

# Moral Judgments and Attitudes Predicting Legal and Illegal Stimulant Use

Dustin L. Hadfield<sup>1</sup> (Advisors: Eleanor Hanna<sup>1</sup>, Phil Costanzo, PhD<sup>1</sup>)

<sup>1</sup>Duke University, Bass Connections: Brain & Society



## Abstract

The present study investigates morality and personality attributes as possible predictors of student stimulant use. It was hypothesized that higher neuroticism and openness and lower conscientiousness, in addition to increased ascription to the moral foundations of fairness and harmfulness, would be predictive of a student's stimulant use history. While low conscientiousness was shown to be a significant predictor, the data surprisingly show that low neuroticism and low harmfulness moral relevance scores in harmfulness also contribute to a higher possibility of past student stimulant use.

## Introduction

### THEORETICAL FRAMEWORK:

- While more than one out of every sixteen full-time college students uses non-medical Adderall as a study aid every year, little is known about psychological factors predicting this stimulant abuse.
- However, there is scientific support for a relationship between political viewpoint and morality, along with linkage of major personality factors to general illicit drug use among adults.
- It follows that examination of how personality and morality factors work in tandem may better help to more fully understand motivation behind illicit stimulant use.

### CURRENT RESEARCH:

- High conscientiousness has been shown to predict less frequent future stimulant use.
- High neuroticism and openness have been shown to predict greater future substance abuse.
- Drug use is more likely to be socially accepted by those who identify as politically liberal, who are in turn demonstrated to take harm to others and fairness in moral decision making.

### HYPOTHESES:

- Higher neuroticism and openness scores and lower conscientiousness scores will predict higher possibility of past stimulant use.
- Higher scores in the fairness and harmfulness categories of the Moral Foundations Questionnaire will predict higher possibility of past stimulant use.

## Results

### RESULTS OF REGRESSIONAL ANALYSES:

- Data analyses indicate that 16.6% of the variance of ever having used cocaine can be explained by an individual's conscientiousness score in tandem with their attitude towards harm in moral decision-making.
- In addition, data analyses indicate that 8.7% of the variance of ever having used a cognitive stimulant (e.g. Adderall, Ritalin) can be explained by an individual's conscientiousness score in tandem with their neuroticism score.

