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Parental Monitoring Protects against the Effects of Parent and Adolescent Depressed Mood on Adolescent Drinking

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Abstract

Objective: Parental monitoring is a well-established protective factor for adolescent drinking. This study examined whether parental monitoring protected against three common risk factors for alcohol use in a sample of high-risk adolescents: parental depressed mood, adolescent depressed mood, and parental alcohol use.

Methods: Participants included 117 adolescents (Mean age = 15.5; 52% female) who presented to the hospital emergency department due to an alcohol-related event and their primary parent/guardian. Adolescents completed self-report measures of alcohol use frequency, depressed mood, and parental monitoring, while parents completed self-report measures of problematic alcohol use and depressed mood.

Results: Hierarchical regression confirmed that parental monitoring was associated with lower frequency of adolescent alcohol use, even after controlling for the three risk factors. Significant interactions were found between parental monitoring and both adolescent and parental depressed mood. Parental monitoring had significant protective effects against drinking frequency among adolescents with higher levels of depressed mood, but not among adolescents with lower levels of depressed mood. By contrast, parental monitoring only had protective effects among those parents with lower levels of depressed mood. Parental problematic alcohol use did not affect the relationship between parental monitoring and adolescent alcohol use.

Conclusions: Our results suggest that adolescents with high levels of depressed mood may be more likely to benefit from parental monitoring, whereas parents with high levels of depressed mood may be less likely to monitor effectively. Interventions targeting parental monitoring in high-risk adolescents should take into account the influence of both adolescent and parental depressed mood.

Keywords

adolescent; alcohol; parental monitoring; depressed mood; emergency department

1. Introduction.

Parental monitoring, defined as parental knowledge of their adolescent's whereabouts, activities, and peers (Dishion & McMahon, 1998), has been associated with reduced adolescent drinking in both cross-sectional (Carroll et al., 2016; Patrick & Schulenberg, 2013) and longitudinal studies (Nash, McQueen, & Bray, 2005; Ryan, Jorm, & Lubman, 2010; Tobler & Komro, 2010). In the context of risk factors, parental monitoring has demonstrated both promotive (i.e., main; Beck, Boyle, & Boekeloo, 2004) and protective (i.e., moderating) effects on adolescent drinking (Fagan, Van Horn, Hawkins, & Jaki, 2013; O'Brien, Hernandez, & Spirito, 2015; Molina et al., 2012). It is well-established that parental monitoring protects against adolescent drinking by buffering the effects of externalizing problems (e.g., Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006). By contrast, the extent to which parental monitoring mitigates the effects of internalizing symptoms is not well understood. One recent longitudinal study by Schlauch and colleagues (2013) with adolescents receiving comprehensive community mental health services found that parental control attenuated the effect of adolescent internalizing problems on future drinking, but only for adolescents with lower levels of internalizing problems. By contrast, another study by O'Brien and colleagues (2015) with youth presenting to the emergency room or community clinics for alcohol problems examined depressed mood specifically and found that parental monitoring buffered against alcohol-related problems, but only for youth with high levels of depressed mood. A key limitation of these prior studies has been lack of control for two parenting risk factors that commonly co-occur with adolescent drinking and internalizing problems: parental depressed mood (Kamon, Stanger, Budney, & Dumenci, 2006; Kane & Garber, 2004) and parental drinking (Latendresse et al., 2008; Peleg-Oren, Hospital, Morris, & Wagner, 2013).

The purpose of this study was to examine both the main and moderating effects of parental monitoring on adolescent drinking in the context of three risk factors (i.e., adolescent depressed mood, parental depressed mood, parental alcohol use) within a sample of high risk adolescents presenting to the emergency department (ED) for acute alcohol-related problems. We had two hypotheses based on prior research. First, we expected parental monitoring to have a significant protective effect on adolescent drinking even when accounting for the three risk factors. Second, we expected parental monitoring to moderate the effects of all three risk factors. Consistent with O'Brien et al. (2015) we expected adolescents with high/clinically impairing levels of depressed mood to benefit from increased monitoring. Conversely, we hypothesized that adolescents whose parents reported higher depressed mood and problematic alcohol use would not benefit from increased monitoring due to impaired parenting skills (Eckshtain, Ellis, Kolmodin, & Naar-King, 2010; Latendresse et al., 2008). We controlled for parent and adolescent gender due to evidence of substantial gender differences in depressed mood and drinking (Ohannessian, 2015; Vermeulen-Smit et al., 2012).

