2007

Environmental and personality risk factors for drinking and driving in youth

S. L. Pedersen

D. M. McCarthy

Follow this and additional works at: http://digitalcommons.wustl.edu/guzeposter2007

Part of the Medicine and Health Sciences Commons

Recommended Citation

http://digitalcommons.wustl.edu/guzeposter2007/4

This Poster is brought to you for free and open access by the 2007: Alcohol Use Across the Lifespan at Digital Commons@Becker. It has been accepted for inclusion in Posters by an authorized administrator of Digital Commons@Becker. For more information, please contact engeszert@wustl.edu.
Environmental and Personality Risk Factors for Drinking and Driving in Youth

S.L. Pedersen & D.M. McCarthy
University of Missouri-Columbia & the Midwest Alcoholism Research Center

Introduction

- Drinking and driving is a significant health risk behavior, particularly for adolescents (Hingson & Winter, 2003).
- Studies of youth drinking and driving have identified individual difference factors that alter the likelihood youth will drive after drinking.
- Impulsivity and sensation seeking are related to drinking and driving behaviors in both youth and adults (Ryb et al., 2006; Jonah, 1997).
- Environmental factors such as parental monitoring and alcohol availability have also been shown to predict youth drinking and driving behaviors (Bingham & Shope, 2004).
- Very little is known about mechanisms by which personality characteristics and aspects of the environment might contribute to youth drinking and driving behaviors.
- We tested an integrated model of disinhibited personality traits and environmental influences on youth drinking and driving.
- We tested three alternative models:
  - Additive model: Personality and environment make unique contributions to drinking and driving behaviors.
  - Indirect effects model: The influence of disinhibited personality traits on drinking and driving is mediated by aspects of the adolescent’s environment.
  - Moderation model: Disinhibited personality traits influence drinking and driving only for youth who are able to obtain alcohol or who have low parental monitoring.

Method

Participants

- Time 1: 266 high school students recruited from local high schools in Columbia, Missouri.
- Time 2: 76% (n = 202) of participants were followed-up approximately 8 months later.
- No differences were observed between study attritors and completers on gender, age, drinking and driving, and most alcohol use measures.

Analytic Strategy

- Zero-inflated Poisson models were used for all analyses. These models separately consider two dependent variables:
  - Poisson Regression: dependent variable is a count variable for individuals able to assume values of zero and above.
  - Logistic Regression: a binary latent variable of whether the behavior is engaged in or not.
- Models were run separately for DD and RWDD.
- All analyses controlled for time 1 alcohol use, sex, and drinking and driving behaviors.

Results

- Preliminary analyses tested whether study variables predicted drinking and driving behaviors, over and above control variables.

<table>
<thead>
<tr>
<th></th>
<th>Drinking and Driving</th>
<th>Riding with a Drinking Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>PR</td>
</tr>
<tr>
<td>Sensation Seeking</td>
<td>.70</td>
<td>2.34**</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>.53</td>
<td>1.28**</td>
</tr>
<tr>
<td>Alcohol Availability</td>
<td>.22</td>
<td>11.27**</td>
</tr>
<tr>
<td>Parental Monitoring</td>
<td>1.48</td>
<td>2.87**</td>
</tr>
</tbody>
</table>

Indirect Effects Model

- Sensation seeking was modestly correlated with potential mediators: alcohol availability (r = .16, p < .05) and parental monitoring (r = -.18, p < .05).
- Poisson regression coefficients for sensation seeking did not change when mediators were added to the model.
- Results did not support mediation.

Interaction Model

- Impulsivity
  - Significant interactions with both alcohol availability and parental monitoring.
- Impulsivity was more strongly associated with frequency of riding after drinking for youth with low parental monitoring and high alcohol availability.
- Sensation seeking
  - Significant interactions with alcohol availability and parental monitoring for riding after drinking.
  - Significant interaction with alcohol availability for drinking and driving.

Discussion

- Disinhibited personality traits and environmental factors are unique influences on drinking and driving behaviors.
- Sensation seeking and impulsivity were stronger predictors of drinking and driving behaviors for youth who were able to obtain alcohol or who had low levels of parental monitoring.
- Differences were observed in what factors predicted driving and riding after drinking.
- Impulsivity was related to the decision to drink and drive, where as sensation seeking was related to riding with a drinking driver.
- Future studies could explore other potential mediators. For example, peer factors might mediate the influence of sensation seeking on riding with a drinking driver.