

Physical Activity and its Effects on Physical Health and Mental Health of College Students

Scott Feldpausch Jr., University of Michigan
Sponsoring Faculty: Dr. Weiyun Chen, University of Michigan

Abstract

Background: There is a lot of previous research on physical activity and the benefits that come with it. Most of the research conducted yields some sort of positive results from physical activity. However, there is a scarce amount of research done on physical activity's effect on physical and mental health in college students.

Purpose: This study aimed to determine if there was a positive correlation between physical activity and health of college students, specifically mental health and physical health.

Methods

Participants and Setting

100 Chinese college students at Fudan University voluntarily participated in this study.

Data Collection

Participants completed the following outcome measures:

Health Behavior Survey (Chinese Version): Survey about health behaviors.

Focused on the physical and mental health sections of the survey. Each sub-scale contains 5-6 items anchored with 5-point rating scales.

Objectively measured physical activity and sleep: The 100 participants wore the ActiGraph Activity Monitor (wBT3x-BT) for 7 consecutive days from the first day at 8:00 AM and the 8th day at 8:00 AM (Monday to Monday, Tuesday to Tuesday, etc.)

Results: There was a statistical significance between the difference in Daily Average Moderate to Vigorous Physical Activity (MVPA) Minutes between quartiles, but not between Daily Average MVPA Minutes and physical and mental health

Conclusion: There is no relationship between MVPA and physical and mental health

Research Purpose

The purpose of this study was to find a positive correlation between physical activity and physical/mental health.

