The science of exercise and happiness

Introduction

In my science fair project, I want to determine whether engaging in physical exercise increases endorphins levels and leads to improved mood. Does exercise increase the release of endorphins in the brain then leading to improved mood. This is important because it can improve mood, and help you feel better.

Statement of the Problem

I want to do this experiment because I am curious about how exercise affects how we feel. Many people say that exercise makes them feel happier. I want to understand how endorphins (chemicals in our brain) can make us feel good!

Hypothesis

Does exercise increase the release of endorphins in the brain then leading to improved mood.

Materials

- Exercising shoes 1 pair
- Top 1
- Shorts 1
- Socks 2
- Speaker as many as you need 1-3
- Equipment

Shirt

Shorts

Socks

Speakers

Equipment

Shoes

Variables

- Independent-exercise
- Dependent-endorphins level and mood
- Control-time, environment, diet

Procedures

1. Choose the music
2. Choose the type of workout
3. Choose a time or goal for your workout
4. Repeat for 10 days
5. Ask them how they feel and tell them to rate on a scale of 1 to 10 their mood level.

Results and Data

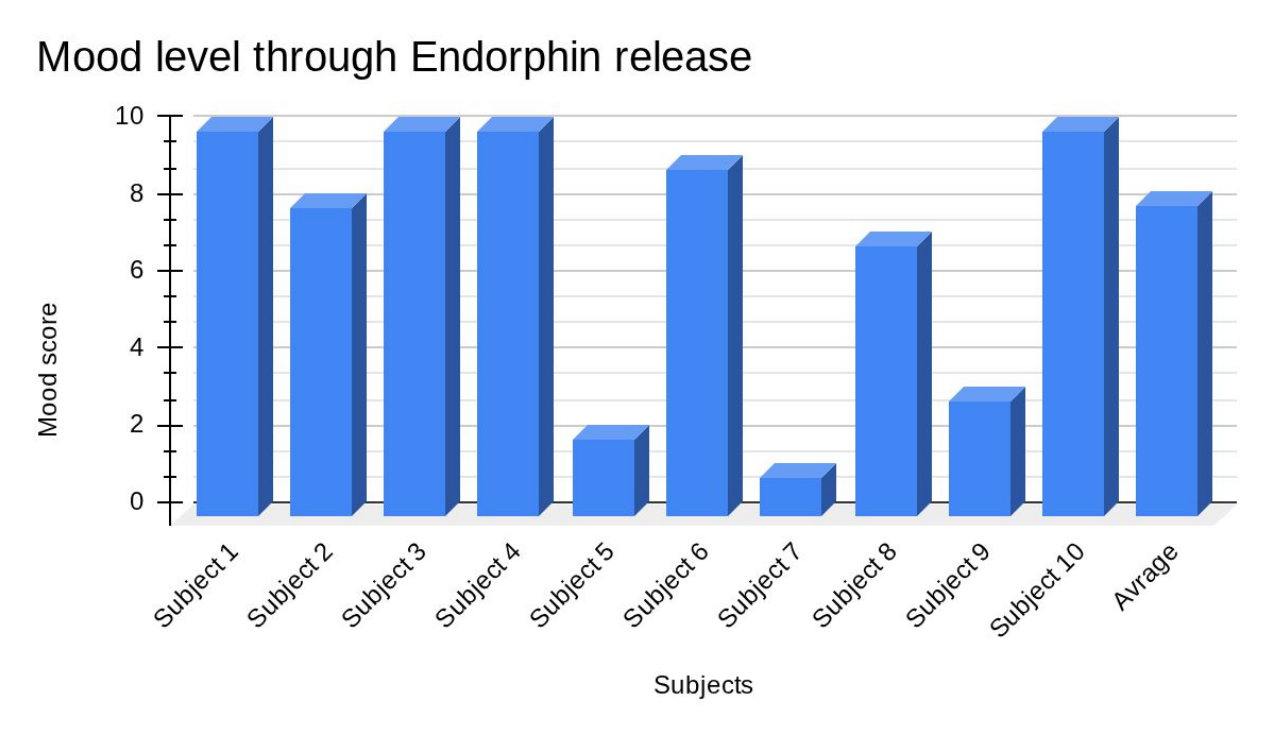
This section presents the results of the experiment, including measures and observations recorded during each trial. My hypothesis was supported and led to mood increase. On the first trial subject the recursion was a 10 in feelings of increased mood after the workout. On the second trial subject the recursion was a 8 in feelings of increased mood after the workout.

