Addictive Behaviors 50 (2015) 70–73

Contents lists available at ScienceDirect

Addictive Behaviors

Short Communication

The interactive effect of paternal problem drinking and maternal problem drinking on adolescent internalizing problems

Christine McCauley Ohannessian *

Children's Center for Community Research, Connecticut Children's Medical Center, 282 Washington Street, Hartford, CT 06106, United States
Departments of Pediatrics and Psychiatry, University of Connecticut School of Medicine, 263 Farmington Avenue, Farmington, CT 06032, United States

HIGHLIGHTS

- Paternal and maternal problem drinking interactively predicted depression for boys.
- Paternal and maternal problem drinking interactively predicted anxiety.
- Results underscore the need to consider paternal *and* maternal problem drinking.

ARTICLE INFO

Available online 12 June 2015

Keywords:
Adolescents
Parental problem drinking
Depression
Anxiety

ABSTRACT

Introduction: This study examined the effects of both paternal problem drinking and maternal problem drinking on adolescent internalizing problems (depression and anxiety symptomatology).
Methods: Surveys were administered to 566 10th and 11th grade students from the Mid-Atlantic region of the U.S. in the spring of 2007 and again in the spring of 2008.
Results: Although significant main effects were not observed, significant interactions were found between paternal problem drinking and maternal problem drinking for internalizing problems, especially for boys. In general, these interactions indicated that when paternal problem drinking was high, depression symptomatology and anxiety symptomatology were lower if maternal problem drinking was low.
Conclusions: Findings from this study highlight the need to consider both paternal and maternal problem drinking when examining the effects that parental problem drinking may have on adolescent adjustment.

1. Introduction

Approximately 15% of children in the U.S. live with at least one adult diagnosed with current alcohol abuse or dependence and roughly 30% have been exposed to an alcoholic parent (Grant, 2000). These children are genetically (Cook, 2001; Foroud, Edenberg, & Crabbe, 2010; Palmer et al., 2012) and environmentally (McGue, Iacono, Burt, & Elkins, 2004; Palmer et al., 2012) predisposed for the development of substance use and related psychological problems (King & Chassin, 2008). Increased levels of conflict and stress within alcoholic families (Barnow, Schuckit, Lucht, John, & Freyberger, 2002) places children of alcoholic parents (COAs) at an elevated risk for the development of psychological problems as well (Grekin, Brennan, & Hammen, 2005; Griffin, Amodeo, Fassler, Ellis, & Clay, 2005). Indeed, research has shown that COAs are more likely to experience internalizing problems than are children of non-alcoholic parents (non-COAs) (Hussong, Flora, Curran, Chassin, & Zucker, 2008; Ohannessian, 2009; Park & Schepp, 2014).

A major limitation of the literature on alcoholic families is the failure to differentiate between the effects of paternal and maternal alcoholism on COA adjustment. The majority of studies conducted within the field have focused on paternal alcoholism (Leonard & Eiden, 2007). Although most of the available research has indicated that paternal alcoholism has more detrimental effects on COAs (Chassin, Curran, Hussong, & Colder, 1997; Loukas, Fitzgerald, Zucker, & von Eye, 2001; Ohannessian, Hesselbrock, Tennen, & Affleck, 1994; Ohannessian et al., 2005), a few studies have found both paternal and maternal alcoholism to predict problematic substance use in COAs (Slutske et al., 2008; Walden, Iacono, & McGue, 2007). However, most research to date has relied on relatively small samples of alcoholic mothers and clinical indicators of parental alcoholism. Moreover, these studies primarily have focused on substance use outcomes. The differential effects of paternal and maternal alcoholism on other indicators of adjustment (e.g., internalizing problems) need to be systematically addressed. Finally, studies that have examined maternal alcoholism have focused on main effects of parental

* Connecticut Children's Medical Center, 282 Washington Street, Hartford, CT 06106, United States. Tel.: +1 860 837 5326.
E-mail addresses: COhannessian@connecticutchildrens.org, ohannessian@uchc.edu.

http://dx.doi.org/10.1016/j.addbeh.2015.06.011
0306-4603/

alcoholism, neglecting to consider the interactive effects of paternal and maternal alcoholism on COA adjustment.

Given these limitations, the goal of the present study was to examine the main and interactive effects that paternal and maternal alcoholism may have on adolescent psychological adjustment (as indicated by internalizing problems). Of note, parental alcoholism was assessed as a continuous variable to capture the broad range of variability likely to be found in a community sample (as such, "parental alcoholism" is referred to as "parental problem drinking" from this point forward). The assessment of parental alcoholism as a continuous variable is consistent with research (Keller, Cummings, Davies, & Mitchell, 2008) that suggests that the severity of parental drinking should be taken into account when examining COA adjustment.

In sum, the following research questions were examined in a diverse sample of adolescents from the U.S. (a) Does paternal problem drinking predict adolescent internalizing symptomatology? (b) Does maternal problem drinking predict adolescent internalizing symptomatology? (c) Do paternal problem drinking and maternal problem drinking *interactively* predict adolescent internalizing symptomatology? (d) Do these relations differ by the gender of the adolescent?