Methods

Participants and setting

100 Chinese college students from Fudan University voluntarily participated in this study

Research Design

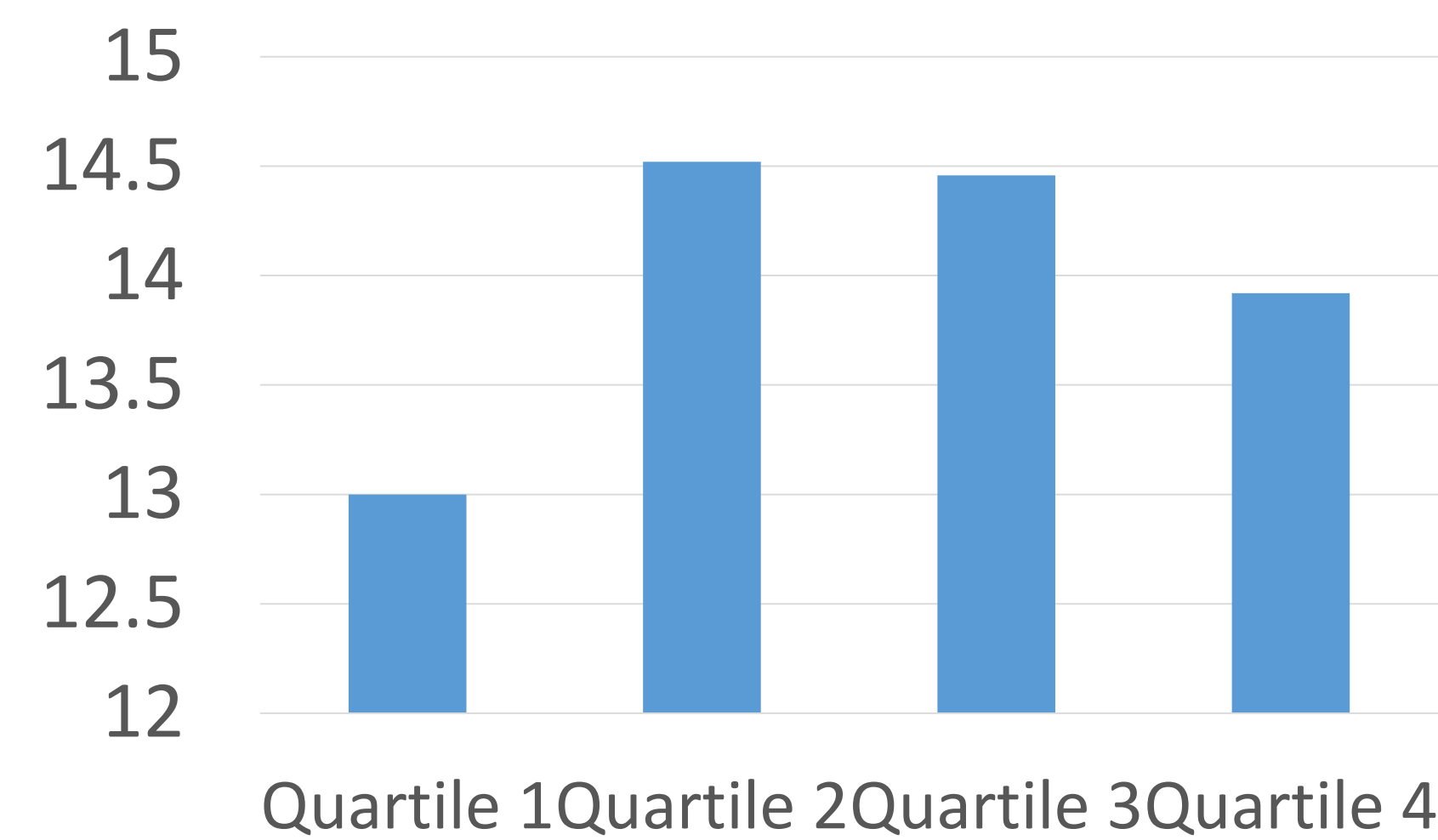
Correlational/Cross-sectional Study

Data Collection

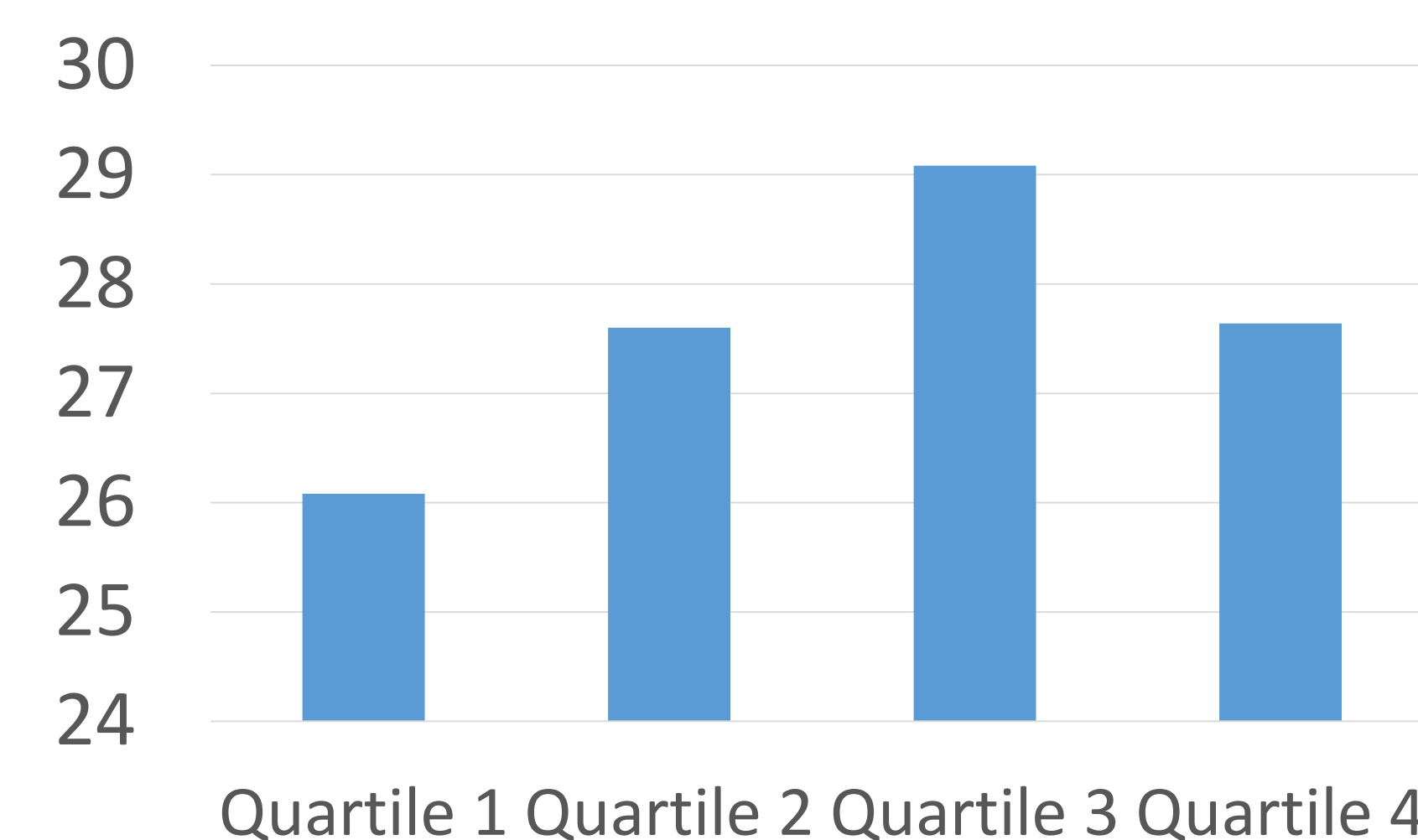
Took place in the fall semester of 2015. Participants completed the following outcome measures:

- **Objectively measured physical activity and sleep:** 100 participants were randomly asked to wear the ActiGraph Activity Monitor (wBT3x-BT) for 7 consecutive days from the first day at 8:00 AM and the 8th day at 8:00 AM (Monday to Monday, Tuesday to Tuesday, etc.)
- **Health Behavior Survey (Chinese Version):** This survey was modified from CDC 2013 and 2015 National Youth Risk Behavior Survey. The Health Behavior Survey is about health behaviors. It consists of four sub-scales including Physical Health, Psychological and Mental Health, Eating, Drinking, and Smoking Behaviors, and Physical Activity Behaviors. We focused specifically on the sections involving physical and mental health. Each sub-scale contains 5-6 items anchored with 5-point rating scales.

