

Fitness: Correlation Between Time of Exercise and Number of days of Exercise

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Abstract

There has been an increase in exercising by American adults. Researchers at the U.S. Centers for Disease Control (CDC) (2018) and Prevention found that the percentage of all adults who meet or exceed federal exercise guidelines rose from 18.2% in 2008 to 24.3% by 2017. This study was done to find the correlation of time of exercise per day and number of days per week. A random sample survey of 30 people participated in the study. Survey Monkey was utilized to collect both quantitative and qualitative exercise related data. The scatter diagram of the collected data showed a correlation between minutes of exercise and the number of days per week. The correlation coefficient confirmed that there is a strong correlation between minutes of exercise and number of days per week. The results of this study supports the US Department of Health and Human Services (HHS), the second edition of the Physical Activity Guidelines for Americans (2018). Also the participants were split almost equally on the reasons for exercising: 1) want to lose weight, 2) stay fit, and 3) feel good. This result and the correlation of the study supports that physical activity can make people feel better, function better, sleep better, and reduce the risk of a large number of chronic diseases.

Keywords: Chronic disease, days of exercise, lose weight, minutes of exercise

Introduction

There has been an increase in exercising by American adults (Mundell, 2019; CDC, 2018).

Researchers at the U.S. Centers for Disease Control (CDC) (2018) and Prevention found that the percentage of all adults who meet or exceed federal exercise guidelines rose from 18.2% in 2008 to 24.3% by 2017. .

American Heart Association (n. d.) made the following recommendations for Adults:

- Get at least **150 minutes per week** of moderate-intensity aerobic activity or 75 minutes per week of vigorous aerobic activity, or a combination of both, preferably spread throughout the week.
- Add moderate- to high-intensity muscle-strengthening activity (such as resistance or weights) on at least 2 days per week.
- Spend less time sitting. Even light-intensity activity can offset some of the risks of being sedentary.
- Gain even more benefits by being active at least 300 minutes (5 hours) per week.
- Increase amount and intensity gradually over time.

According to the second edition of the Physical Activity Guidelines for Americans, (2018), physical activities can make people feel better, function better, sleep better, and reduce the risk of a large number of chronic diseases.

However, there is no clear relationship between minutes (time) of exercising per day and number of days per week. Therefore, the purpose of this study was to find the correlation of minutes of exercising per day and number of days per week.

Process

A survey was created to capture the appropriate data needed to address the hypothesis if more days of exercise results in more minutes of exercise. The survey was emailed to 30 participants, 15 males and 15 females. Qualitative data such as gender, age, and fitness level were some of the questions in the survey. Quantitative data such as minutes of exercise and days of exercise were part of the survey questions (Survey Monkey).

Table 1: Exercising

How Many minutes of exercise	Why do you exercise	How do you usually do your exercise?	Would you like to know the results of this survey?
75	It makes me feel good	Alone	Yes
65	I like to stay fit	Alone	Yes
90	I like to stay fit	Alone	Yes
60	I like to stay fit	Alone	Yes
50	I like to stay fit	Alone	Yes
60	I want to lose weight	With a partner	Yes
75	It makes me feel good	Alone	Yes
5	I want to lose weight	Alone	Yes
12	It is part of my job	With a partner	No
180	It makes me feel good	Alone	Yes
60	I want to lose weight	Alone	Yes
45	It makes me feel good	With a partner	Yes
90	It makes me feel good	With a partner	Yes
3	I like to stay fit	Alone	Yes
15	I want to lose weight	Alone	Yes
90	It is part of my job	Alone	Yes
30	I like to stay fit	Alone	Yes
60	I want to lose weight	Alone	Yes
60	It makes me feel good	With a partner	Yes
60	It makes me feel good	With a partner	Yes
40	It makes me feel good	With a partner	Yes
20	I want to lose weight	With a partner	Yes

10	I want to lose weight	Alone	No
100	I like to stay fit	Alone	Yes
90	It makes me feel good	Alone	Yes
25	I want to lose weight	Alone	Yes
45	I like to stay fit	Alone	Yes
20	I want to lose weight	With a partner	Yes
10	I want to lose weight	Alone	No
25	It makes me feel good	With a partner	Yes

Table 1 shows that majority of the participants exercise for at least 60 minutes. The participants are split almost equally on reasons for exercising: 1) want to lose weight, 2) stay fit, and 3) feel good. Most of the participants exercise alone.

