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The Correlation of Consistent Exercise with Depressive Symptoms

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Background

- Depression is a major health issue that affects millions worldwide¹
- Depression is typically associated with individuals who follow a poor diet and are physically inactive²
- Exercise has been shown to negatively correlate with the risk of depression and may protect against the onset of depression³
- PHQ-9 Depression Score is used to screen individuals for depression on a scale from 0-27
- A higher PHQ-9 Score means that an individual has more severe symptoms of depression

The goals of this study include:

1. Identify a relationship between consistent exercise and depression
2. Determine if consistent exercise leads to a reduction in depression symptoms
3. Compare different types of exercise to identify which type has the greatest correlation with depression symptoms

It is predicted that those who consistently exercise will have lower reported symptoms of depression

Methods

Utilized Qualtrics to create a self-reported online Qualtrics survey to be distributed at gyms, family medicine offices, and social media sites via a flyer

Data collection began on June 1st, 2023, and ended on July 3rd, 2023

Data was analyzed using SPSS where frequencies were assessed, and statistical tests were performed to evaluate relationships

Survey Questions

- Demographic information
- Consistency of exercise and length of exercise sessions
- Types of exercise
- Motives for exercise
- Mood before and after an exercise session
- Depression history and PHQ-9 Depression Scale

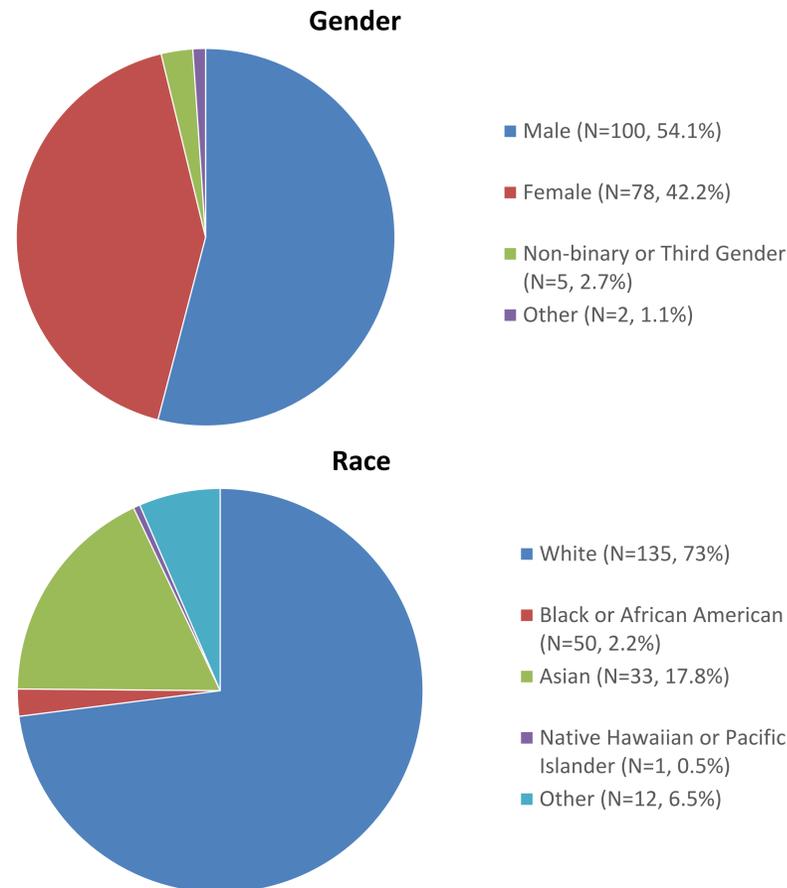
Inclusion Criteria

Only participants who were 18 years or older and exercise were included in the study

Responses

A total of 225 participants responded to the survey with an age range of 18 - 93

Demographics



Discussion/Conclusion

- Female participants and those who are not Caucasian reported higher PHQ-9 scores
- Females were noted to exercise less overall than males, and were more likely to be diagnosed and treated for depression
- Years of exercise, days per week of exercise, and length of exercise session was associated with lower PHQ-9 scores, but the results were not statistically significant
- Total different types of exercise was associated with a statistically significant decrease in PHQ-9 scores
- Exercising consistently with longer sessions and a wide variety of types of exercise can help reduce symptoms of depression
- A limitation of this study is that most participants did not have a history of depression
- Future research should focus on patients with diagnosed depression to further test that exercise can reduce symptoms of depression and be used as a beneficial tool in its treatment

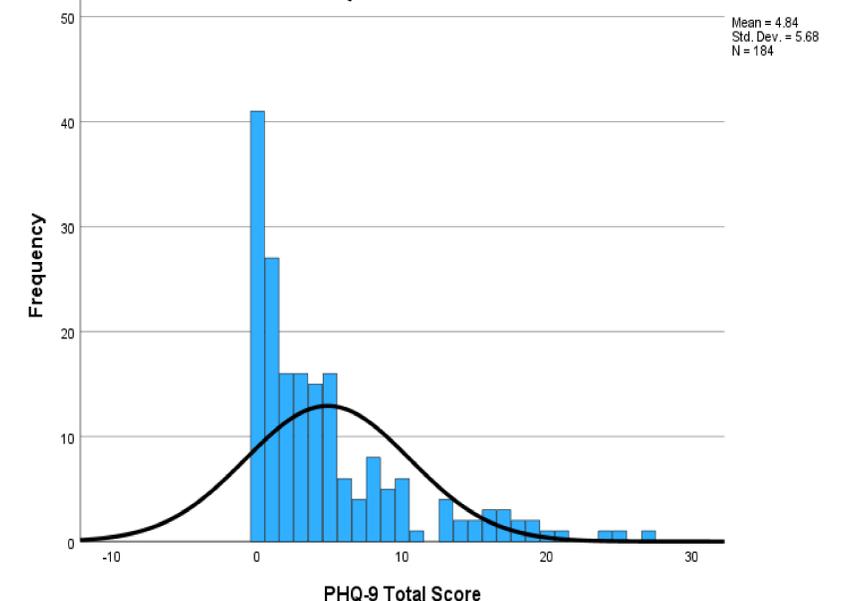
Results

Spearman Rank Correlations with PHQ-9 Score

	N	Spearman R
Gender (Male or Female) Male = 0, Female = 1	177	0.292**
Race (Caucasian or Not Caucasian) Not Caucasian = 0, Caucasian = 1	181	-0.156*
Years of Exercise	171	-0.118
Days Per Week of Exercise	172	-0.035
Minutes Per Exercise Session	172	-0.131
Total Different Types of Exercise	172	-0.154*

*Correlation significant at 0.05 level (2-tailed)
**Correlation significant at 0.01 level (2-tailed)

PHQ-9 Total Score Distribution



References

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