

# Family Functioning and Adolescent Alcohol Use: A Moderated Mediation Analysis

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## INTRODUCTION

- Alcohol use in adolescence may have acute consequences and lasting negative impacts, including dysfunctional patterns leading to adult substance use disorders (CDC, 2015; Marshall, 2014).
- Family systems theory highlights the role of emotional connection and support in explaining individual adolescent outcomes (Pesola et al., 2015).
- Furthermore, open communication has been reported to buffer against maladaptive outcomes, including substance use and depression (Yu et al., 2006; Ohannessian, 2013). More broadly, family satisfaction, perceived happiness with autonomy, support, and closeness have been found to relate negatively to adolescent drinking (Laghi, Baiocco, Lonigro, Capacchione, & Baumgartner, 2012).
- Research examining adolescents consistently has found that depressed mood predicts substance use (King, Iacono, & McGue, 2004; Sihvola et al., 2008). In addition, the association between depressed mood and problem drinking appears to be stronger for girls than for boys during adolescence (Saraceno et al., 2012).
- In sum, research suggests that depressed mood may mediate the relationship between family functioning and alcohol use during adolescence (Chan et al., 2013).

### Research questions:

- Is family functioning (family satisfaction, and adolescent-parent communication) associated with adolescent alcohol use?
- Is family functioning associated with adolescent depressed mood?
- Does adolescent depressed mood mediate the relationship between family functioning and adolescent alcohol use?
- Do these relations differ by the gender of the adolescent?

## SAMPLE

- 1,036 adolescents (52% girls) from DE, MD, and PA
- At Time 1, all adolescents were in 10th or 11th grade and were attending a public high school
- Adolescent mean age = 16.15 (SD = .75)
- Fairly diverse: 58% Caucasian, 23% African American, 12% Hispanic, 2% Asian

## PROCEDURE

During the spring of 2007 (Time 1), 2008 (Time 2), and 2009 (Time 3), research project staff (all of whom were certified with human subjects training) administered surveys to assenting adolescents who attended one of seven public high schools in Delaware, Maryland, and Pennsylvania. All participants had parental consent to participate. The survey took approximately 40 minutes to complete. Throughout the study, the adolescents were assured that their responses would be kept confidential, and were made aware of their option to withdraw from the study at any time. Participating adolescents were given a movie pass as compensation for their time.

## MEASURES

- Adolescent-Parent Communication.** The 20-item Parent-Adolescent Communication Scale (Barnes & Olson, 2003) was administered to adolescents and their parents. Previous research has supported the construct validity of this measure (Barnes & Olson, 2003). In our sample, the Cronbach alpha coefficients were .90 for both adolescent-mother communication and adolescent-father communication.
- Adolescent Family Satisfaction.** The Family Satisfaction Scale (Olson & Wilson, 1989) was used to measure family satisfaction. In our sample, the alpha coefficient was .90.
- Adolescent Depressed Mood.** Adolescent depressed mood was assessed with the 20-item Center for Epidemiological Studies Depression Scale for Children (CES-DC; Weissman, Orvaschell, & Padian, 1980). Prior research has shown that the CES-DC is a reliable and valid measure of depressive symptomatology (Ohannessian, 2012). The Cronbach alpha coefficient for the CES-DC in our sample was .90.
- Alcohol use.** Adolescents were asked to report how much, "on the average day," they usually drank in the last six months (separate questions were used for beer, wine, and liquor). They also were asked to report how often they usually had a drink (beer, wine, and liquor) in the last six months. Sums were calculated across the beverage types for quantity and frequency. Quantity and frequency scores then were multiplied to reflect an estimated total volume consumed. To assess binge drinking, the adolescents were asked how many times they drank six or more drinks on one occasion during the last six months.

## RESULTS

- Path analysis (by gender) was used to examine whether adolescent-mother communication, adolescent-father communication, and family satisfaction at Time 1 predicted depressed mood one year later (Time 2), and whether depressed mood, in turn, predicted alcohol use and binge drinking the following year (Time 3).
- Race/ethnicity, age, parent education, family structure, and baseline levels of alcohol use and binge drinking were included as covariates in the models.
- As shown in Figure 1, for girls, adolescent-mother communication and adolescent family satisfaction negatively predicted depressed mood ( $\beta = -.16, p < .01$ ;  $\beta = -.28, p < .001$  respectively). Depressed mood, in turn, negatively predicted alcohol use ( $\beta = -.19, p < .05$ ). Results from a Sobel test indicated that depressed mood significantly mediated the path between adolescent family satisfaction and adolescent alcohol use (c.r.=2.05,  $p = .04$ ). A direct path was observed between adolescent-father communication and adolescent alcohol use ( $\beta = -.29, p < .001$ ).
- For boys, the only significant path that emerged suggested that greater depressed mood at Time 2 significantly predicted less alcohol use at Time 3 ( $\beta = -.22, p < .05$ ).

