

Does Substance Use Mediate the Relationship between Adolescent Depression and Emerging Adult Antisocial Behavior?

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Abstract

Studies show that, during adolescence, depression predicts alcohol and drug use (Diego et al., 2003) and antisocial behavior (Paquette Boots et al., 2011). Further, research suggests that substance abuse in mid-adolescence is related to late-adolescent antisocial behavior (Cho et al., 2014). However, this research often is limited by cross-sectional designs that restrict the exploration of relationships over time and across developmental periods. Because experiences during adolescence are salient predictors of adult adjustment (Haller et al., 2005), and antisocial behavior in adulthood is related to adverse outcomes (Howard et al., 2013), it is important to understand and explore potential pathways to antisocial behavior. Therefore, the purpose of this study was to explore whether substance use mediates the relationship between adolescent depression and antisocial behaviors in emerging adulthood.

Method

- **Sample**
 - *N* = 1,215 (53% female) from the Adolescent Adjustment Project
 - Survey data were collected during the spring of 2007 (T1), 2008 (T2), and 2009 (T3)
 - 74% of sample were 18 years or older at T3
- **Self-Report Measures**
 - **Depression:** The Center for Epidemiological Studies Depression Scale for Children (CES-DC; Weissman et al., 1980)
 - **Alcohol use:** How often participants usually drank beer, wine, and liquor in the last 6 months (quantity x frequency score)
 - **Drug use:** How often participants used marijuana, sedatives, stimulants, inhalants, hallucinogens, cocaine or crack, and opiates in the last 6 months (frequency score)
 - **Binge drinking:** How often participants drank 6 or more cans, bottles, or drinks of beer, wine, or liquor in the last 6 months (frequency score)
 - **Antisocial behavior:** Engagement in antisocial behaviors (e.g., involvement in criminal activities)

Results

Structural equation modeling was used to conduct a longitudinal path analysis. Specifically, relationships among adolescent depression (T1), adolescent substance use (T2), and antisocial behavior (T3) were explored. Full information maximum likelihood (FIML) was used to handle missing data. Results from the path analysis model are displayed in Figure 1. Standardized and unstandardized coefficients are presented in Table 1. As shown, depression positively predicted drug use and binge drinking. Drug use, in turn, positively predicted antisocial behavior. In addition, alcohol use positively predicted antisocial behavior. Results from Sobel's test indicated that drug use did not mediate the relationship between depression and antisocial behavior ($p > .05$).

