

# Factors Associated with Academic Stimulant Misuse in a College Setting

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## Abstract

The misuse of unprescribed stimulants (e.g., Adderall, Ritalin, and Vyvanse) for academic purposes in colleges across the United States is a growing concern. This study evaluated potential factors related to stimulant misuse (SM), such as perception of SM safety, SM ethicality, extrinsic academic motivation, and perception of SM as normative.

## Introduction

- Between 8% and 43% of students report having misused stimulants at least once in their lives, and 17% of students have misused stimulants on more than one occasion (Benson, Flory, Humphreys, & Lee, 2015).
- A majority of students report misusing stimulants for academic purposes, such as being able to improve study skills, to stay awake in order to study longer, and to improve concentration (Benson et al., 2015).
- Some studies have found that people who perceived SM to be safer were also more likely to report having misused stimulants (Dussault & Weyandt, 2013).
- The majority of the 1200 male participants found a hypothetical student who took Adderall for midterms to be less of a cheater and believed that he was taking a more necessary step in order to succeed in comparison with the hypothetical anabolic steroid user for his track meet (Dodge et al., 2012).
- If SM is associated with academic dishonesty, then SM could potentially be related to the same factors as cheating. Cheating has been associated with academic extrinsic motivation (Alt & Geiger, 2012), perception of campus competitiveness (Anderman et al., 2012), and perception of cheating being common in others (Alt & Geiger, 2012).

**Current Study:** The purpose of this study is to explore potential factors that lead some students to misuse stimulants during their academic journeys. We hypothesized that students would be more likely to misuse stimulants if 1) they perceive SM to be safe, 2) they perceive SM to be ethical, 3) they are more extrinsically motivated in an academic setting, 4) they perceive their academic environments to be competitive, and 5) they perceive SM to be normative.

## Methods

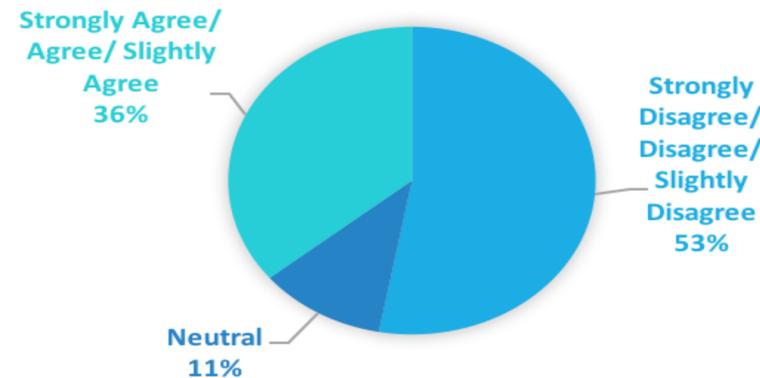
**Participants:** The participants included 172 undergraduate students (43.6% male, 56.4% female) recruited through an online research participation management system (age:  $M = 18.85$ ,  $SD = 1.10$ ).

### Measures

- Academic Extrinsic Motivation:** a 12-item measure developed to assess academic extrinsic motivation, which is defined as finding motivation from an external source (Vallerand et al., 1992). Participants responded using a 7-point Likert scale ranging from 1 (*does not correspond at all*) to 7 (*corresponds exactly*), with higher scores marking greater extrinsic motivation. ( $\alpha = .89$ )
- Perceived Campus Competitiveness:** a 2-item scale modified from the Twenty Items Value Inventory developed to assess participants' perceptions of typical student's competitiveness on their campus (Sandy, Gosling, Schwartz, & Koelkebeck, 2016). Participants responded using a 7-point Likert scale ranging from 1 (*No one at [my university] fits this description*) to 7 (*Everyone at [my university] fits this description*), with higher scores marking greater perceived campus competitiveness. ( $\alpha = .68$ )
- Stimulant Use Questionnaire:** an 8-item questionnaire developed to assess past experience of with SM (lifetime, past year, last semester, and last month), frequency of SM (past year, last semester, and last month), and types of stimulants used.
- Perception of Stimulant Use Among Peers:** a modified 4-item measure developed to assess the perceived frequency of SM on participants' college campuses based on different academic behaviors (Weyandt et al., 2009). Participants responded using a 7-point Likert scale ranging from 1 (*No one at [my university] does this*) to 7 (*Everyone at [my university] does this*), with higher scores marking greater perceived commonality. ( $\alpha = .93$ )
- Perception of Safety of Stimulant Use:** a modified 4-item measure developed to assess the perceived safety of different kinds of stimulant misuse (Weyandt et al., 2009). Participants responded using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores marking greater perceived stimulant safety. ( $\alpha = .76$ )
- Perception of Adderall Use Ethicality:** a single item response measure developed to assess the perception of whether or not the participant viewed stimulant misuse to be ethical based on a hypothetical situation about a student named Jeff taking Adderall to increased performance for a midterm (Dodge et al., 2012). Participants responded to the statement "Jeff is a cheater for using Adderall," using a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), with higher scores marking greater consideration for Adderall as cheating.

**Procedures:** Completion of the survey took place online, and questionnaires were completed in the order listed above. Participants received one credit toward their psychology course research participation requirements.