2. Materials and Method

One hundred seventeen adolescents (52% female) between the ages of 13 and 17 ($M = 15.5$, $SD = 1.2$) were recruited from a hospital ED in the northeastern United States as part of a randomized trial (Authors blind, 2011). To qualify, adolescents had to present to the ED for an alcohol-related problem, confirmed by either a positive blood alcohol concentration or self-reported alcohol use in the six hours prior to admission. Research staff obtained written informed consent from parents and assent from adolescents; adolescents had to pass a mental status examination and describe the study elements to provide assent, and had to have one parent willing to provide consent and participate. Parents and adolescents completed measures in separate private rooms. Affiliated university and hospital Institutional Review Boards approved study procedures. Research staff enrolled 125 adolescents, of which 117 (94%) had complete data and comprised the current sample. Adolescents primarily identified as Non-Hispanic Caucasian (75%), Hispanic (18%), and bi-racial (4%). Parents were 78% female with a mean age of 42.7 ($SD = 5.9$).

The *Adolescent Drinking Questionnaire* (Costa, Jessor, & Donovan, 1989) is a well-validated scale that was used to assess frequency of adolescent alcohol use. A single item measured adolescent drinking days over the past three months on an 8-point scale. The *Strictness/Supervision Scale* (Steinberg, Lamborn, Dornbusch, & Darling, 1992) measured parental monitoring and contained four items asking adolescents the extent to which their parents' knew about their whereabouts at night, at school, after school, as well as who their friends are. Items were scored from 0 (not at all) to 4 (always) and a mean score was calculated. Cronbach's alpha was .69, comparable to the initial validation study (Steinberg et al., 1992) and other measures of parental monitoring (Shakib et al., 2003). *Problematic parental alcohol use* was a categorical variable created from three parent self-report questions about drinking behaviors; it was designed to capture problematic drinking that did not meet criteria for a disorder. Parents were classified (yes/no) as having problematic alcohol use if they reported: a) having previously stopped using alcohol because of related problems, b) frequently becoming argumentative or irritable when drinking or c) having 3+ drinks per drinking occasion "more than half the time," i.e., indicating potential misuse that did not meet criteria for binge drinking (National Institute on Alcohol Abuse and Alcoholism, 2004). Finally, both adolescent and parental depressed mood were assessed using the *Center for Epidemiologic Studies—Depression Scale* (CES-D; Radloff, 1977), a 20-item self-report measure of past week depressive symptoms. Items were scored on a four-point scale and summed to create a total score, with scores ≥ 16 indicating clinically significant depression. Cronbach's alpha for adolescents and parents were .91 and .92, respectively.

2.1 Data Analysis

Variable distributions and bivariate associations were examined prior to modeling. Study hypotheses were tested via hierarchical regression. In step 1, adolescent and parent gender were entered. In step 2, main effects of parental monitoring, adolescent depressed mood, parental depressed mood, and problematic parental alcohol use were tested. Continuous variables were mean centered (Schieffelin, 2010). In the final step, we tested interactions

between parental monitoring and the remaining variables: adolescent depressed mood, parental depressed mood, and parental problematic alcohol use. Significant interactions were graphed and interpreted using Aiken and West's (1992) procedures with simple slope lines of each risk factor plotted at varying levels of parental monitoring. Effect sizes of parameter estimates were interpreted using recommendations by Cohen (1988). A priori power analyses with power set to .8, alpha set to .05, and medium effect sizes ($F^2 = .15$) indicated a requisite sample size of 55, well below our actual sample size of 117.