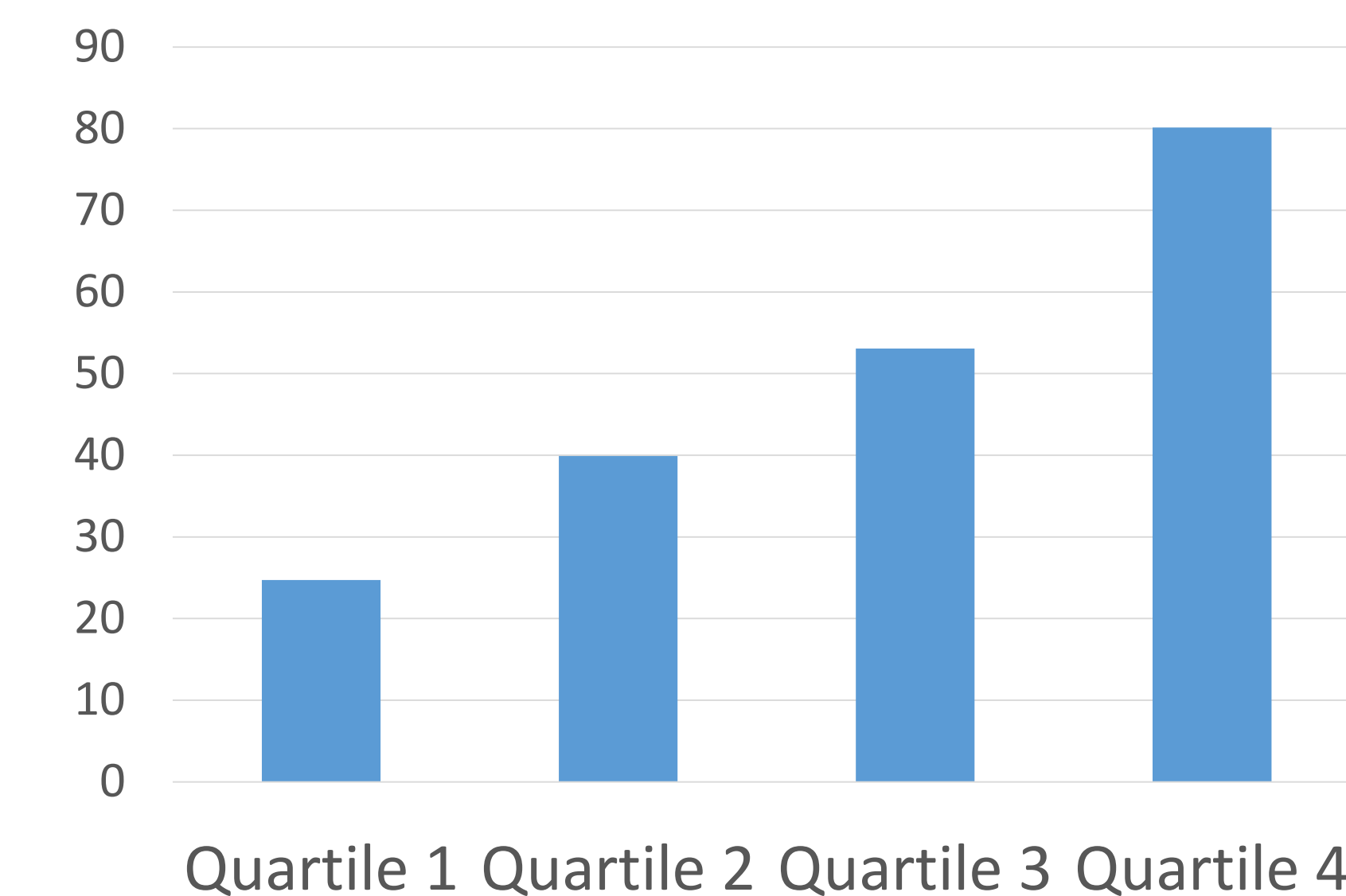
Physical Health



Mental Health



Daily Average MVPA Minutes



Results

- The 4 quartiles varied in amount of Daily Average MVPA Minutes, quartile 1 being the lowest, 2 second lowest, 3 second highest, and 4 being the highest.
- The mean values for the physical and mental portions are the average scores of the mental and physical health question sets from the survey (mental is out of 20, physical is out of 48).
- The mean values for Daily Average MVPA Minutes are the average minutes of physical activity per day for a week.
- ANOVA analysis indicated a statistically significant difference in Daily MVPA minutes among the four groups (quartiles) ($F=20.038$, $\text{sig}=.000$, $p < .01$).
- For physical health and mental health, no significant difference was found among the four groups (quartiles) ($F=1.813$, $\text{sig}=.150$, $p > .05$; $F=2.323$, $\text{sig}=.080$, $p > .05$).

Conclusion

- We can reject the null hypothesis that more physical activity affects mental and physical health of college students.
- The data shows no relationship between Daily Average MVPA Minutes and physical and mental health.
- However, more research and with perhaps larger samples sizes should be conducted to come to a better conclusion.

