

Risk and Protective Factors Associated to Dietary Supplement Use in College Students



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INTRODUCTION

The FDA defines a dietary supplement (DS) as, “a product intended for ingestion that contains a ‘dietary ingredient’ intended to add further nutritional value to (supplement) the diet” [1].

- Students report taking DS to promote health, provide energy, increase muscle strength, endurance and performance [2].
- 68% of 18-34 year-olds used a DS in the past year [1].
 - Most commonly DS used included vitamins, protein or amino acids, and herbal products [7].
- ~4% of DS users report at least one adverse event during the past year including sleep problems [3].
- 66% of college students report taking DS compared to 50% for the general population [2].
- DS use associated with the “muscular ideal,” which has led to an increase in body dissatisfaction and dangerous behaviors including use of anabolic steroids [6,7].
 - Anabolic steroid is a gateway to other substances including heroin, cocaine and tobacco [8].
- DS use has been linked to depression, anxiety, and sedentary behavior among those with low level of body-image satisfaction [9].
- Misguided chronic overuse of DS may lead to serious adverse health effects including death [2,4,5].
- In summary, misuse of DS in college students may lead to significant health risks. Identifying behavioral predictors of DS use and abuse can be used to develop interventions to prevent DS misuse.

REFERENCES

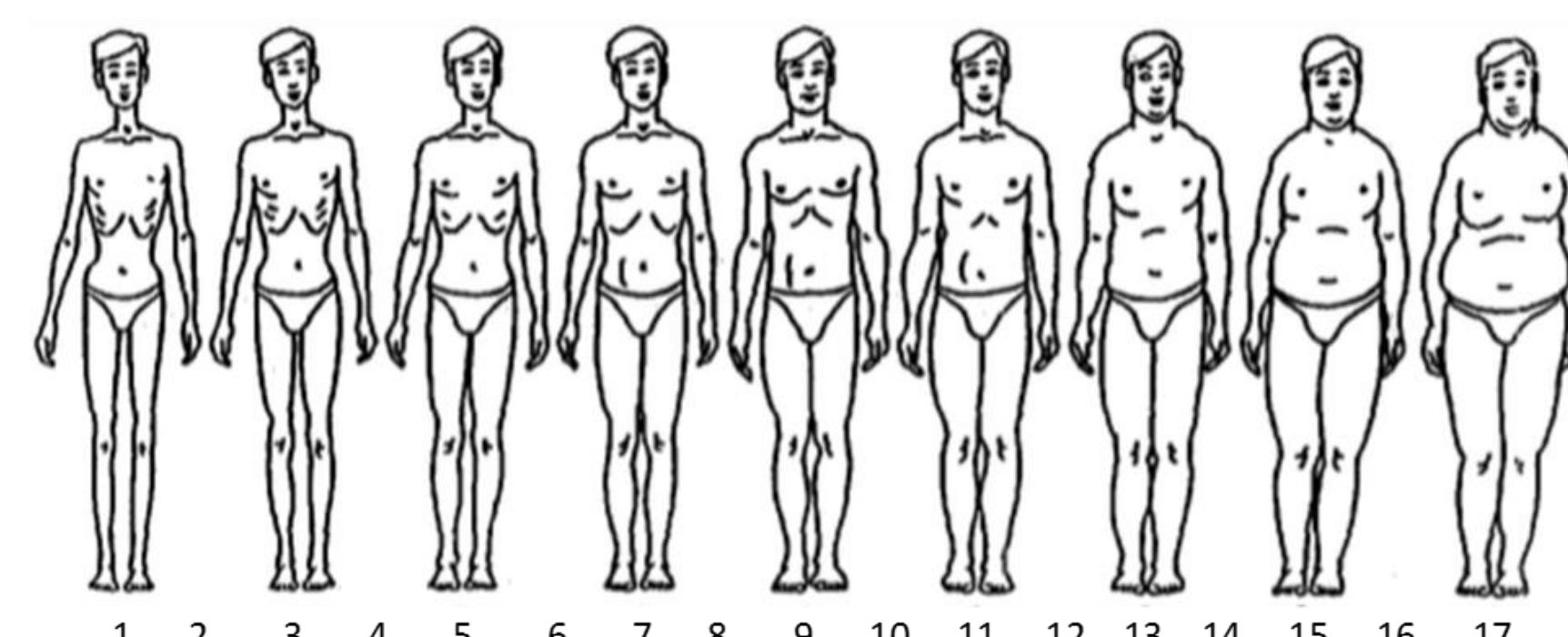
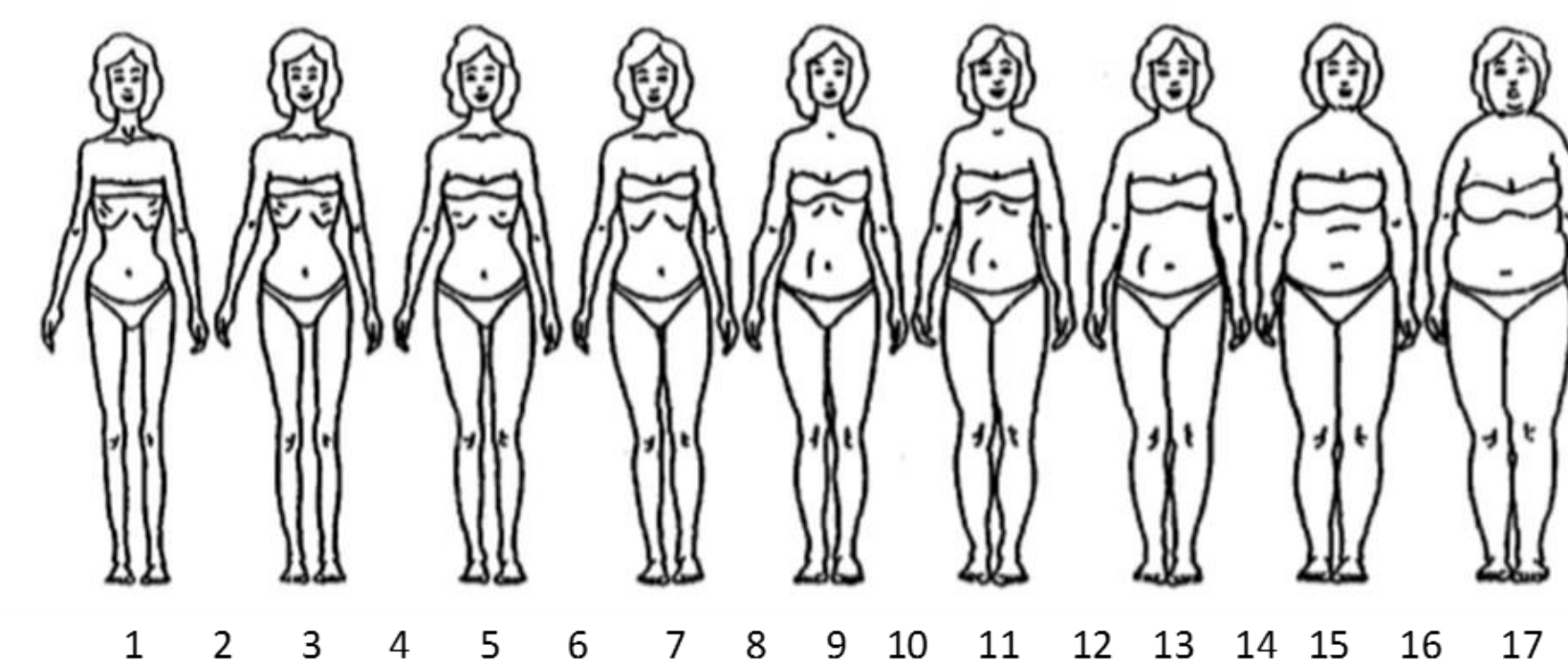
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HYPOTHESES

1. Exercise dependence, low body image satisfaction, and a sedentary lifestyle will be associated with DS use.
2. Pathways leading to substance use will vary by gender, type of physical activity, and types of DS used.
3. High DS use will be associated with substance use, including steroids and ephedrine.
4. DS knowledge will moderate the relationship between DS use and substance use.
5. High DS use will be associated to inadequate sleep.

