2006

Smoking's effect on hangover symptoms

Kristina M. Jackson  
Brown University

Thomas M. Piasecki  
University of Missouri - Columbia

Alison E. Richardson  
University of Missouri - Columbia

Follow this and additional works at: https://digitalcommons.wustl.edu/guzeposter2006

Part of the Medicine and Health Sciences Commons

Recommended Citation

This Poster is brought to you for free and open access by the 2006: Alcohol and Tobacco Dependence: from Bench to Bedside 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 vanam@wustl.edu.
Smoking’s Effect on Hangover Symptoms
Kristina M. Jackson¹, Thomas M. Piasecki², & Alison E. Richardson²
1. Brown University
2. University of Missouri-Columbia

Abstract
Epidemiological, laboratory, and clinical research consistently suggest that drinking and smoking are highly comorbid, with significant public health outcomes. However, the more proximal consequences of co-occurring drinking and smoking, such as hangover, have seldom been studied. The current study sought to examine the unique effects of smoking, drinking, and hangover on daily life. To determine if there is an interaction between drinking and smoking in predicting hangover, smokers (n=115, reporting 100 lifetime cigarettes and past month smoking age: 18-19, 57% female; 96% Caucasian) completed a daily web-based survey for 8 weeks to assess daily hangover symptoms. Prior day hangover symptoms included tiredness, headache, nausea, vomiting, diarrhea, and dry mouth, and interacted with drinking in predicting hangover. Daily hangover symptoms were assessed using a 5-point Likert scale (1=none, 5=extreme) to (7) extremely (α=0.92). Data were analyzed using multilevel regression (M=2.55, SD=4.74) and number of cigarettes (M=7.16, SD=6.67) were assessed. We also created a variable reflecting percent smoking above usual, computed by dividing current day smoking quantity by the mean of smoking quantity across the 56 days (M=1.00, SD=0.75). Data were analyzed using multilevel models with periodicity (weekday vs. weekend) and sex controlled. Both smoking quantity and percent smoked above usual univariately predicted hangover (standardized β=0.62; std. β=0.37, p’s < .001) with nearly as strong as magnitude as did drinking quantity (std. β=0.68, p < .001). When drinking quantity was controlled, both smoking quantity and percent smoking above usual uniquely and strongly predicted hangover (std. β=0.67, p < .001). Most noteworthy was the finding that percent smoking above usual and drinking quantity interacted in a synergistic fashion to predict hangover (β=0.04, p < .001) and headache (β=0.04, p < .001).

Methods
- **Participants (N=115)**: Smokers over-sampled (100 lifetime cigarettes/smoke past-month) (57% female, 96% Caucasian; 90% were age 18 or 19
- **Procedure**
  - Baseline assessment: Assessed substance use, motivations for substance use, family history of substance use, personality, mood
  - Daily web-based 26-item survey: 8 weeks
  - History of prior-day alcohol and tobacco use, mood, and stress, as well as current-day hangover
- **Measuring Hangover**
  - Drinking (prior day)
  - Number of drinks (M=2.55, SD=4.74)
  - Smoking (prior day)
    - Number of cigarettes (M=7.16, SD=6.67)
    - Percent smoking above usual
  - Hangover (current day): (Slutskie, Piasecki, & Hunt-Carter, 2003)
    - Computed smoking quantity above usual
    - Family history of alcoholism

Results

### Descriptive Information
- **Hangover**
  - 60.6% of days were smoking days, and 33.0% of smoking days included smoking while drinking.
  - There were more cigarettes smoked on drinking days (M=8.63, SD=7.17) than non-drinking days (M=5.14, SD=1.37, p < .001).
  - Participants reported experiencing a hangover on 19% of the days
    - Drinking and smoking were highly comorbid.
    - Being male predicted hangover (β=0.11, p < .01), controlling for sex.
    - Controlling for number of drinks, there was a non-significant association between family history and hangover (β=0.01, ns).
    - Most noteworthy was the finding that percent smoking above usual and drinking quantity interacted in a synergistic fashion to predict hangover (β=0.04, p < .001) and headache (β=0.04, p < .001).

### Predicting Hangover from Smoking (see Table 1)
- Both smoking quantity and percent smoking above usual univariately predicted hangover (standardized β=0.62; std. β=0.37, p’s < .001) with nearly as strong as magnitude as did drinking quantity (std. β=0.68, p < .001).
- When drinking quantity was controlled, both smoking quantity and percent smoking above usual uniquely predicted hangover (std. β=0.67, p < .001).
- Similar effects were observed replacing hangover with headache.
- Most noteworthy was the finding that percent smoking above usual and drinking quantity interacted in a synergistic fashion to predict hangover (β=0.04, p < .001) and headache (β=0.04, p < .001).

### Results (cont.)

#### Table 1

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Univariate P</th>
<th>Multivariate P</th>
<th>Univariate P</th>
<th>Multivariate P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of drinks</td>
<td>0.68***</td>
<td>0.64***</td>
<td>0.56***</td>
<td>0.53***</td>
</tr>
<tr>
<td>Number of cigarettes</td>
<td>0.62***</td>
<td>0.72***</td>
<td>0.31***</td>
<td>0.12***</td>
</tr>
<tr>
<td>% cigarettes smoked above usual</td>
<td>0.37***</td>
<td>0.07***</td>
<td>0.33***</td>
<td>0.09**</td>
</tr>
</tbody>
</table>

Note: This controls for smoking and sex in predicting hangover.

### Conclusion
- Although smoking has never been considered as a potential source of hangover, it explained a good deal of unique variance in hangover and interacting in predicting drinking.
- Tobacco smoke is pharmacologically potent in its own right, and may contribute to hangover symptomatology.
- The acute systemic effects of nicotine and tobacco smoke include central nervous system effects such as headache, dizziness, and insomnia, gastrointestinal effects such as nausea, vomiting, diarrhea, and dry mouth, and musculoskeletal effects (Palmer, Buckley & Faulks, 1992).
- Tobacco use and hangover are behavioral markers of an underlying genetic liability for sensitivity to drug effects.
- This is smoking has no pharmacological effect on hangover, but is a marker of an underlying risk for substance use problems, including heavy drinking.
- Women report more severe symptoms to both the effects of smoking and the synergistic effects of drinking and smoking on hangover.
- Nearly identical effects were observed for headache as for hangover, suggesting that headache serves as a proxy for hangover.

References