3. Results

3.1 Preliminary Analyses

Variable distributions met the assumptions of normality. Sixty percent of adolescents reported drinking once a month or less, and 25% of parents reported problematic alcohol use. CES-D scores indicated that 27% of adolescents and 36% of parents had clinically significant depressed mood.

Bivariate correlations revealed that parental monitoring was negatively associated with adolescent frequency of alcohol use ($r = .31$) and adolescent depressed mood ($r = -.24$), but not with parental depression or problematic parental alcohol use. Parental problematic alcohol use was associated with both adolescent drinking ($r = .21$) and adolescent depressed mood ($r = .26$). Parental depressed mood was significantly related to adolescent depressed mood ($r = .35$), but not to adolescent or problematic parental alcohol use (non-significant r 's ranging from .01 to .16).

3.2 Hierarchical Linear Models Predicting Adolescent Alcohol Use Frequency

Table 1 depicts results of the hierarchical regression, which explained 22% of variance in adolescent drinking frequency. In Step 1, neither adolescent nor parent gender had a significant effect on adolescent drinking. In Step 2, parental monitoring had a significant medium size negative effect ($\beta = -.30$, $t = 3.15$, $p = .002$) on adolescent drinking, while no other variables had main effects. In Step 3, two of the interaction terms were significant: parental monitoring $\times$ adolescent depressed mood ($\beta = -.20$, $t = -2.11$, $p = .04$) and parental monitoring $\times$ parental depressed mood ($\beta = .28$, $t = 2.96$, $p = .004$).

Figure 1 depicts the two significant interactions. Analysis of simple slopes for the adolescent depressed mood $\times$ parental monitoring interaction indicated that parental monitoring had a significant, moderate to large protective effect on adolescent alcohol use at high/clinical levels of depressed mood ($\beta = -.76$, $SE = .30$, $p = .01$), but not low/non-clinical levels of depressed mood ($\beta = -.02$, $SE = .39$, $p = .48$). This interaction suggested that the promotive effect of parental monitoring was primarily driven by adolescents with high/clinical depressed mood and that adolescents with high depressed mood and high monitoring had the lowest levels of drinking. .

Simple slope analysis of the parental depressed mood $\times$ parental monitoring interaction demonstrated that parental monitoring had a significant large protective effect on adolescent alcohol use for parents with low/non-clinical depressed mood ($\beta = -.86$, $SE = .39$, $p = .03$), but not high/clinical depressed mood ($\beta = .08$, $SE = .38$, $p = .42$).

4. Discussion

Findings from this study of adolescents presenting to the ED confirmed the well-established promotive and protective effects of parental monitoring on adolescent drinking (Latendresse et al., 2008; Ryan et al., 2010). In particular, we found that parental monitoring protected against two risk factors: adolescent and parental depressed mood. Consistent with our hypothesis, parental monitoring was protective for adolescents with high/clinically significant depressed mood, but not adolescents with low/non-clinical depressed mood. Parental monitoring has typically been conceptualized as a means of reducing adolescent alcohol and drug use by mitigating the effects of externalizing behaviors (Barnes et al. 2006; Webb et al., 2002). This study suggests that parental monitoring may also buffer the effect of clinically significant depressed mood on adolescent alcohol use. Our results were counter to the findings of Schlauch and colleagues (2013) that parental monitoring was only protective at low levels of internalizing problems. This discrepancy may reflect differences in sample severity; our sample focused on adolescents presenting to the ED with generally sub-clinical levels of depressed mood, whereas Schlauch included adolescents with severe psychiatric problems. It is possible that the more severely depressed adolescents in Schlauch's (2013) sample were more socially withdrawn and therefore less able to benefit from the protective effects of parental monitoring. One interesting hypothesis for further research is that parental monitoring may protect against depressed mood up to a certain level of severity, but may cease to serve a protective function at more severe levels of depression.