METHODS

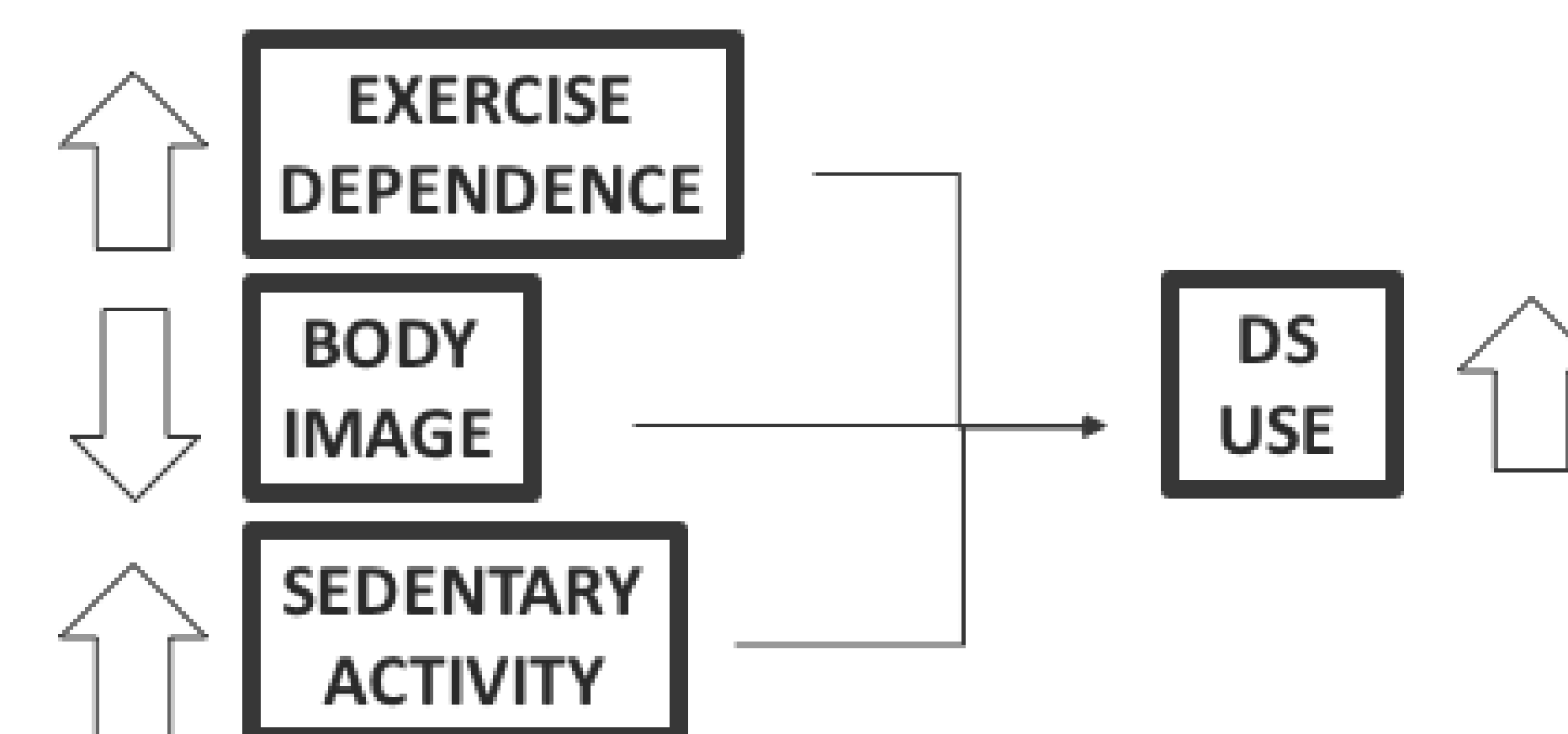
- 300 students ages 18 to 34 will be recruited via email to complete an online survey. Undergraduate students in the Sun Devil Fitness Center listserv from all four campuses will be invited to participate. Participants will be entered into a raffle of 52 - \$10 VISA gift cards.
- The study was approved by the IRB, no personal identifiers will be collected.
- Data will be collected using SurveyMonkey.
- The survey includes some or all questions from:
 - University of Michigan Weight Lifter’s Survey
 - NCAA Student-Athlete Questionnaire – Section 3
 - US Army Active-Duty Personnel - DS and Caffeine Intake Survey
 - Youth Risk Behavior Survey
 - Sports Nutrition Knowledge Questionnaire
 - Sedentary Behavior Questionnaire
 - Exercise Dependence Scale-21
 - Contour Drawing Rating Scale