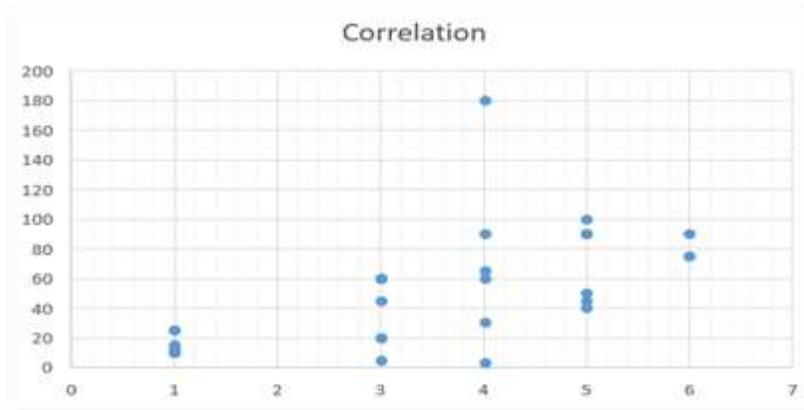
Data Means

Table 2 shows the means of the data calculated show the average days of exercise and average minutes of exercise among the 30 people. The average days of exercise is 3.5 days and the average minutes of exercise is 52.33 minutes.

Table 2. Data Means

How many days out of the week do you exercise?	How Many minutes of exercise
6	75
4	65
4	90
4	60
5	50
3	60
6	75
3	5
1	12
4	180
3	60
3	45
5	90
4	3
1	15
6	90
4	30
3	60
3	60
3	60
5	40
3	20
1	10
5	100
5	90
1	25
5	45
3	20
1	10
1	25
3.5	52.33

Figure 1. Scatter Diagram.



Correlation Analysis and Testing

Pearson's correlation measures the link between two sets of data, in which a linear line in a scatter diagram can depict a relationship. Figure 1, shows the scatter diagram displays increase in days of exercise also increases the minutes of exercise.

A correlation analysis with x = days of exercise, and y = the minutes of exercise, shows that there is a strong and direct correlation between both variables. Table 3 show the correlation coefficient is .5726 if rounded to the fourth decimal. The closer the coefficient to 1 the stronger the correlation between the variables (Lind, Marchal, & Wathen, 2018).

Table 3. Coefficient Correlation Excel Data.

	Days of Exercise	Minutes of Exercise
Days of Exercise	1	
Minutes of Exercise	0.572591285	1
Direct and strong correlation. The increase in days of exercise correlates with the increased minutes of exercise.		

Conclusion

There has been an increase in exercising by American adults. Researchers at the U.S. Centers for Disease Control (2018) and Prevention found that the percentage of all adults who meet or exceed federal exercise guidelines rose from 18.2% in 2008 to 24.3% by 2017.

This study was done to find the correlation of time of exercising per day and number of days per week. A random sample survey of 30 people participated in the study. Survey Monkey was utilized to collect both quantitative and qualitative fitness related data

A correlation analysis shows that there is a strong and direct correlation between minutes of exercising and number of days per week. The results of this study supports the US Department of Health and Human Services, the second edition of the Physical Activity Guidelines for Americans (2018). Also the participants were split almost equally on the reasons for exercising: 1) want to lose weight, 2) stay fit, and 3) feel good. This result and the correlation of the study supports that physical activity can make people feel better, function better, sleep better, and reduce the risk of a large number of chronic diseases.

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