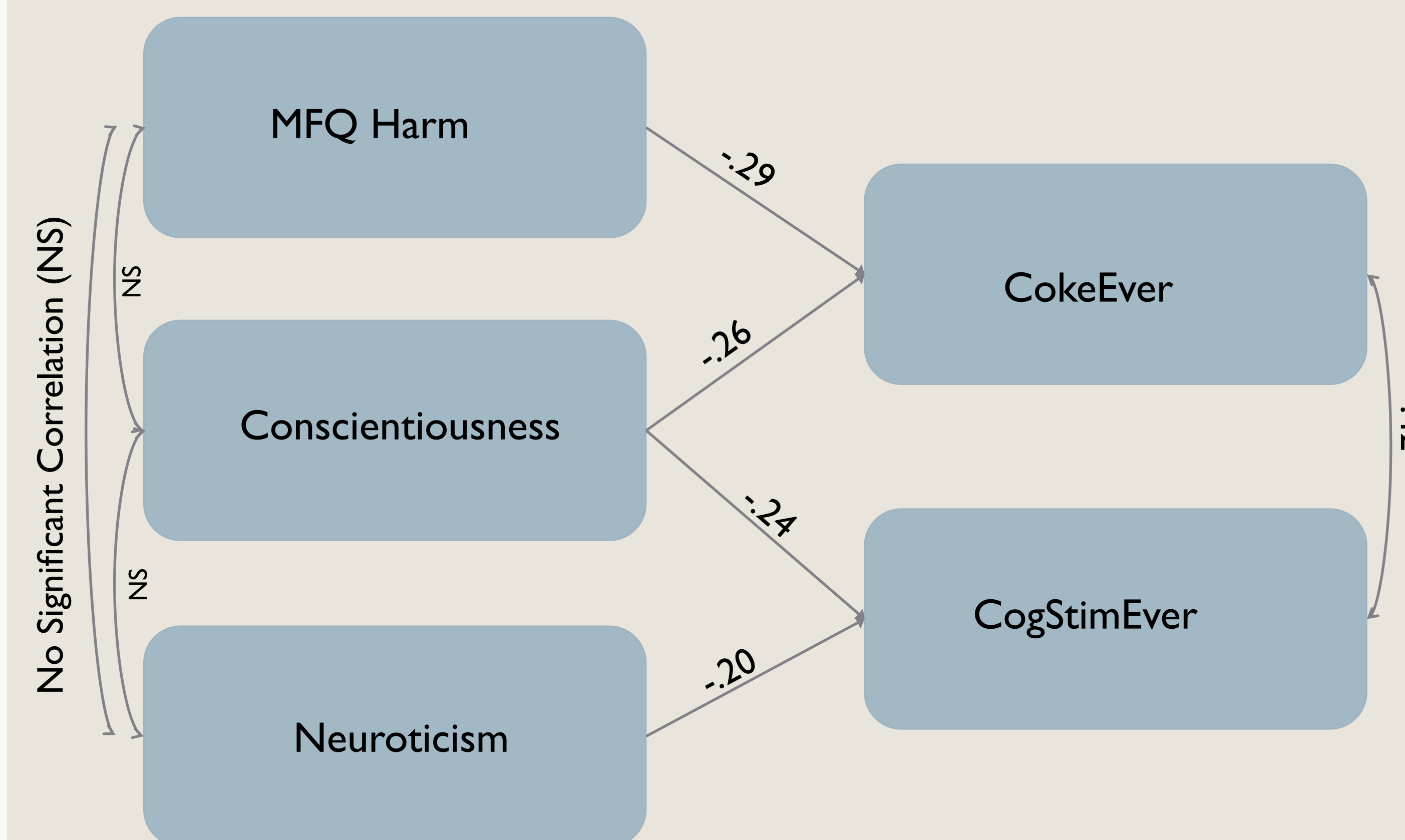
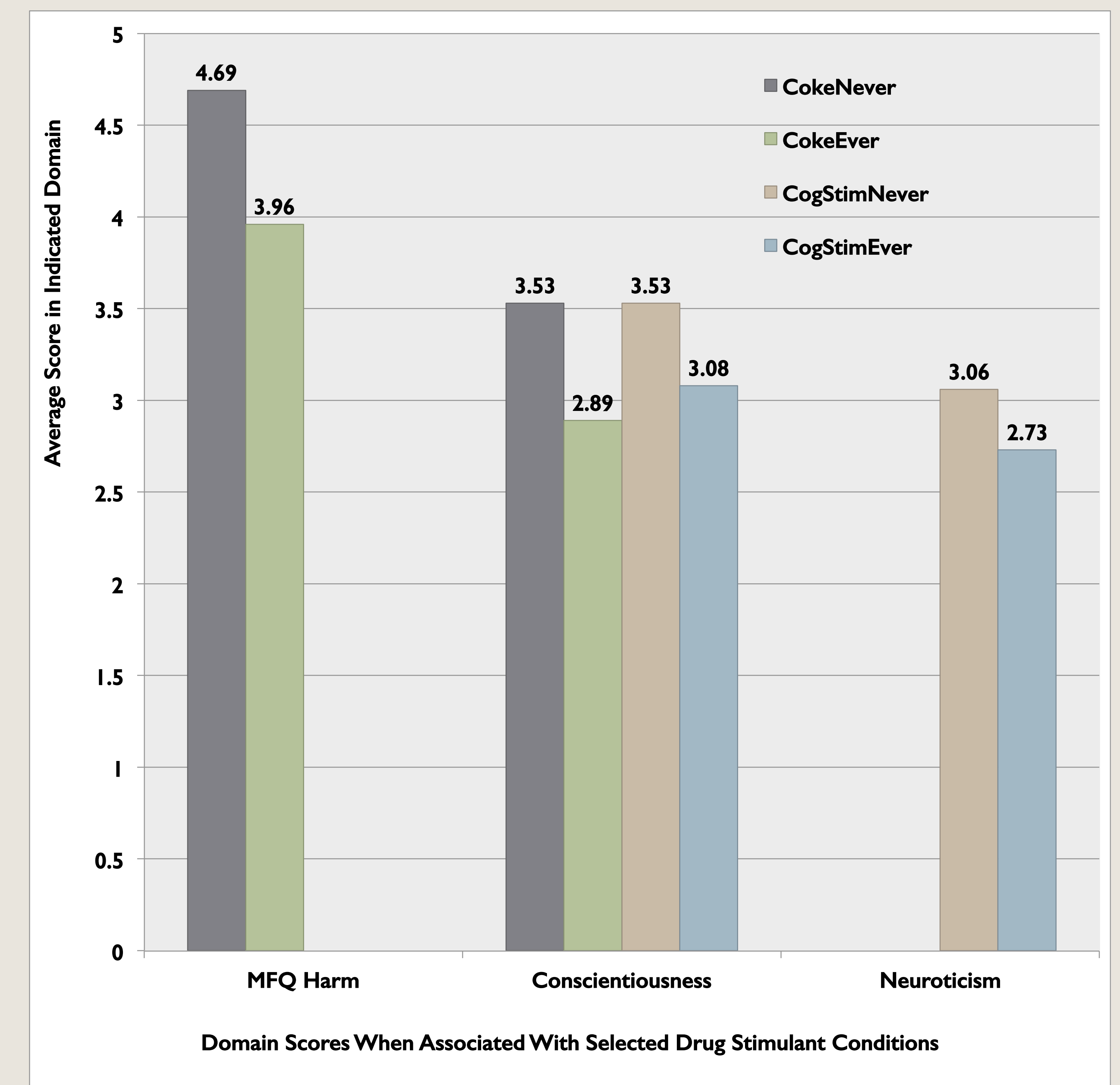