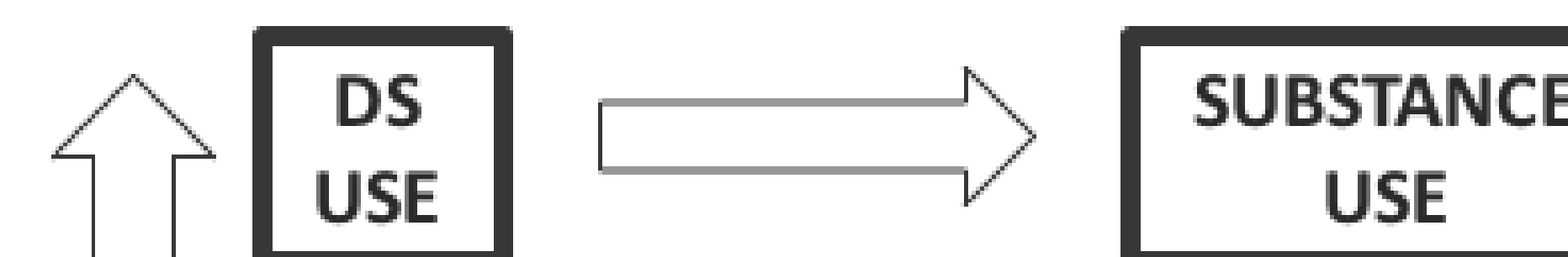
- Center for Epidemiological Studies Depression Scale - Cutoff of ≥ 16 to classify students as depressed.
- Pittsburgh Sleep Quality Index using a cutoff of ≥ 5 as indicative of poor quality sleep.
- Checklist Individual Strength Questionnaire
- Self-report Moderate and Vigorous Physical Activity.

DATA ANALYSIS MODELS

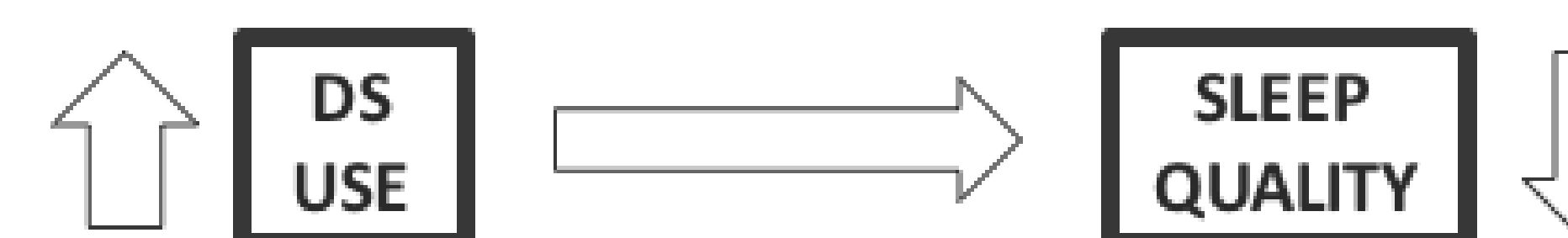
- All scales will be scored according to published algorithms.
- Descriptive statistics and univariate regression analyses will be used to explore the relationship using SPSS 23 (IBM Corp. Released 2015. Armonk, NY: IBM Corp).
- Path analyses will be conducted using SPSS-AMOS 23. Chicago: IBM SPSS.



