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The Effects of Drinking on University Grades: Does Academic Motivation Play a Role?

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THE EFFECTS OF DRINKING ON UNIVERSITY GRADES: DOES ACADEMIC MOTIVATION PLAY A ROLE?

ABSTRACT

Past research has shown that heavy episodic drinking by college students is associated with decreased academic achievement. The purpose of this study is to test academic motivation as a mediator for the relationship between drinking and academic achievement. It is hypothesized that heavy episodic drinking decreases academic motivation, which subsequently decreases academic performance. Four hundred and fifteen first-year students (255 female, 160 male) completed 26 weekly online questionnaires about their drinking behaviours and academic motivation. Academic motivation was found to mediate the drinking-achievement relationship for mean number of drinks and heavy episodic drinking, but only for females. Also, students in different faculties differed in their levels of drinking and motivation.

INTRODUCTION

In Canada, 32% of full-time undergraduate students (37.6% males, 27.5% females) reported harmful or hazardous drinking, and almost 33% of full-time students reported heavy episodic drinking (HED) (consumption of 5+ drinks for men or 4+ drinks for women on each occasion of drinking) (Adlaf, Demers, & Gliksman, 2005)

General drinking behaviours in university students

- Male students always drink more than females (Tremblay et al., 2010)
- The amount of drinking differs throughout the academic year (Tremblay et al., 2010)

Drinking and academic achievement

- Students engaged in HED have decreased grades (Pascarella et al., 2007; Singleton, 2007; DeBerard, Spielmans, & Julka, 2004; Porter & Pryor, 2007)
- The negative relation between HED and grades is similar for males and females (Pascarella et al., 2007)

Academic motivation and academic achievement

- Academic motivation is related to achievement (Svanum & Bigatti, 2006; Rau & Durand, 2000)

Drinking and academic motivation

- Bidirectional relationship between drinking and academic motivation
 - Academically motivated students planned to drink less alcohol in college (Rhoades & Maggs, 2006)
 - Students who drink study less than non-drinkers (Wolaver, 2002)
- Gender as a moderator of the drinking-motivation relationship
 - Drinking may affect academic motivation for men only:
 - Drinking and academic motivation were associated for men, but not women (Webb, Moore, Rhatigan, Stewart, & Getz, 2007)
 - For women, academic motivation served as a protective factor against drinking (Vaughan, Corbin, & Fromme, 2009)
 - For men, drinking is associated with decreased academic motivation, but for women, drinking did not correlate with academic motivation (Li, Frieze, Nokes-Malach, & Cheong, 2013)

Research Question: Do students who engage in HED put less effort into their studies, resulting in decreased academic achievement?

Hypothesis: HED leads to decreased academic motivation, subsequently leading to decreased grades.

Mediation: Does academic motivation mediate the relationship between drinking and academic achievement?

Drinking and Faculty Program

- Explore drinking differences
- Higher HED in social science and business students (Wolaver, 2002)

METHOD

• Data used for analysis was obtained from a longitudinal study conducted by Tremblay et al. (2010)

• 415 participants

- 266 females (64.1%) and 149 males (35.9%)
- Ages of participants: $M = 18.42$, $SD = 2.40$
- Ethnicities of participants: White (72.6%), Chinese (10.3%), South Asian (3.2%), Arab-West Indian (1.7%), Korean (1%), and Multiracial/non specified (11.2%)

Materials

Alcohol consumption measures

1. Average number of drinks per week (averaged over 26 weeks)
2. Heavy Episodic Drinking (HED): 4+ drinks for females/5+ drinks for males in one day; measured as overall probability of at least one HED episode per week)

Academic motivation measure

- In the past week (Monday to Sunday) I worked hard on my studies.
- Likert scale from 0 (*very strongly disagree*) to 10 (*very strongly agree*)

Academic achievement measure

- Final average grades over all courses completed in the first academic year were obtained from the Registrar at UWO

