



The Association Between Physical Activity on the Onset of Depression

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Introduction

- In recent years, the number of American adults who experience depression has increased, with one and five adults experiencing depression in their lifetime (Hasin et al., 2005).
- While there have been many studies examining physical activity as a treatment option for depression, there have not been many studies on whether physical activity is associated with a delay in the onset of depression.
- While physical activity has been shown to increase physical health and mental health, it remains unclear whether it might influence future mental health issues such as depression.

Research Questions

- Is there an association between physical activity in adolescence and the onset of depressive symptoms?
- Does the association between physical activity and depressive symptoms differ for individuals who exercise more frequently in adulthood

Introduction

Sample

- Young adults first recruited during adolescents (grade 7 through 12) and followed 22 years later (late 30's and early 40's) were drawn from the first and fifth wave of the National Longitudinal Study of Adolescent to Adult Health (ADDHEALTH)
- ADDHEALTH is a nationally representative sample of civilian adolescent and adult populations of the U.S.

Measures

- The frequency of exercising in wave 1 was measured through the question "During the past week, how many times did you do exercise, such as jogging, walking, karate, jumping rope, gymnastics or dancing?"
- Feelings of depression were measured with a question assessing the frequency of feeling depressed in the last week with possible responses including a range of 1-3.
- The frequency of exercising in wave 5 was measured with multiple different categories, including how many times did you bicycle, dance, hike, hunt, roller blade, roller skate, downhill ski, snowboard, play racquet sports, individual sports, etc.

Results

Univariate

- 45% of people who didn't exercise as adolescents were not diagnosed with depression
- 50% of people who exercised 5 or more times a week in were not diagnosed with depression.

Results

• Bivariate

• Chi-Square analysis showed adolescents who exercised frequently were significantly more likely to have diagnosed depression. $\chi^2=17.8, p<.0.05$.

• Multivariate

- Exercise as an adult (Wave 5), and present symptoms of depression as an adolescent were also found to be associated with depression when controlling for comorbidity
- The interaction between frequency of exercise and sex was not found to be significantly associated with the diagnosis of depression.
- When considering exercise in wave 1 and wave 5, the mean depression diagnoses decrease with more exercise (Figure 1)
- There was a decrease in the mean depression diagnoses when considering Wave 1's depression diagnoses as well (Figure 2).
- As the number of times you exercise in a week increases, the Odds Ratio of being depression free decreases.