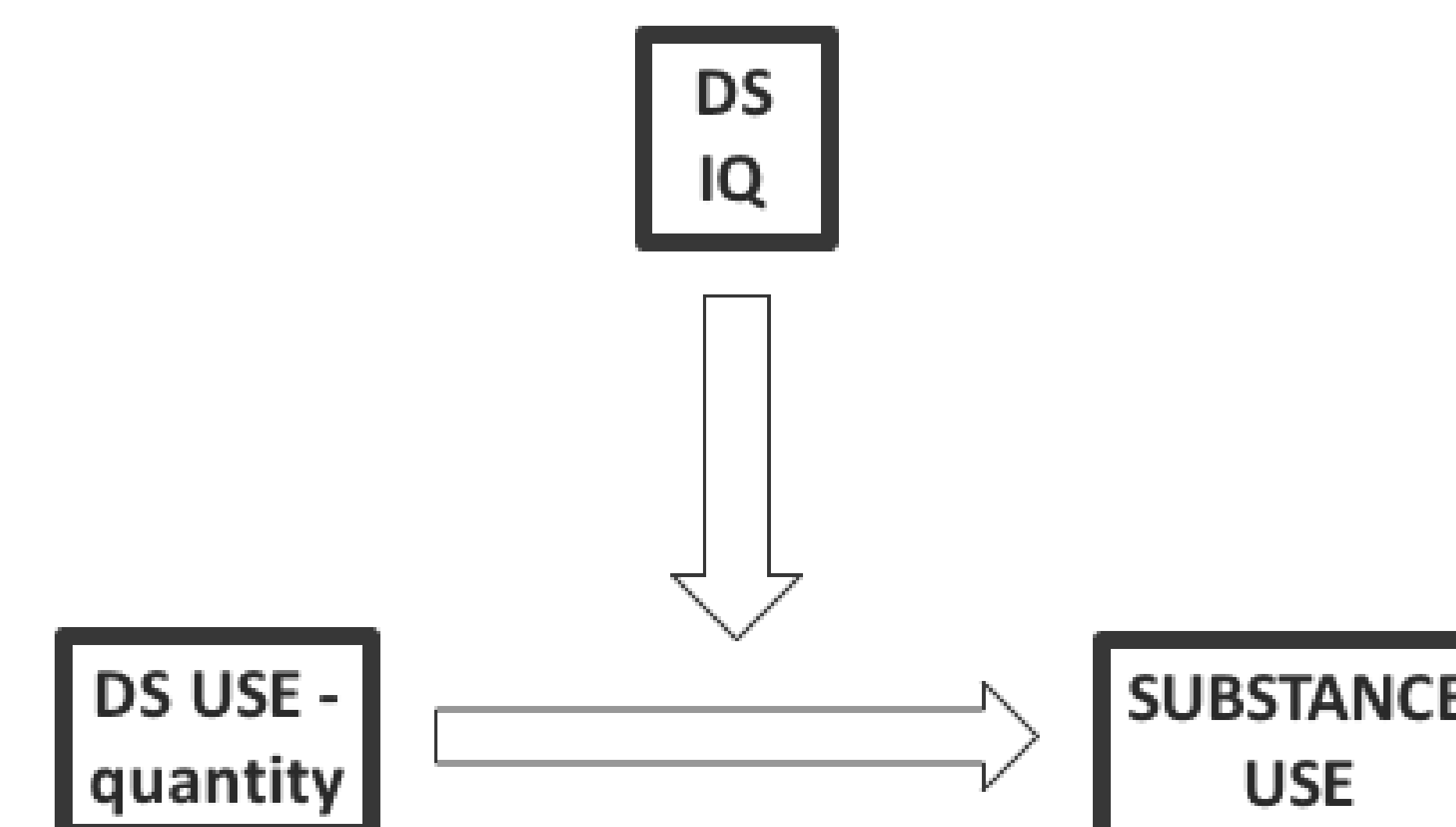
Exercise dependence, low body image satisfaction, and a sedentary lifestyle will be associated with DS use



High DS use will be associated with substance use, including steroids and ephedrine