Procedure

- All first-year students at Western were invited by email to participate in the study
- Students met on campus with the Research Assistant and were given a letter of information and a personal identification number
- They completed a weekly online questionnaire for 26 weeks based on the previous week's activities (Monday to Sunday)
- At the end of each questionnaire, a list of resources was provided for those in distress, and a weekly draw of 1 of 3 \$50 cash prizes occurred
- Participants received a weekly compensation of \$5, paid in three installments

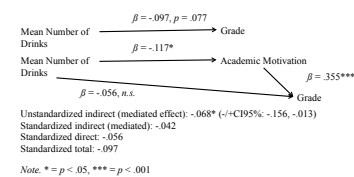
Mediation analyses were conducted using the Baron and Kenny (1986) approach. To test for the significance of mediation, a calculation by Preacher and Hayes (2008) was conducted. This calculation performs Bootstrapping to provide more accurate standard errors by calculating bias corrected confidence intervals.

Jennifer Gilbert
(Advisor: Paul Tremblay, Ph.D.)

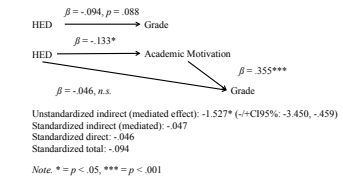


RESULTS

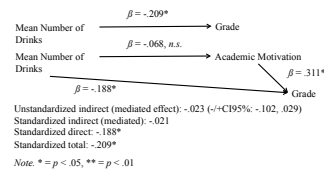
Total Mean Number of Drinks



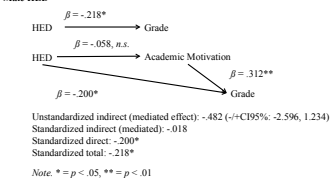
Total HED



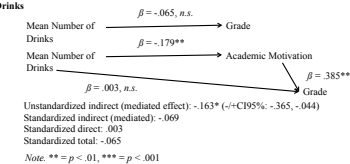
Male Mean Number of Drinks



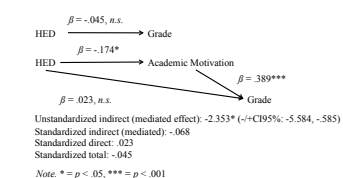
Male HED



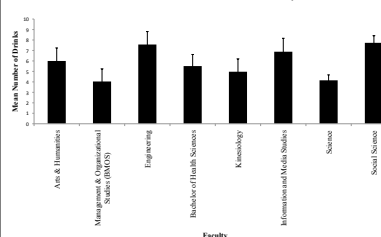
Female Mean Number of Drinks



Female HED

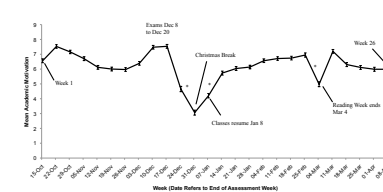


Mean Number of Drinks for Faculty



Note. Means controlling for Gender. Error bars represent SEM. ANOVA and posthoc tests revealed engineering significantly larger than science and social science significantly larger than science.

Academic Motivation as a Function of Time of Academic Year



Note. Asterisks (*) refer to significant adjacent week differences. Error bars represent SEM.

No gender difference in academic motivation, $t(373) = .01$, $n.s.$

DISCUSSION

• Academic motivation mediates the drinking-achievement relationship for both mean number of drinks and HED, but only for females

• Perhaps academic motivation mediates the relationship for females only because they have a stronger association between drinking and motivation than men. Vaughan, Corbin, and Fromme (2009) found academic motivation to act as a protective factor against drinking for women, but not men. Academically motivated men still drank.

• The trajectory of effort throughout the academic year supports expectations: high effort during December exams, low effort during Christmas break, and low effort during reading week

• Findings can be useful when designing prevention programs for students to maximize their academic potential and future employment success