This study extended prior research by examining the protective effects of parental monitoring on two parent risk factors: parental depressed mood and problematic parental alcohol use. Supporting our hypothesis, the protective effects of parental monitoring were attenuated among parents with higher levels of depressed mood, suggesting that these parents may have difficulty monitoring effectively. Yet counter to hypotheses, parental monitoring did not have a moderating effect on parental problematic alcohol use. Notably, parental problematic drinking had a significant bivariate association, but not a main effect on adolescent drinking. Indeed, none of the focal risk factors had significant main effects on adolescent drinking in the context of parental monitoring. These results indicate that among alcohol-positive adolescents presenting to the ED, parental monitoring exerted significantly more influence on adolescent drinking than problematic parental alcohol use, parental depressed mood, or adolescent depressed mood. Furthermore, parental monitoring protected against the effects of parental and adolescent depressed mood, but not parental problematic alcohol use.

4.1 Limitations.

Several limitations influence the interpretation of results. Findings are based on adolescent and parent self-report, without biological or behavioral verification. In addition, our measure of parental problematic alcohol use was based on a series of three items and requires further validation. Data were also cross-sectional, which precludes inferences about causal relationships. Just as parental monitoring may have predicted adolescent drinking, it is also possible that adolescent drinking predicted parental monitoring. Analyses focused on the protective effects of parental monitoring on three risk factors – parental problematic alcohol

use, parental depressed mood, and adolescent depressed mood – but did not control for other parenting behaviors or aspects of parent or adolescent psychopathology that might have influenced results. The study also focused on frequency of drinking among adolescents presenting to the ED, and might not generalize to adolescents in other settings or to other outcomes; however, our results are consistent with those of O'Brien et al. (2015), who focused on alcohol-related problems. Future work should address these limitations across other clinical settings using longitudinal designs with multiple well-validated measures of parenting behavior and psychopathology.

4.2 Conclusions.

This study elucidated the protective effects of parental monitoring in a high-risk sample. Among adolescents in the ED, parental monitoring protected against the effects of both adolescent and parental depressed mood on adolescent drinking. Of available treatments for adolescents with substance use, approaches that involve parents and target parenting processes are among those with the most evidentiary support (Becker & Curry, 2008; Hogue et al., 2014). Our results suggest that interventions designed to increase parental monitoring may be especially valuable for adolescents with clinically significant depressed mood and for parents with lower levels of depressed mood. Clinicians teaching parental monitoring skills should attend to both adolescent and parental depressed mood to optimize treatment gains.

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Highlights

- This study examined protective effects of parental monitoring on adolescent drinking
- Participants were high-risk adolescents presenting to the emergency department
- Parental monitoring was only protective for adolescents with high depressed mood
- By contrast, monitoring was only protective for parents with low depressed mood

Figure 1.
Effect of Parental Monitoring on Adolescent Alcohol Frequency at Different Levels of Adolescent and Parent Depressed Mood.
Note: Parental monitoring was standardized so x-axis values represent standard deviations above and below the mean.

TABLE 1

Hierarchical Regression Examining Moderators of the Effects of Parental Monitoring on Adolescent Drinking Frequency

Variable	B	SE(B)	β	R^2	R^2
Step 1: Demographic Variables					
Adolescent Gender	.06	.30	.02		
Parent Gender	-.05	.36	-.01		
				.00	.00
Step 2: Main Effect Terms					
Parental Monitoring	-.49	.16	-.30 ^{**}		
Adolescent Depressed Mood	.07	.16	.05		
Parental Depressed Mood	-.03	.15	-.02		
Parental Problematic Alcohol Use	.61	.35	.16		
				.14	.13 ^{**}
Step 3: Interaction Terms					
Adolescent Depressed Mood $\times$ Monitoring	-.37	.18	-.20 [*]		
Parental Depressed Mood $\times$ Monitoring	.47	.16	.28 ^{**}		
Parental Alcohol $\times$ Monitoring	-.33	.34	-.11		
				.22	.08 [*]

Note. Study variables entered in step 2 were standardized.

* $p < .05$

** $p < .01$