## RESULTS

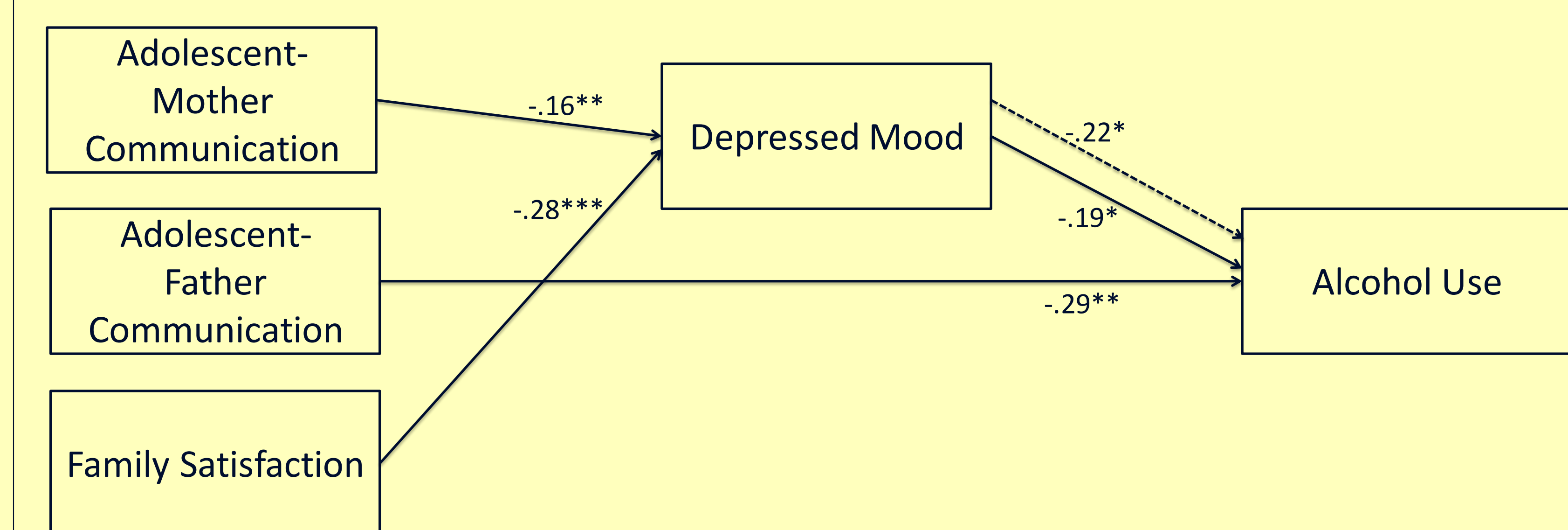


Figure 1. Model examining the pathways between family functioning, depressed mood, and alcohol use across adolescence

Note. For ease of interpretation, only significant paths are shown. girls = solid lines; boys = dashed line. Standardized regression coefficients are presented. Control variables, covariances, and disturbance terms are not displayed. \* $p < .05$ ; \*\* $p < .01$ .; \*\*\* $p < .001$

\*Fit indices suggested that the specified model fit the data well: ( $X^2(70) = 144.67, p < .001$ ; CMIN/DF = 2.07; CFI = .95; RMSEA = .03).

## CONCLUSIONS

- Results echo the novel findings from Chan et al. (2013), suggesting indicators of family functioning and depressed mood are significant predictors of adolescent alcohol use.
  - Whereas the Chan et al. sample included Australian adolescents (aged 12-14), **this study presents data from U.S. adolescents (aged 15-18).**
  - In Chan et al.'s study of early adolescents, depressed mood positively predicted later alcohol use, whereas **in our study of older adolescents, depressed mood negatively predicted later alcohol use.**
  - Adolescent social drinking is commonplace, hence - as depression is associated with social withdrawal, impaired social functioning, decreased peer support, and uneasiness in group situations - it is not surprising that adolescents reporting depressed mood reported less alcohol use (Hankin, 2006; Jaycox et al., 2009; O'Hara, et al., 2015; Weissman et al., 1980).
- Family may play a more salient role for girls than boys given that they tend to be more enmeshed in the family, more likely to experience family stress, and more sensitive to disruptions and conflict in their family environments (Chan et al., 2013; Gore, Aseltine, & Colten, 1993; Kort-Butler, 2009; Davies & Lindsay, 2004; Unger, Brown, Tressel, & McLeod, 2000).