The Influence of Chronotype on Alcohol Consumption

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Introduction

Alcohol consumption on college campuses is a public health concern given that 150,000 plus undergraduates develop an alcohol-related health problem annually (Hingson et al., 2002).

- Chronotype or diurnal preference describes the period within a 24-hour time cycle that a person is naturally inclined to wake, be most alert, and fall asleep again.
- The majority of people identify as an intermediate-type.
- Differences in chronotype also translate to differences in behavior and reward function because circadian genes are active in reward-related brain regions and influence behaviors such as alcohol consumption (Hasler et al., 2013).
- Evening-types show lower self-control/regulation, higher novelty seeking, and lower harm avoidance (Urbán, Magyaródi, Rigó, 2013).
- General consensus from the literature is that morning and evening-inclined people don't differ in frequency of alcohol consumption, but evening-types consumed a larger quantity and were more likely to report binge-drinking (Watson et al., 2013).

Purpose

Although there are many studies regarding alcohol and chronotype, there aren't't many focused on American college students. Hence, the aim of this study was to investigate the influence of chronotype on alcohol consumption in undergraduate students.

Methods

Participants

- n = 534
- 75.1 % female and 24.3% male
- 90.1 % Caucasian
- Students were from a midsize, Midwestern university

Procedure

- Online survey
- Snowball sampling method

Measures

- Alcohol consumption:
  - Given the definition of a standard drink.
  - Asked several questions about amount and frequency of alcohol consumption.
- Morning-Eveningness questionnaire:
  - Scale consisted of 19 multiple choice questions.
  - Each question had either four or five response options, with different point-values.
  - Composite scores ranged from 16 – 86 with a score of 16 being a strong morning-type and a score of 86 being a strong evening-type.

Results

- 92% (n = 493) have previously consumed alcohol.
- In a typical week, people consume alcohol, on average, on 2.13 days (SD 1.487).
- On average, respondents had 3.60 drinks on typical day of drinking.
- During the last 30 days, the mean highest number of drinks consumed on one drinking occasion was 7.05.
- The mean score on the Morningness-Eveningness questionnaire was 51.12.
- Significant correlation indicated morning-inclined people were more likely to drink fewer days/week, $r(211) = -.17$, $p = .01$
- Chronotype was not significantly correlated to how many drinks an individual consumed on a typical day of drinking, $r(211) = -.05$, $p = .45$.

Discussion

- The hypothesis that evening-types drink more and more frequently compared to those with other diurnal preferences was partially supported. However, amount of alcohol was not found to be significantly related to chronotype association.
- Generally, previous studies have shown the opposite trend – chronotype doesn't influence frequency of drinking, but does influence how much an individual may drink.
- Limitations: In future studies, a broader racial and gender sample should be used to increase the generalizability of results. Additionally, data was self-reported, which reduces accuracy and a random sample wasn't utilized.

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