



A Comparison of the Roles that Negative Affect and Delinquency Play in COA Substance Abuse



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Abstract

Recent research suggests that temperament, negative affect, and delinquency should be examined together in models predicting COA substance abuse. This prospective study compared the following three vulnerability models for substance abuse in a sample of COAs and their controls: a) a negative affect regulation model (including temperament and negative affect as mediators), b) a deviance proneness model (including temperament and delinquency as mediators), and c) a comprehensive model (including both delinquency and negative affect as mediators). At Time 1, the sample included 249 15-19 year-old adolescents (62% Caucasian; 60% girls; 57% COAs) and their fathers. All participants were followed-up five years later (Time 2). Although all of the models fit the data well, the deviance proneness model was parsimonious and provided the best fit. Of note, delinquency played a significant mediating role in the relationship between paternal alcoholism and substance abuse, whereas negative affect did not. In addition, negative affect and delinquency were not significantly related to one another. These results suggest that the deviance proneness model may provide a more useful theoretical framework than a negative affect regulation model or a comprehensive model when examining COA substance abuse.

RISK Project

- A longitudinal study designed to follow offspring of substance dependent fathers over time from adolescence into adulthood
- RISK began in 1993 and is currently ongoing (the present study is based on Time 1 data collected between 1993-1998 and Time 2 data collected between 1998-2003)
- Adolescents for the RISK project are recruited directly through the community (e.g., YMCA/YWCA, high schools) and indirectly through their parents (e.g., newspaper advertisements, presentations at alcohol/drug treatment programs)

Sample

- 249 adolescent girls (60%) and boys and their fathers
- Age range = 15-19 years old; mean age = 16.70 (SD = 1.36)
- 62% Caucasian; 25% African-American; 10% Hispanic; 3% other
- 57% of fathers met the DSM-IV criteria for alcohol dependence
- Participants were from working class families from inner-city Hartford

Measures

Paternal Substance Dependence

The *Semi-Structured Assessment for the Genetics of Alcoholism (SSAGA)* was administered to adolescents and their fathers to obtain information on their substance use. The SSAGA is a clinical, diagnostic psychiatric interview with good psychometric properties (kappas range from .74-1.00). This instrument also yields a lifetime diagnosis of alcohol dependence. Accordingly, fathers were classified as having a history of alcohol dependence (57%) or no history of alcohol dependence (43%).

Measures

Adolescent Personality

The *NEO-FFI* (Costa & McCrae, 1992) was used to measure agreeableness, extraversion, and neuroticism. These scales have been shown to have good psychometric properties (Costa & McCrae, 1992; Scandell, 2000).

The *Sensation Seeking Scale (SSS)*; Zuckerman et al., 1984) was used to measure boredom susceptibility and disinhibition. The SSS scales have been shown to be reliable and valid indicators of sensation seeking (Roberti et al. 2004; Zuckerman et al., 1980).

Negative Affect

The Positive and Negative Affect Schedule (PANAS; Watson et al., 1988) was administered to assess negative affect. The general negative affect scale was used in this study. The Cronbach alpha coefficient for this scale was .83.

Delinquency

Twenty items from the SSAGA were summed to create a delinquency total score. Representative items are "Have you ever been suspended or expelled from school?" and "Have you ever physically injured anyone on purpose?". The Cronbach alpha coefficient for this scale was .74.

Substance Abuse

The Michigan Alcoholism Screening Test (MAST; Selzer, 1971) was used to assess problem drinking. This measure consists of 25 items which are summed to create a total score.

Participants also reported the frequency with which they drank enough to get drunk or high within the previous six months .

A monthly average amount of absolute alcohol consumed during the past six months also was calculated.

All of these substance abuse measures have been found to have good psychometric properties (Hesselbrock et al., 1983).

* Paternal substance dependence, temperament, delinquency, and negative affect were assessed at Time 1 and the substance use measures were assessed at Time 2.

Analyses

- Structural equation modeling was used to examine the three vulnerability models.
- Three series of models were run – testing the negative affect regulation model, the deviance proneness model, and a comprehensive model.
- Errors with modification indices greater than 4 were allowed to be correlated.
- All non-significant paths were set to 0.

