2012.pdf>
- Substance Abuse and Mental Health Services Administration. Results from the 2013 national survey on drug use and health: Summary of national findings. Rockville, MD: Author; 2014. (NSDUH series H-48, HHS publication no. SMA 14-4863)
- Sussman S, Arnett JJ. Emerging adulthood: Developmental period facilitative of the addictions. *Evaluation & the Health Professions*. 2014; 37(2):147–155. DOI: 10.1177/0163278714521812 [PubMed: 24492245]
- Turner AP, Larimer ME, Sarason IG. Family risk factors for alcohol-related consequences and poor adjustment in fraternity and sorority members: Exploring the role of parent-child conflict. *Journal of Studies on Alcohol*. 2000; 61(6):818–826. [PubMed: 11188487]
- Vermeulen-Smit E, Koning IM, Verdurmen JEE, Vorst H, Engels RCME, Vollebergh WAM. The influence of paternal and maternal drinking patterns within two-partner families on the initiation and development of adolescent drinking. *Addictive Behaviors*. 2012; 37(11):1248–1256. [PubMed: 22727785]
- Westermeyer J, Thuras P. Association of antisocial personality disorder and substance disorder morbidity in a clinical sample. *The American Journal of Drug and Alcohol Abuse*. 2005; 31(1):93–110. [PubMed: 15768573]
- White HR, Fleming CB, Kim MJ, Catalano RF, McMorris BJ. Identifying two potential mechanisms for changes in alcohol use among college-attending and non-college-attending emerging adults. *Developmental Psychology*. 2008; 44(6):1625–1639. DOI: 10.1037/a0013855 [PubMed: 18999326]
- Wolf J, Freisthler B. Understanding the roles of context, frequency, and quantity of alcohol consumption in child physical abuse: Risks for mothers and fathers. *Journal of Family Violence*. 2016; 31(5):539–548. DOI: 10.1007/s10896-015-9795-6 [PubMed: 28479669]

Figure 1.

Estimated interactions among maternal and paternal problem drinking and support for drug use (part A) and antisocial behavior (part B–D). Maternal problem drinking (MPD), paternal problem drinking (PPD), maternal support (MS), and paternal support (PS) were abbreviated in these figures. Low and high parental problem drinking ranges represent ± 1 *SD* around the mean. Coefficients for each simple slope and the associated p-value are to the right of the slope labels.

Table 1

Descriptive statistics and correlations among study variables

	1	2	3	4	5	6	7
1. EA Alcohol use	–						
2. EA Drug Use	0.34***	–					
3. EA Antisocial Problems	0.37***	0.45***	–				
4. Maternal Problem Drinking	0.23***	0.28***	0.29***	–			
5. Paternal Problem Drinking	0.15***	0.21***	0.27***	0.33***	–		
6. Maternal Support	–0.09*	–0.05	–0.07	–0.18***	–0.10*	–	
7. Paternal Support	–0.02	–0.04	–0.08	–0.08	–0.17***	0.43***	–
Mean(SD)	4.10(4.69)	1.97(5.07)	1.05(1.86)	0.51(1.50)	0.89(1.94)	19.60(5.56)	17.25(6.21)
Min	0	0	0	0	0	5	5
Max	29	49	11	9	9	25	25

Note. Emerging adult was abbreviated “EA” in this table.

* $p < .05$,** $p < .01$,*** $p < .001$

Table 2
Linear OLS regression coefficients for emerging adult alcohol use, drug use, and antisocial behavior

	Alcohol Use (n = 544)			Drug Use (n = 536)			Antisocial Behavior (n = 532)		
	b	SE	β	b	SE	β	b	SE	β
Age	-0.025	0.036	-0.030	-0.008	0.035	-0.010	0.041	0.024	0.070
Gender	-0.374	0.100	-0.157***	-0.311	0.098	-0.130**	-0.089	0.068	-0.054
Student Status	-0.089	0.102	-0.037	0.110	0.101	0.045	-0.069	0.070	-0.041
Living with parents	0.093	0.105	0.038	-0.095	0.103	-0.038	-0.068	0.072	-0.040
Maternal Problem Drinking (MPD)	0.050	0.056	0.050	0.096	0.055	0.094	0.138	0.038	0.200***
Paternal Problem Drinking (PPD)	0.028	0.040	0.035	0.070	0.039	0.087	0.080	0.027	0.144**
Maternal Support (MS)	-0.024	0.011	-0.111*	-0.002	0.011	-0.009	0.000	0.008	0.002
Paternal Support (PS)	0.005	0.010	0.025	-0.011	0.009	-0.054	-0.009	0.007	-0.070
MPD * MS	0.004	0.008	0.024	-0.002	0.008	-0.012	0.002	0.006	0.019
MPD * PS	0.007	0.009	0.040	-0.012	0.009	-0.073	-0.006	0.006	-0.055
PPD * MS	0.015	0.007	0.104*	0.001	0.007	0.007	0.003	0.005	0.030
PPD * PS	0.000	0.006	-0.001	0.012	0.006	0.094*	0.007	0.004	0.078
MPD * PPD	0.096	0.026	0.200***	0.096	0.027	0.193***	0.033	0.017	0.100
MS * PS	0.000	0.001	-0.006	-0.001	0.001	-0.035	-0.001	0.001	-0.044
MPD * PPD * MS	0.001	0.004	0.014	-0.014	0.005	-0.145**	-0.002	0.003	-0.034
MPD * PPD * DS	-0.001	0.004	-0.018	0.003	0.005	0.030	0.006	0.003	0.104*
MPD * MS * DS	0.001	0.001	0.063	-0.002	0.001	-0.080	-0.002	0.001	-0.113*
PPD * MS * DS	0.000	0.001	0.007	0.000	0.001	0.006	0.002	0.001	0.118*
MPD * PPD * MS * DS	0.000	0.001	0.013	-0.001	0.001	-0.067	0.001	0.000	0.053
<i>F</i>		3.46***			5.43***			5.57***	
<i>R</i> ²		0.11			0.17			0.17	

Note. Males, those not in college, and those living apart from parents/grandparents served as the reference group.

* $p < .05$,

100' > d

'10' > d
**

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript