

# Type of Physical Activity and Mental Health

## Abstract

Does your form of exercise influence your mental health? Would your mental health benefit more from going to the gym or going for a walk?

Mental health has only recently been addressed as a vital issue in our society. According to Mental Health America, in 2019 19.86% of adults experienced some form of mental illness (roughly equates to 50 million Americans). The number of youths who have experienced a major depression rose from 8.66% to 12.63%. There are many causes of psychological distress in the world, and it is unique to every single person's life and experiences.

This research is important for all people, but especially for the community of current college students and college graduates. This community have relatively similar situations post-graduation in terms of income and physical capability. Moreover, many are susceptible to suffering within their own minds. This study attempts to find what physical activities may reduce the number of days an individual experiences some form of negative mental health in a month.

## Data

The data was taken from the 2019 Behavioral Risk and Factor Surveillance System survey. It is an annual phone survey designed to collect health data on US citizens.

We chose 2019 because we wanted to look at a more recent year unaffected by the COVID pandemic.

Since there are so many variables that may impact our mental health, we created a more homogenous group to try limiting the factors. This 'profile' has the following characteristics:

Income	\$35,000+
Education	College degree or technical school
Number of children	0, No children
Difficulty walking	No difficulty
General health	All categories except poor health

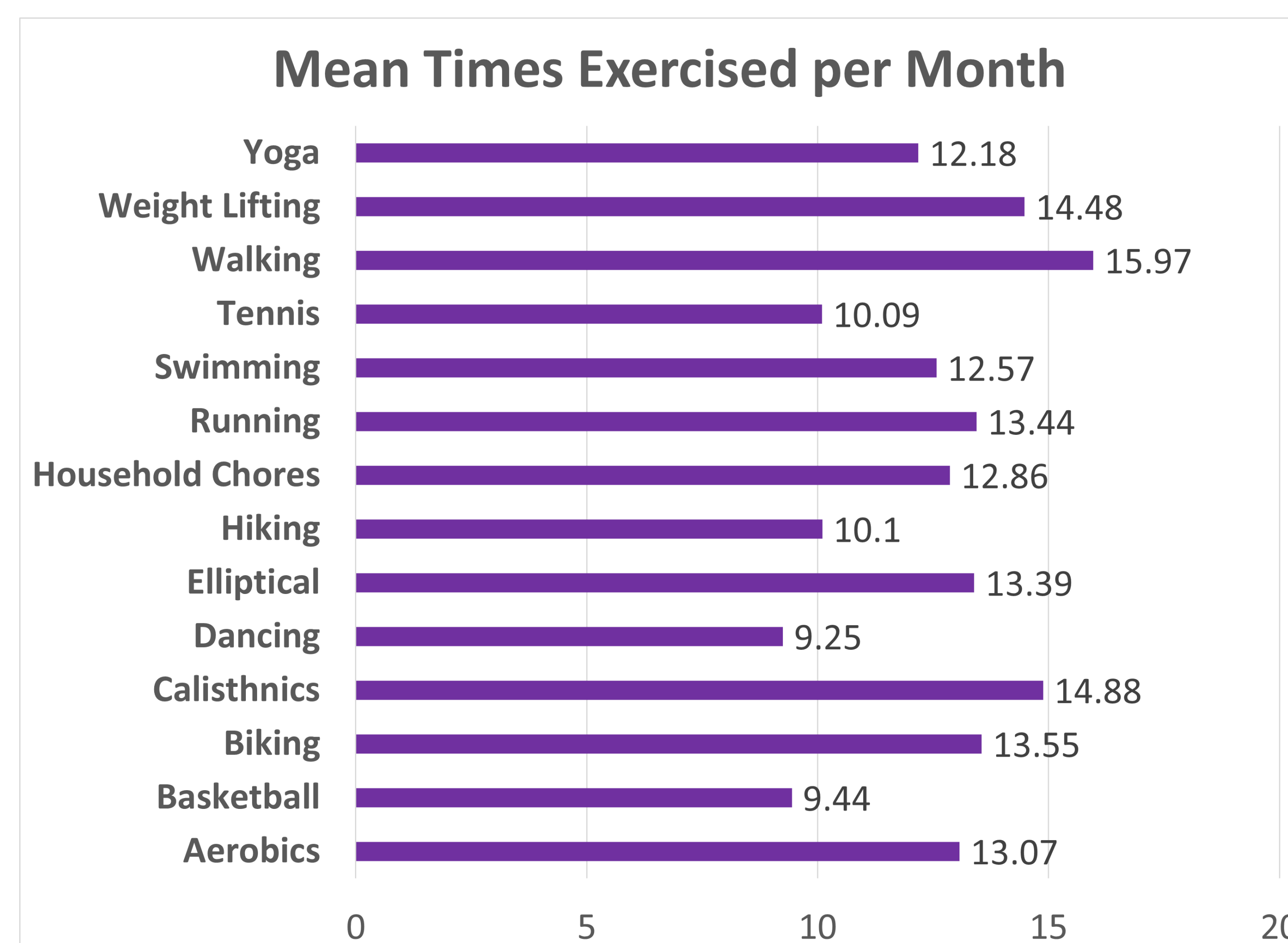
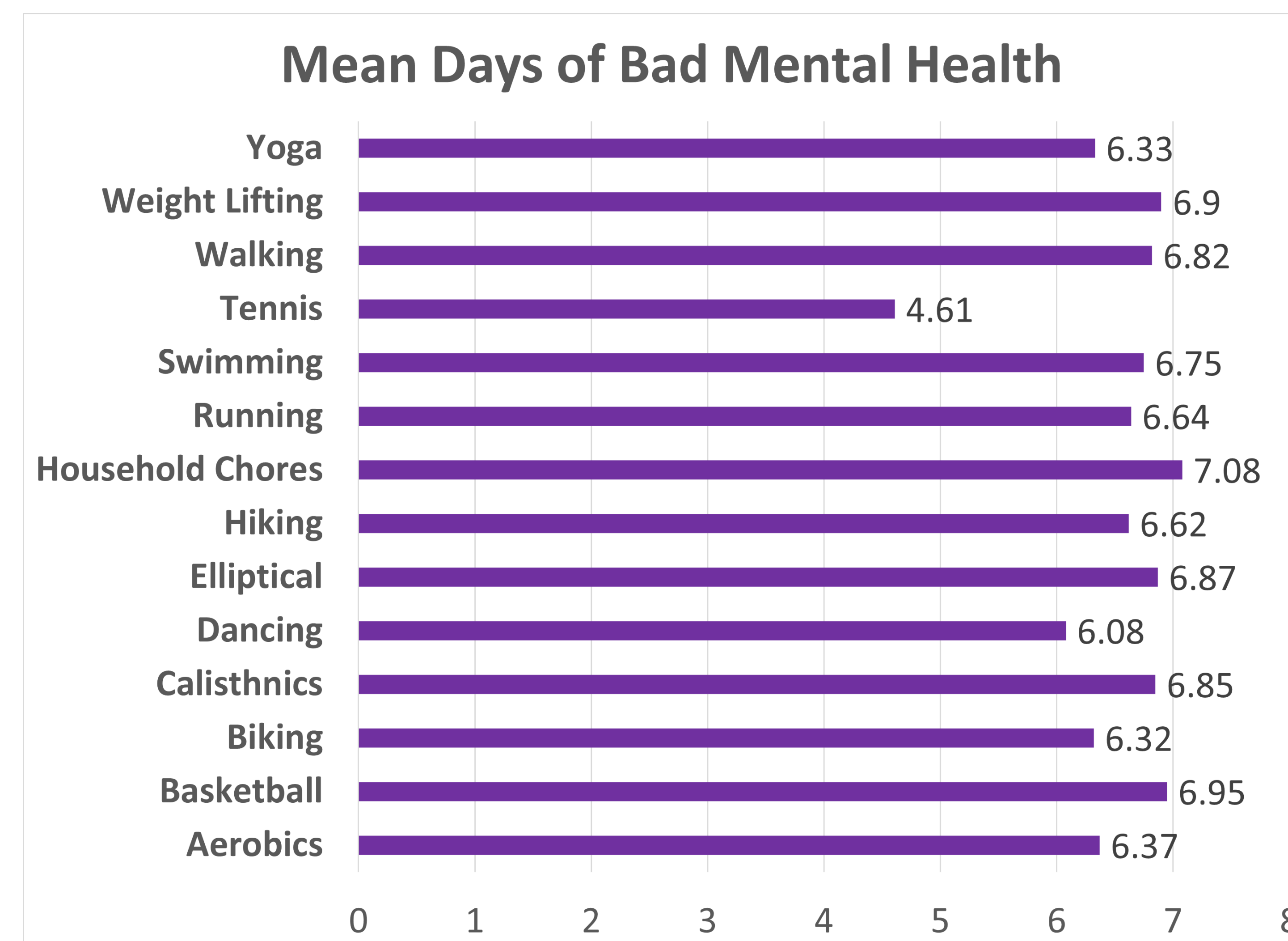
This profile was designed to remove factors that may inhibit a person's ability to exercise.

Weather and interview month were considered as possible influences on mental health (due to seasonal depression and climate), however after preliminary tests these factors had no significant effect.

## Methods

Due to the nature of the data, most of the variables were converted into dummy variables. The data were regressed on several explanatory variables. 14 different activities (determined by highest frequency from all 77 activities on the survey) and a multiplicative term multiplying both the activity and how often they participated in the specific activity in the past month. Since there was very little significance in the first model, we chose to remove rows where the times exercised per month was an outlier. This narrowed the range of times exercised per month from 260 (exercising roughly 8 times a day) to 45 times per month.

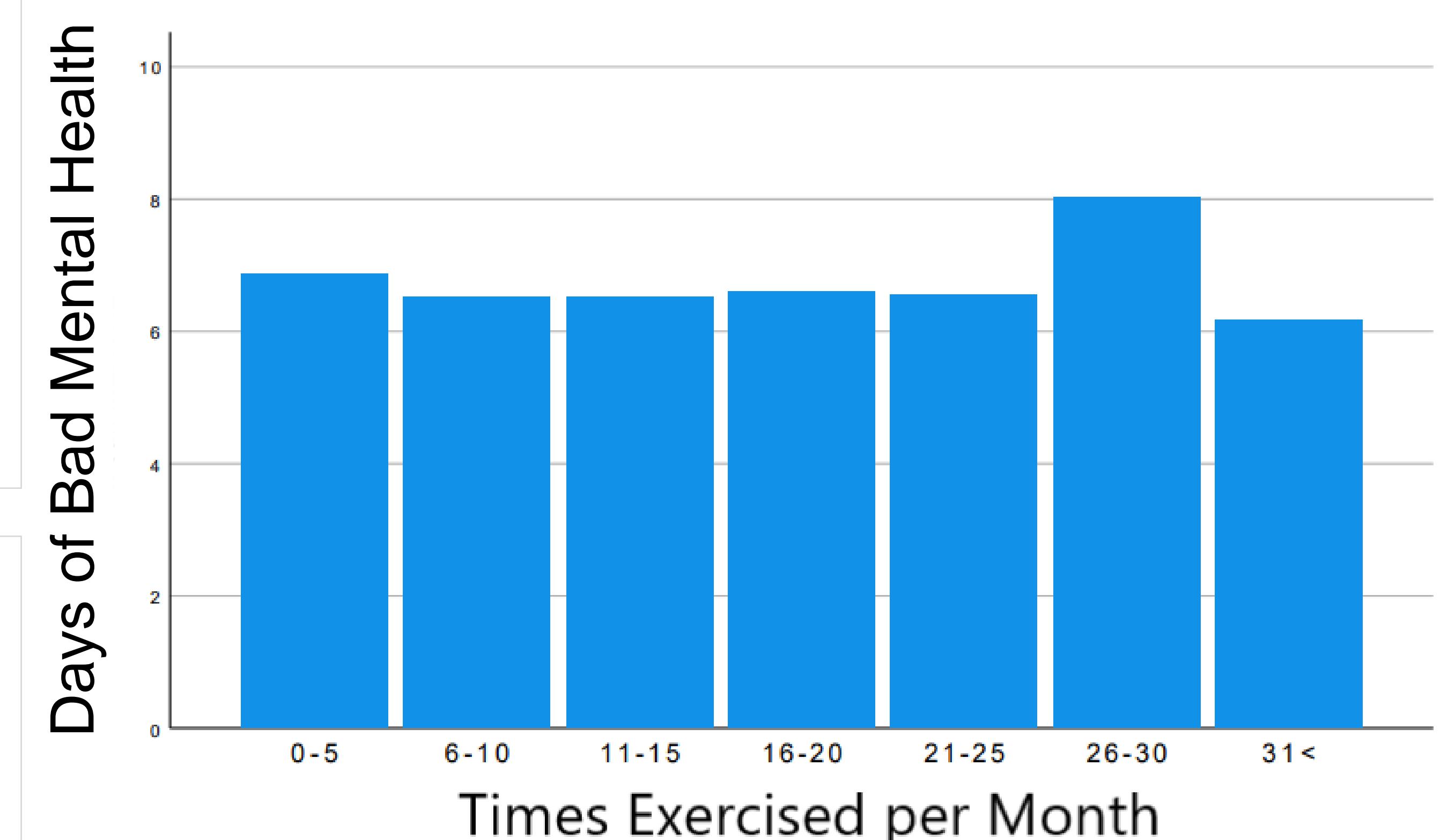
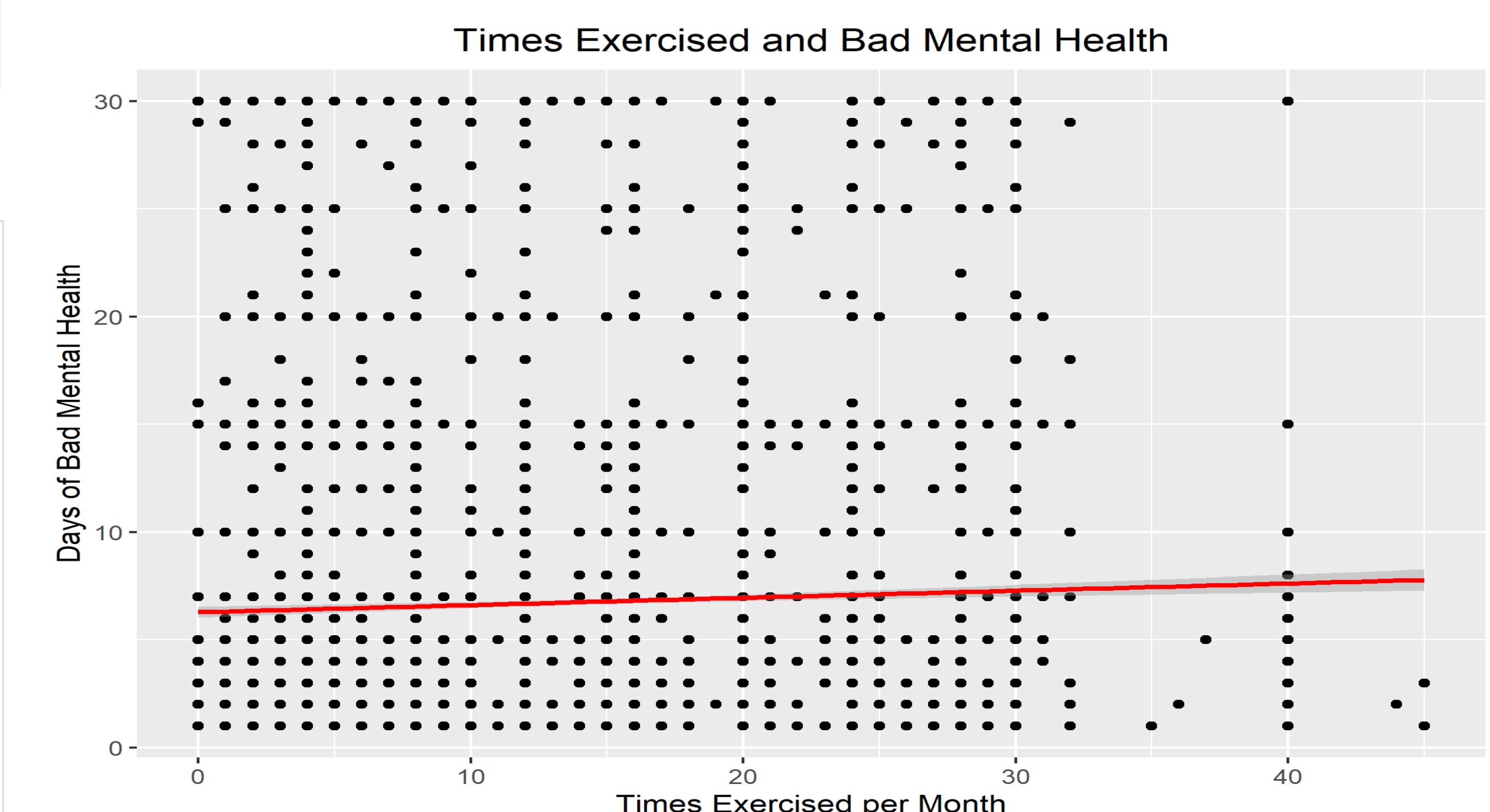
## Results



## Conclusions

In this study, we found that **bad mental health days seem to increase as times exercised increases** (not what we were expecting!). Our linear model of mental health and exercise had a slope of 0.033174.

However as seen in the blue graph, only the group of people who exercised 26-30 times a month had significantly more days of poor mental health. All other exercise groups had average mental health days close to the **sample mean of 6.76 bad mental health days**.



## Acknowledgements

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## References

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