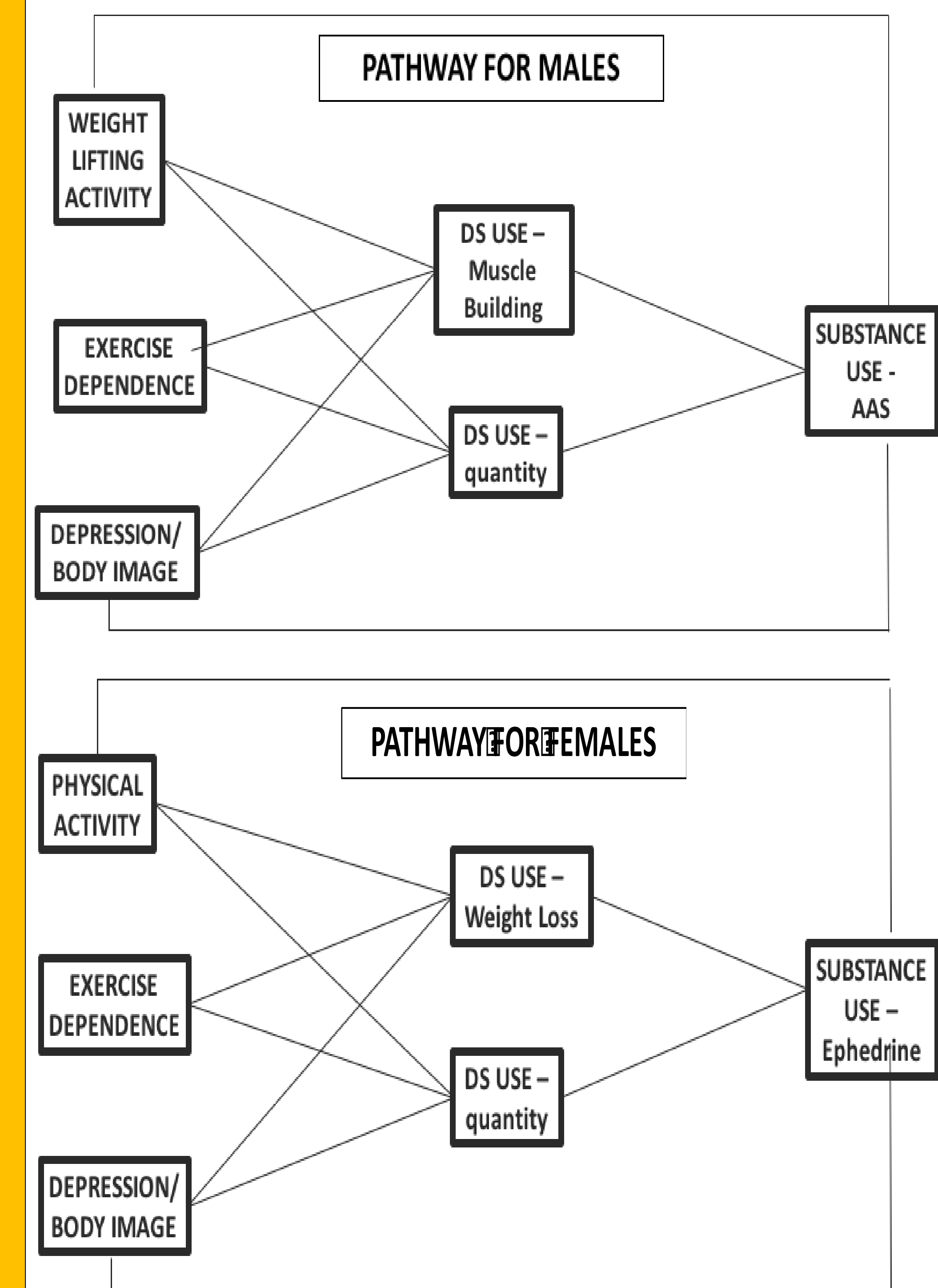


High DS use will be associated to inadequate sleep.



DS knowledge will moderate the relationship between DS use and substance use.

PATH ANALYSIS



CONCLUSIONS

Identifying behavioral predictors of DS use, as well as risks associated with increased DS use can be used to developing behavioral interventions to prevent DS misuse. A confirmation of gender-specific pathways will support the creation of gender-specific programs.

LIMITATIONS

There is a possibility that students will not be honest due to privacy concerns. Asking about illegal drug use may impact students willingness to participate in the study, making it difficult to recruit 300 participants, or may bias the sample.

This study is based on self-reported data rather than direct observation. Self-selected participants limit the generalizability of the findings.

ACKNOWLEDGEMENTS

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