Health and Exercise Coorelation

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The purpose of my research proposal is to evaluate the correlation between exercise and health. I intend to study how physical activity can greatly improve overall health and dramatically reduce the risk of different diseases such as cardiovascular disease, diabetes, cancer, hypertension, obesity, osteoporosis, and many more. As the researcher I will be looking at people from the age of 60-80 and will be eyeing on the differences of weight and BMI of individuals who are active and those who are not. The data would be collected through a survey just asking age, height, weight, and activity level scaled from 1-5, 1 being poor and 5 being very active. Due to the information given, I will be able to calculate the BMI with the height and weights given with a simple formula. I will then be able to look at the BMI of individuals and relate it to their activity level to see any correlation.

This is a great study to see how living an active lifestyle can change your health immensely. Obesity is a nasty killer these days, and it is becoming an epidemic. It is important to have real evidence that directly shows how being inactive can put you at greater risk for many diseases and even death, while being active can cut that risk in almost half.

A study was done at the Massachusetts Medical Society that dove right into this topic and intended to look at inactive and active individuals and evaluate their disease risk and mortality rate. They looked specifically at middle aged men and women who were not as active and increased their physical activity. The results showed that with increased activity, both the men and the women were found to have reductions in relative risk, around 20-35%, of death. Another study was done that studied men and women for over a span of 8 years, and saw that the ones with the lowest activity level had the highest risk of death and disease. Certain diseases, like

cardiovascular disease had as great as a 50%reduction in individuals that were physically active (Warburton, Nicol, Bredin, 2006).

Another study, that focused more on children rather than middle aged individuals, had similar findings of activity and health association, but also found increased cognitive performance as well. This study looked at students spending more time on a subject matter with no activity, to no time on the subject matter but decent amount of activity. They found no correlation to learning more from spending more time on the matter at hand, but rather saw that 11 out of the 14 studies done showed physical activity that was performed during the school day increased academic performance in students. They saw that children were responding much faster and with much more precision after a session of physical activity. This study shows that activity does not only promote a healthy body but also a healthy mind (Kohl, 2013).

An article posted in 2016 by heart.org goes a little more into how much exercise is recommended to reduce risk of diseases and death. It is recommended to get 150 minutes of light activity per week, or 75 minutes of vigorous activity per week. Any physical activity that gets the heart pumping such as aerobic or even better weight lifting exercises are great for reducing risk of diseases and promoting long term health. However, any activity is good as long as you are meeting the 150 minutes per week (“What’s the Link”, 2016).

Overall, it is clear that a healthy heart, mind, and body is directly related to being active. Being physically fit can not only reduce your risk of disease and death, but can also improve mental cognitive abilities. Even diseases that have already formed can be reduced or sometimes even cured through physical fitness.

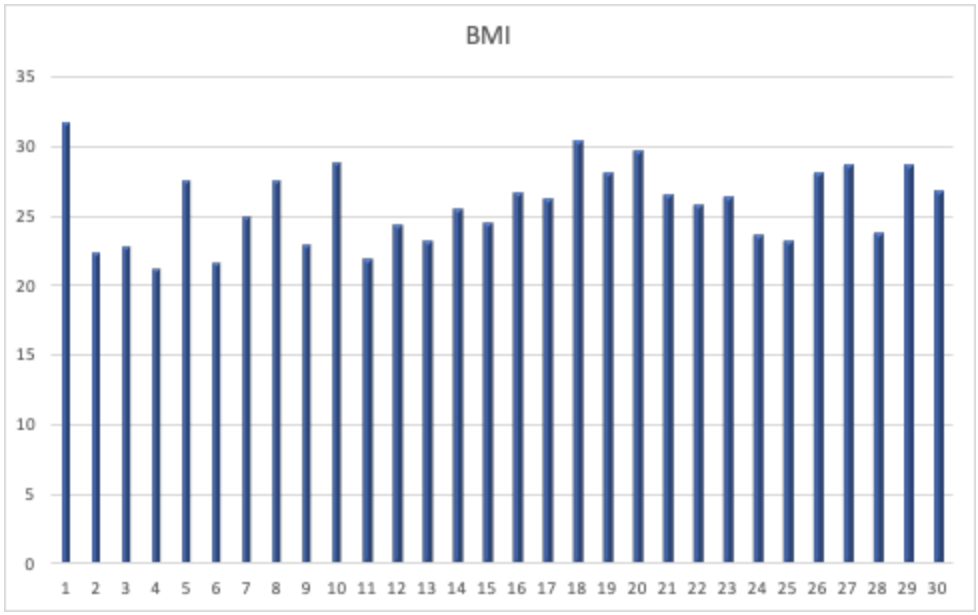
Determining Body Mass Index (BMI), is a number that is calculated to determine the percent of fat on the body. This number can be used to assess if an individual is overweight or obese, but can also show if someone is very underweight as well. There is a range that will tell a person if they are underweight, normal, or overweight. If your BMI is less than 18.5, it falls within the underweight category. If your BMI is 18.5 to 24.9, it falls within the normal/health category. If your BMI is 25.0 to 29.9, it falls within the overweight category. If your BMI is 30.0 or higher, it falls within the obese category.