Figure 2: Combined Path Model for Cocaine and Prescription Stimulant Use Prediction

Note: Path coefficients represent standardized Beta weights with  $p < .05$

Figure 1: Mean Domain Scores for Associated Stimulant Use Conditions



## Methods

### PARTICIPANTS:

- Randomly sampled undergraduate students (N=119).

### MEASURES:

- Self-report survey software was used. Instruments included:
  - NEO-PI-3: 35-question inventory that estimates personality factors of individuals across five domains (Agreeableness, Conscientiousness, Extraversion, Neuroticism, Openness).
  - Moral Foundations Questionnaire (MFQ): 30 questions spanning 5 moral domains (Authority, Fairness, Harm, Loyalty, and Purity), evaluating the relevance of each domain to participants' own moral decision-making.
  - Inquiries of individuals' respective stimulant usage history.

### STATISTICAL ANALYSIS:

- A bivariate correlation matrix was run between all independent and dependent variables.
  - The 5 NEO-PI-3 personality domains and the 5 MFQ domains were each run as independent variables (leading to 10 independent variables total).
  - Dependent variables included ever having used cocaine (CokeEver), and ever having used a cognitive stimulant, such as Adderall or Ritalin (CogStimEver).
- Stepwise regressions were run to elucidate which specific variables contributed to the relationship between personality, morality, and stimulant use
- Variables that accounted for unique variance in stimulant use history were ultimately incorporated into a final predictive model.



## Discussion and Conclusions

- As hypothesized, these data demonstrate that conscientiousness was a significant predictor of past stimulant usage.
- While Neuroticism and MFQ Harm scores were able to significantly predict stimulant use, they did so conversely to the manner hypothesized.
- No other personality or morality criterion was able to reliably or significantly predict past stimulant usage.

- Those scoring highly on conscientiousness are frequently understood to have strong impulse regulation and a steadfast sense of duty, allowing a lower necessity for (or desire for the distraction of) a cognitive stimulant such as cocaine or Adderall.
- While taking harm into account when making a moral decision is shown to be a typically liberal value, that doesn't mean that only those who are politically liberal do cocaine. In fact, this high conscientiousness of harm may be the very thing holding people back from doing cocaine, for fear that this cocaine use will harm the self or others.
- The trait of neuroticism is widely interpreted as emotional volatility, so perhaps those who are higher in neuroticism feel less as though they don't necessarily need additional cognitive stimulation from a prescription stimulant.

## Future Steps

- An expanded measure of past stimulant use, rather than just the ever/never dichotomy.
- A broader sample, both in terms of N and in terms of non-undergraduate populations.
- A deeper understanding of the specific culture behind stimulant use at this undergraduate institution, to allow for a more in-depth interpretation of these data would be desirable.
- Administration of these questionnaires, rather than online self-reporting, may elicit more accurate responses from participants and thus more correlational results.

## References

- Graham, J., Haidt, J., & Nosek, B. A. (2009). Liberals and conservatives rely on different sets of moral foundations. *Journal of personality and social psychology*, 96(5), 1029.
- Graham, J., Nosek, B. A., Haidt, J., Iyer, R., Koleva, S., & Ditto, P. H. (2011). Mapping the Moral Domain. *Journal of Personality and Social Psychology*, 101(2), 366–385.