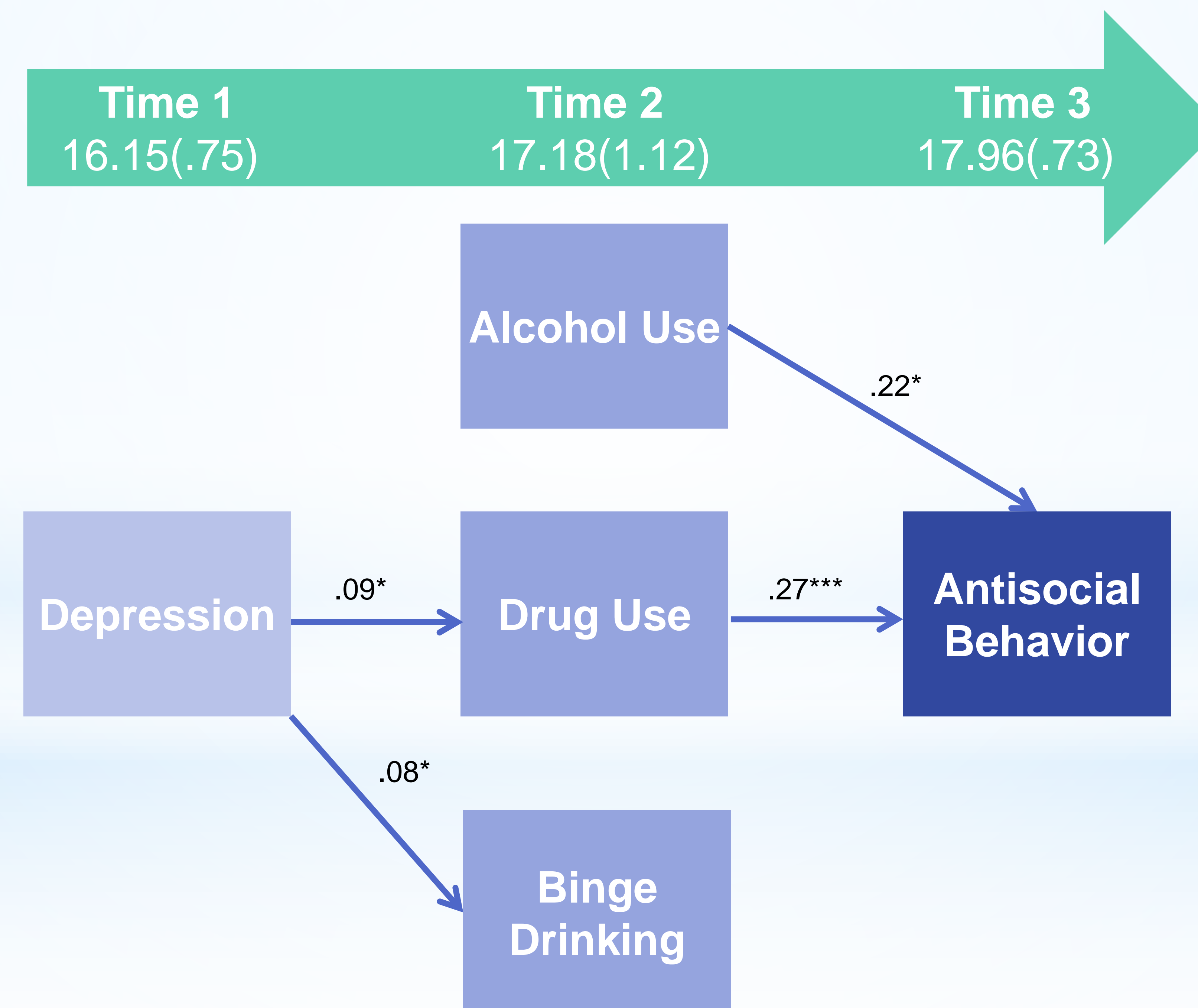


Figure 1. Structural equation model with significant, standardized pathways displayed. The model demonstrates good fit ($X^2 = 5.08, p < .05; RMSEA = .06; CFI = .99; TLI = .96$). Measurement errors have been omitted for clarity
* $p < .05$; *** $p < .001$

Paths	b(SE)	β
Depression →		
Alcohol use	.01(.01) [†]	.07
Drug use	.01(.01) [*]	.09
Binge drinking	.01(.01) [*]	.08
Alcohol use →		
Antisocial behavior	.12(.05) [*]	.22
Drug use →		
Antisocial behavior	.25(.05) ^{***}	.27
Binge Drinking →		
Antisocial behavior	-.03(.07)	-.04

Figure 1. Beta coefficients represent standardized values.
[†] $p < .10$; ^{*} $p < .05$; ^{**} $p < .01$; ^{***} $p < .001$

Discussion

This study sought to examine the associations among adolescent depression, adolescent substance use, and emerging adult antisocial behavior over time. Results suggested that depression positively predicted later drug use and binge drinking. Drug use, in turn, positively predicted later antisocial behavior. However, drug use did not mediate this association. Additionally, alcohol use predicted later antisocial behavior. These findings draw attention to the connections within and across important developmental periods. Understanding the longitudinal associations between adolescent experiences and later outcomes in emerging adulthood may be important for prevention, intervention, and treatment programs supporting adolescents and emerging adults.

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