2. Methods

2.1. Participants

All of the adolescents were involved in a larger research project (Ohannessian, 2009). During the spring of 2007 (Time 1), 10th and 11th grade students attending public high schools in the Mid-Atlantic region of the U.S. (Delaware, Maryland, and Pennsylvania) were invited to participate in the study. These participants were invited to participate again during the spring of 2008 (Time 2). The sample included 566 15–18 year-old girls (51%) and boys from seven public high schools. The mean age of the adolescents was 16.04 (SD = .73) at Time 1. Sixty-five percent of the adolescents were Caucasian, 12% were African-American, 12% were Hispanic, and 4% were Asian (the remainder described themselves as "other"). Most of the mothers (96%) and fathers (97%) had graduated from high school. Some of the parents (35% of mothers and 32% of fathers) also had completed four years of college. Only adolescents who lived with both of their biological parents were included in the present study.

2.2. Measures

2.2.1. Parental problem drinking

The 9-item version of the Short Michigan Alcoholism Screening Test (F-SMAST/M-SMAST) (Crews & Sher, 1992) was used to measure alcohol problems in fathers and mothers. A representative SMAST item is "Has your father/mother ever neglected his/her obligations, family, or work for two or more days in a row because he/she was drinking?" The SMAST items were summed to create separate total scores for fathers ($\alpha = .86$) and mothers ($\alpha = .80$). The SMAST has been shown to have strong psychometric properties (Crews & Sher, 1992).

2.2.2. Adolescent depression

The Center for Epidemiological Studies Depression Scale for Children (CES-DC; Weissman, Orvaschel, & Padian, 1980) was used to assess adolescent depressive symptomatology. Participants were asked to respond to the CES-DC items (e.g., "I felt sad") in respect to how they felt or acted during the past week. The 20 CES-DC items were summed to create a total depression symptomatology score ($\alpha = .90$). The CES-DC has been shown to be a reliable and valid measure of depressive symptomatology (Ohannessian, Lerner, Lerner, & von Eye, 1999).

2.2.3. Adolescent anxiety

The Screen for Child Anxiety Related Disorders (SCARED) (Birmaher, Khetarpal, Cully, Brent, & McKenzie, 1995) was used to measure adolescent anxiety symptomatology. The 41 SCARED items were completed in relation to the past three months. A sample item is "I get really frightened for no reason at all." The following SCARED scales were included in this study: Panic disorder ($\alpha = .87$), separation anxiety disorder ($\alpha = .73$), social anxiety disorder ($\alpha = .84$), and generalized anxiety disorder ($\alpha = .87$). Prior research has shown that the SCARED has good psychometric properties (Birmaher, Khetarpal, Cully, Brent, & McKenzie, 2003).

2.3. Procedures

The study protocol was approved by the University of Delaware's IRB. Before data collection, parents were mailed a consent form describing the study. Parents were instructed to contact the study staff via phone, e-mail, or mail if they did not want their adolescent to participate. Adolescents who had parental consent and provided assent were given a self-report survey by trained research staff (all of whom were certified with human subjects training). The survey took approximately 40 min to complete. After completing the survey, the adolescents were given a movie pass.

2.4. Analysis plan

Hierarchical regression models were conducted to examine the main and interactive effects of paternal and maternal problem drinking (assessed at Time 1) on adolescent internalizing symptomatology (assessed at Time 2). Given that depression and anxiety have been shown to differ by gender during adolescence, with girls at a greater risk for both (Graber & Sontag, 2009; Negriff & Susman, 2011; Ohannessian et al., 1999), all models were conducted by gender. For both boys and girls, five models were conducted — one for each of the internalizing problems. Step 1 (the main effects model) included paternal problem drinking, maternal problem drinking, and the baseline indicator of internalizing symptomatology. Step 2 (the interaction effects model) included these variables as well as the two-way interaction between paternal problem drinking and maternal problem drinking. Prior to creating the interaction terms, the parental problem drinking variables were centered to aid in the interpretation of the regression weights and to avoid multicollinearity problems (Jaccard & Turrisi, 2003). For the sake of parsimony, the interaction effects models are reported in the results section.

3. Results

3.1. Results for boys

All of the models were significant for boys [$F(4,135) = 14.49$, $p < .001$; $F(4,137) = 14.20$, $p < .001$; $F(4,142) = 13.25$, $p < .001$; $F(4,142) = 25.11$, $p < .001$; $F(4,142) = 36.36$, $p < .001$; for depression, panic disorder, separation anxiety disorder, social anxiety disorder, and generalized anxiety disorder, respectively]. In these models, none of the main effects were significant. However, for boys, significant interactions were found between paternal problem drinking and maternal problem drinking for depression ($\beta = .18$, $p < .05$), panic disorder ($\beta = .19$, $p < .05$), and separation anxiety disorder ($\beta = .22$, $p < .05$). Similar trends emerged for the interactions between paternal problem drinking and maternal problem drinking for social anxiety disorder ($\beta = .12$, $p < .10$) and generalized anxiety disorder ($\beta = .11$, $p < .10$). These interactions indicated that when paternal problem drinking was high, depression symptomatology and anxiety symptomatology were lower if maternal problem drinking was low (see Figs. 1–2).

3.2. Results for girls

All of the models were significant for girls as well [$F(4,174) = 14.65$, $p < .001$; $F(4,169) = 13.87$, $p < .001$; $F(4,180) = 25.06$, $p < .001$;