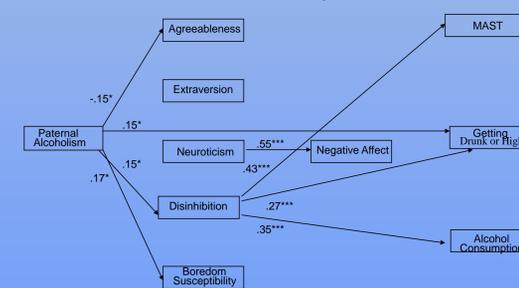
Results

• The negative affect regulation model fit the data well ($\chi^2(28)=25.41, p=.61; NFI=.93; RMSEA=.00$). As shown in Figure 1, paternal alcoholism significantly predicted frequency of drinking to get drunk or high. In addition, paternal alcoholism significantly predicted lower levels of agreeableness and higher levels of disinhibition and boredom susceptibility. In turn, higher levels of disinhibition significantly predicted higher MAST scores, drinking to get drunk or high, and greater alcohol consumption. Of note, negative affect was not a significant mediator in this model

• The deviance proneness model also fit the data extremely well ($\chi^2(23)=18.38, p=.74; NFI=.95; RMSEA=.00$). The paths between paternal alcoholism and temperament were similar to those found in the negative affect regulation model. However, in this model, delinquency also was a significant mediator. More specifically, lower levels of agreeableness and higher levels of disinhibition and boredom susceptibility significantly predicted delinquency; which in turn, significantly predicted higher MAST scores and greater alcohol consumption. (see Figure 2).

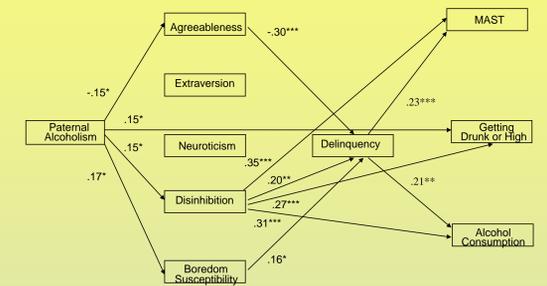
• The comprehensive model also fit the data quite well ($\chi^2(26)=23.02, p=.63, NFI=.94; RMSEA=.00$). As found in the previous models, delinquency was a significant mediator, whereas negative affect was not. In addition, negative affect and delinquency were not significantly related to one another (see Figure 3).

Figure 1
A Test of the Negative Affect Regulation Model



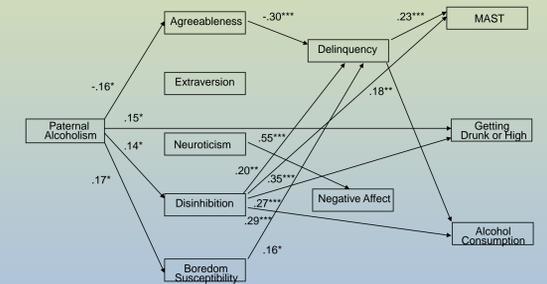
Notes. Standardized regression coefficients are presented. Only significant paths ($p<.05$) are shown. For presentation purposes, correlations between errors are not included.

Figure 2
A Test of the Deviance Proneness Model



Notes. Standardized regression coefficients are presented. Only significant paths ($p<.05$) are shown. For presentation purposes, correlations between errors are not included.

Figure 3
A Comprehensive Model



Notes. Standardized regression coefficients are presented. Only significant paths ($p<.05$) are shown. For presentation purposes, correlations between errors are not included.

Conclusions

Adolescent COAs in this study were found to have lower levels of agreeableness and higher levels of disinhibition and boredom susceptibility in comparison to non-COAs. They also reported drinking more frequently to get drunk or high than non-COAs. Moreover, lower levels of agreeableness and higher levels of disinhibition and boredom susceptibility were associated with higher levels of delinquency. Delinquency, in turn, significantly predicted higher MAST scores and greater alcohol consumption. In contrast to the consistent mediating role that delinquency played, negative affect did not mediate any of the relations, primarily because it did not predict any of the substance abuse measures. Of note, delinquency and negative affect also were not significantly related to one another. Although all of the SEM models fit the data well, the model testing the deviance proneness model was parsimonious and provided the best overall fit.