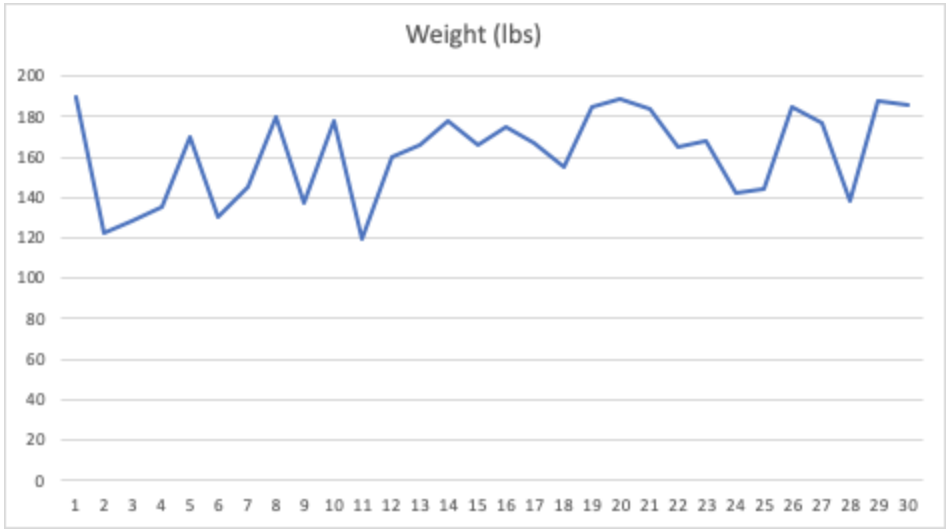
In order to calculate someone's BMI, the equipment needed is a scale to determine weight, and a stadiometer in order to measure height. The reason height and weight is needed is because that is how BMI is calculated. BMI is a person's weight in kilograms divided by the square of height in meters. In terms of facility, there is no specific facility that determining BMI needs to take place in. Due to the fact that it is a simple equation, as long as there is a scale to record weight and a stadiometer to record height, BMI can be recorded anywhere.

Also for my research, there was a survey conducted, which was the main form of information needed to determine results. This survey was made to get information from the participants the study was going to be using. The questions for the survey are made and then presented to Human Resources to approve. If Human resources believes there is an issue with any of the questions they will have to be edited or taken out and then re-presented to HR. Once HR fully approves the survey it as able to be sent out or posted on a website for participants to take.

Subject	Gender	Age	Overall Health	Weight (lbs)	Activity Level	BMI
1	f	80	1	190	1	31.6
2	f	67	2	122	2	22.3
3	f	74	3	128	2	22.7
4	f	70	2	135	3	21.1
5	f	71	2	170	2	27.4
6	f	68	3	130	3	21.6
7	f	80	2	145	2	24.9
8	f	85	1	180	1	27.4
9	f	82	4	137	4	22.8
10	f	78	1	178	1	28.7
11	f	71	2	119	3	21.8
12	f	75	1	160	2	24.3
13	m	60	2	166	2	23.1
14	m	75	3	178	2	25.5
15	m	79	1	166	1	24.5
16	m	69	2	175	2	26.6
17	m	78	2	167	1	26.2
18	m	89	1	155	1	30.3
19	m	88	2	185	2	28.1
20	m	73	1	189	1	29.6
21	m	86	2	184	3	26.4

22	m	81	3	165	3	25.8
23	m	79	3	168	3	26.3
24	m	87	3	142	2	23.6
25	m	89	1	144	1	23.2
26	m	82	2	185	3	28.1
27	m	73	1	177	1	28.6
28	m	77	3	138	3	23.7
29	m	87	2	188	3	28.6
30	m	70	2	186	2	26.7
Overall	Mean	77.43	2	161.73	2.07	25.72
	SD	7.42	0.83	22.23	0.87	2.78
Female	Mean	75.08	2	149.5	2.17	24.72
	SD	5.938	0.95	22.45	0.94	3.34
Male	Mean	79	2	169.89	2	26.38
	SD	8.07	0.77	16.28	0.84	2.20
R Value		-0.0896	0.7651	-0.3278	-0.464	-0.4981


BMI
35
30
25
20
15
10
5
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30


Weight (lbs)
200
180
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

This study started out as a correlation study involving two groups, one being called group A and the other being called group B. The BMI of each individual in the study ranged 20-32, and they were randomly put in group A or group B. The study took place over a 4 week span, and group A was required to exercise 4 days a week for 30 minutes. The exercise could have been weight lifting, sports, running, bicycling, swimming, or even walking. Group B was to perform no extra physical activity for the four weeks besides walking around for daily activities. The only thing that was assigned was exercise. No diet changes for either groups were made, however, they were told to eat the normal amount they always dd (maintenance calories).

After four weeks, the participants in group A had a reduction of BMI of around 2%. The participants in group B did not have any reduction in BMI, and the results showed actual increase in BMI for certain individuals. This goes to show that exercise does in fact correlate to health and BMI. There was no specific training or exercise required, just some form of physical activity for 30 minutes 4 times a week.

According to the results, I would definitely say that exercise is something that should be implemented and can improve overall health and wellbeing. Although the results did show improvements due to exercise, there were some limitations to the study. One of the limitations being that they did not take into account exact diet, so people who were exercising more could have been eating healthier or less, and could have been getting better sleep, etc. This also could apply vice versa to the people not exercising that they could have had worse sleep which caused them to eat more, or could have just been eating more in general. Basically, extraneous variables were not fully taken into consideration.

References

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