Figure 1. Mean Depression Diagnosis by Exercise in Wave 1 and Wave 5

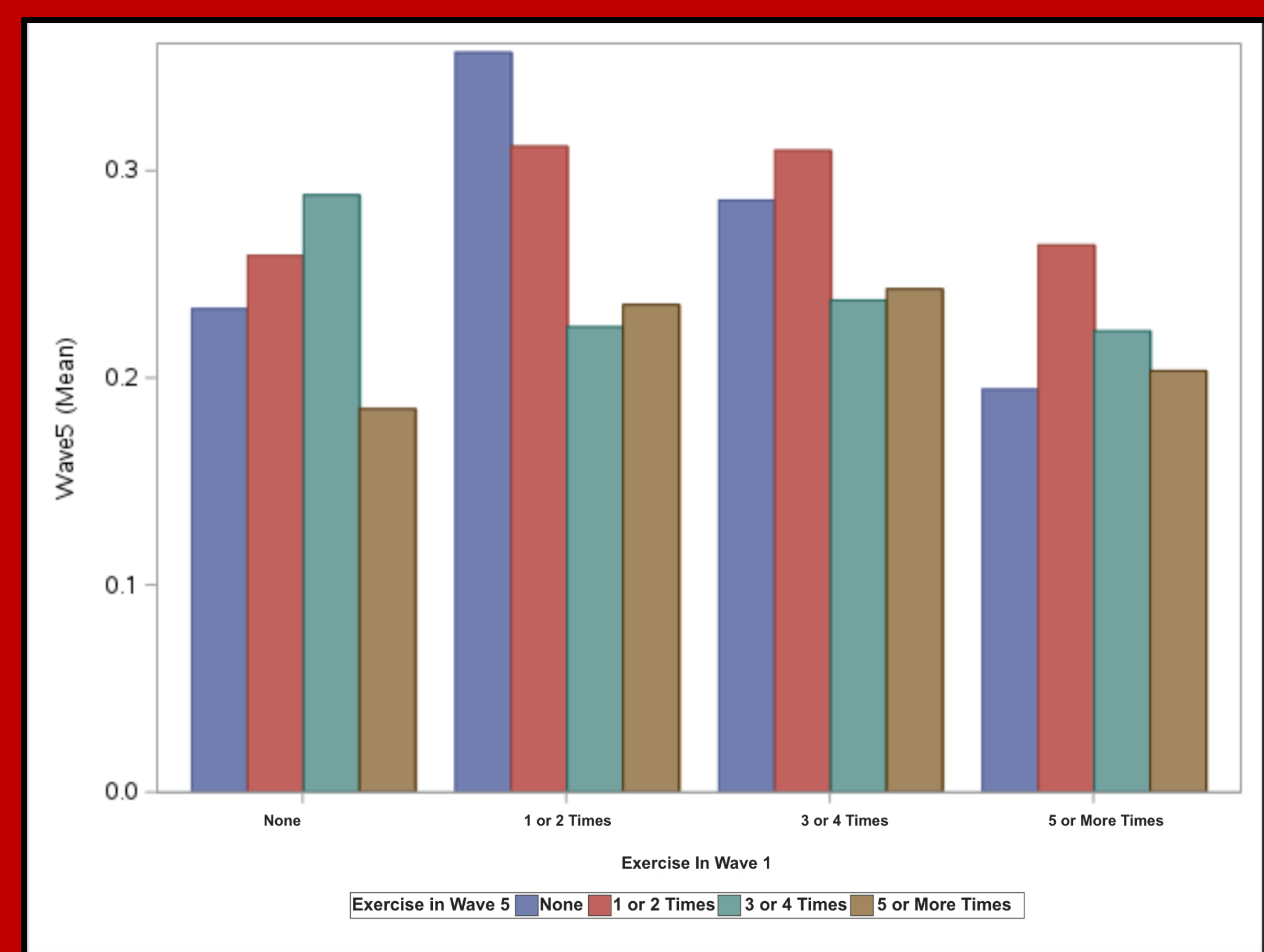
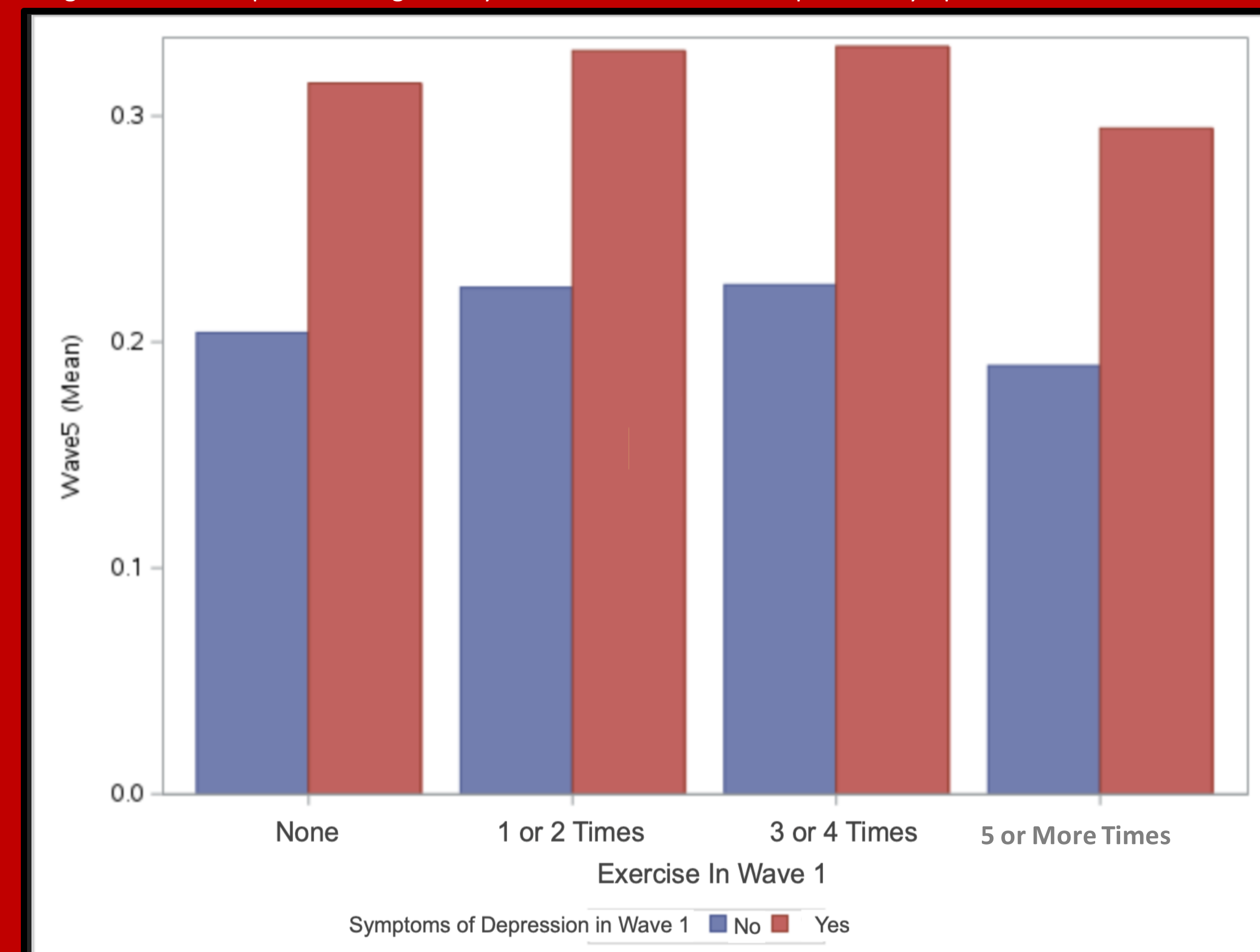


Figure 2. Mean Depression Diagnosis by Exercise in Wave 1 and Depression symptoms in Wave 1



References

Hasin, D. S., Goodwin, R. D., Stinson, F. S., & Grant, B. F. (2005). Epidemiology of major depressive disorder. *Archives of General Psychiatry*, 62(10), 1097. <https://doi.org/10.1001/archpsyc.62.10.1097>