## JEFF CHEATED BY TAKING ADDERALL FOR HIS MIDTERM.



## SM DURING FINALS

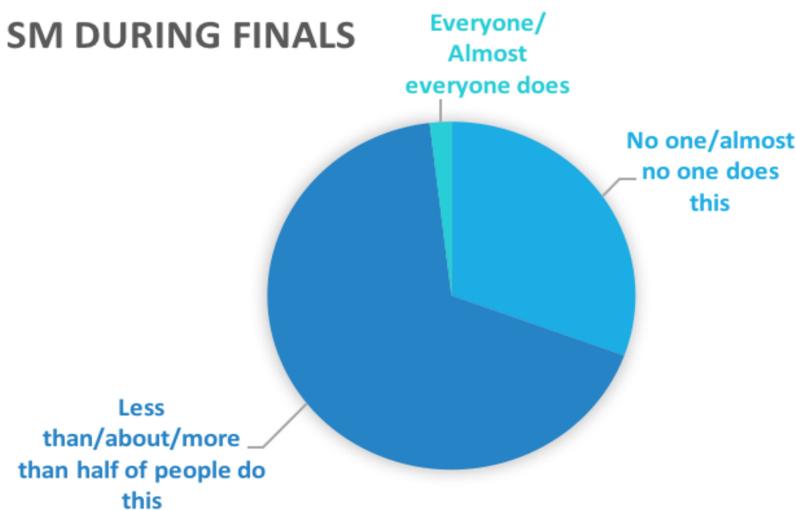


Table 1

Participant Ratings of Perceived Stimulant Misuse Safety by Item

Perception of Safety of Stimulants scale items	Percentage of Response	Number of Responses	Level of Item Agreement
Using prescription stimulants occasionally is harmless.	45.3%	77	Strongly Disagree/Disagree
	28.2%	48	Neutral
	26.4%	45	Strongly Agree/Agree
Using prescription stimulants daily is harmless.	76.5%	130	Strongly Disagree/Disagree
	12.4%	21	Neutral
	11.2%	19	Strongly Agree/Agree
Prescription stimulants are safer than marijuana.	50.9%	86	Strongly Disagree/Disagree
	35.5%	60	Neutral
	13.6%	23	Strongly Agree/Agree
Prescription stimulants are safer than alcohol.	44.1%	75	Strongly Disagree/Disagree
	31.8%	54	Neutral
	24.1%	41	Strongly Agree/Agree

## Results

### Demographic Findings

A chi-square test was conducted to find that people who lived off-campus were significantly more likely to report lifetime SM than those who lived on-campus ( $\chi^2 = 9.67$ ,  $df = 1$ ,  $p = .006$ ;  $\phi_c = .24$ ).

A t-test was conducted to find the relationship between age and lifetime SM was also significant, with those who did not report lifetime SM being younger ( $M=18.82$ ;  $SD = 1.03$ ) than those who did report lifetime SM ( $M=19.17$ ;  $SD = 1.618$ ).

Of the 172 participants, 18 reported having misused stimulants at least once in their lives (10.5%).

### Students' Perceptions of SM

Table 1 displays students' perceptions of SM safety.

Figure 1 displays students' perceptions of commonality of SM during finals week.

Figure 2 displays students' attitude toward SM as cheating.

### Correlations

Spearman's rho correlations were not significant between lifetime SM and

- perceived safety of SM ( $r(168) = .07$ ,  $p = .35$ )
- academic extrinsic motivation ( $r(170) = .06$ ,  $p = .43$ )
- the perception of the competitiveness of the environment ( $r(169) = .05$ ,  $p = .49$ )

The correlation between lifetime SM and the perception of using Adderall for academic purposes as cheating was marginally significant ( $r(172) = -.12$ ,  $p = .14$ ).

The correlation between lifetime SM and the perception of SM as normative was also marginally significant ( $r(152) = .13$ ,  $p = .12$ ).

## Conclusion

This research evaluated potential factors related to academic stimulant misuse in college students, analyzing the relationships between lifetime SM and perceived stimulant safety, SM ethicality, academic extrinsic motivation, perceived environment competitiveness, and perceived SM commonality. The hypotheses were not supported; however, interesting descriptive findings are discussed.

**Limitations** 1) The percentage of students who reported SM was smaller than had been found in other college student populations from previous research, which may be responsible for the insignificant results; 2) Because of the smaller SM population, analyses were only conducted based on lifetime SM, not past year use, semester use, or month use; 3) The sample was mostly first year students who had not gone through recruitment or midterms before taking this survey, who usually do not fit the profile for stimulant misusers.

**Future Research** 1) larger sample size to test smaller variations; 2) longitudinal study could be conducted in order to evaluate if the perception of SM as cheating may actually mediate the relationship between extrinsic motivation and SM; examine perceptions of SM campus-wide as well as within the participants' social circle in order to evaluate the possible differences between these influences and participants' SM.

### Implications

- Perceptions of SM Safety:** Considering how students who view occasional SM as not harmless and as less safe than alcohol are in the minority, it is important to more accurately educate students on SM.
- Perceptions of SM Ethicality:** Over half of the participants did not view Jeff as being a cheater for taking an Adderall without a prescription in order to do well on his midterms. Universities need to communicate clearly to and openly with their students that this behavior is unacceptable and is a form of academic dishonesty.
- Perceptions of SM Commonality:** Even though only 10.5% of our participants reported misusing stimulants, most viewed it as more common than that. If the percentage of participants who reported SM is representative of the campus as a whole, it is important to educate students on the inaccuracies of the perceptions in order to depict that SM is not as normative as they believe.

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