Results: Data Table

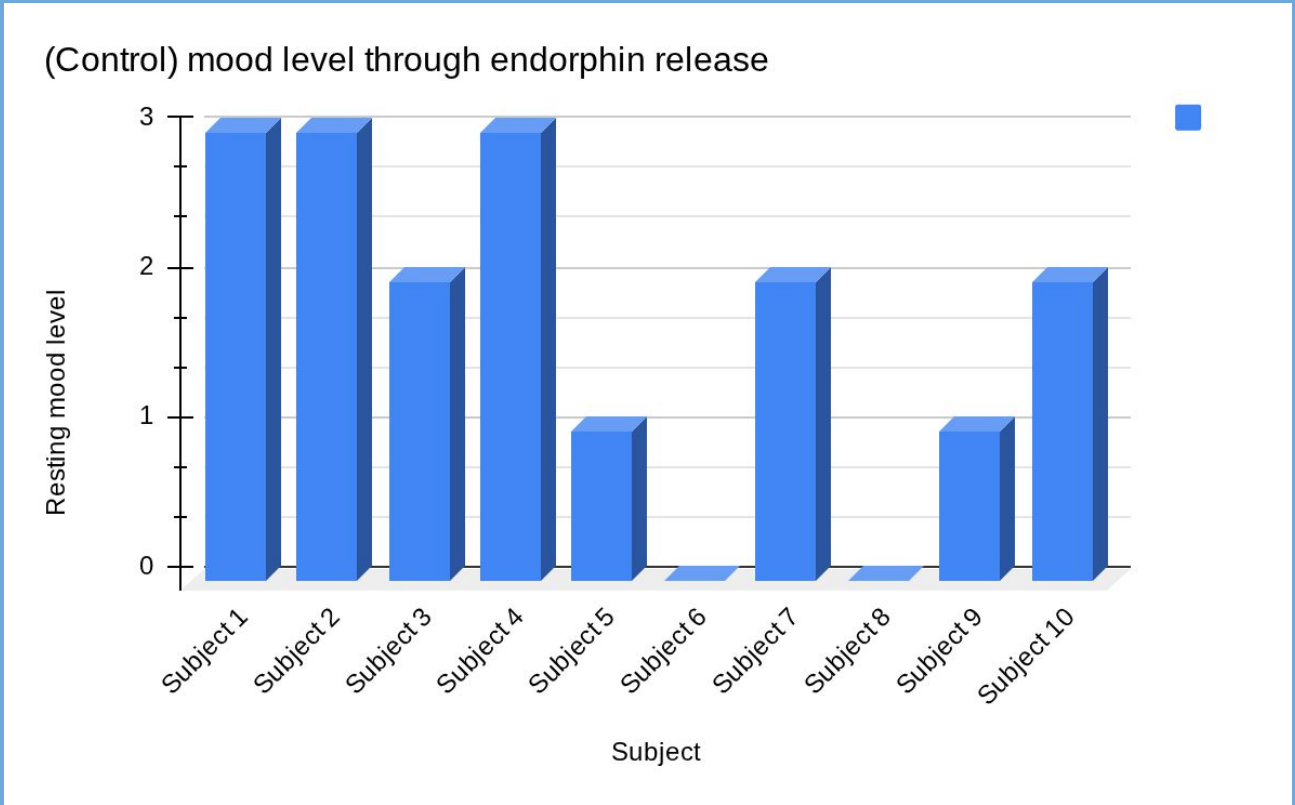
Control	
Subject 1	3
Subject 2	3
Subject 3	2
Subject 4	3
Subject 5	1
Subject 6	0
Subject 7	2
Subject 8	0
Subject 9	1
Subject 10	2
	Mood score

Test group	Mood Score
Subject 1	10
Subject 2	8
Subject 3	10
Subject 4	10
Subject 5	2
Subject 6	9
Subject 7	1
Subject 8	7
Subject 9	3
Subject 10	10
Average	8.09

Results: Data Graph



Results data graph (control)



Photographs of Project:

Test group

Conclusion

1.This experiment I determined whether exercising for a week increases mood or keeps it the same. And yes according to my project and several data it does improve mood. This is because when you exercise your brain releases endorphins which can lead to improved mood by stimulating your brain's pituitary gland and hypothalamus.

2. My hypothesis was correct. Exercise does increase the release of endorphins in the brain leading to improved mood. The tested group did report an increase in endorphin release leading to increase in mood. The participants had fun while moving versus the control group didn't have any release or improved mood.

3. According to my data analysis it showed that the type of exercise used was not preferred for others. Like CrossFit others preferred cardio. And the change of mood was increased mostly by those who do exercise on a daily basis. But the ones that don't exercise were just neutral with their mood

Implications and Ideas for Future Research…

4. In this lab I learned that exercise helps release endorphins which are chemicals in your brain which can lead to improved mood by stimulating your brain's pituitary gland and hypothalamus. Also that the type of exercise you do affects your mood like if you do weights and you don't like doing it it won't be the same as if you do running and you love running you get more into it and have more fun.

5. If I do this experiment again, I will choose the group by experience category such as; high intensity workouts, hot yoga, strength training . Secondly, do a 1 minute recovery time within each workout. Then, I would conduct the trial longer and not just 10 weeks, maybe a 30 day challenge. Finally I would let them choose what type of music they want to listen to.

References

Pavagadhi, N. How does exercise affect endorphins? *Projectboard*.

https://partner.projectboard.world/ysc/project/how-does-exercise-affect-endorphins

Darlene E. Jenkins, Ph.D., Science Buddies. Can Exercise Really Make Our Brains Work Better? *sciencebudies.org*.

https://www.sciencebuddies.org/science-fair-projects/project-ideas/Sports_p011/sports-science/exercise-brain-body-connection

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Materials

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Procedures

Choose the music

1. Choose the type of workout
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3. Repeat for 10 days
4. Ask them how they feel and tell them to rate on a scale of 1 to 10 their mood level.

Objective

- In this experiment I want to determine whether engaging in physical exercise increases endorphins levels and leads to improved mood.

Statement of the Problem

I want to do this experiment because I am curious about how exercise affects how we feel. Many people say that exercise makes them feel happier. I want to understand how endorphins (chemicals in our brain) can make us feel good!

Hypothesis

Does exercise increase the release of endorphins in the brain then leading to improved mood

Results

This section presents the results of the experiment, including measures and observations recorded during each trial. My hypothesis was supported and led to mood increase. On the first trial subject the recursion was a 10 in feelings of increased mood after the workout. On the second trial subject the recursion was a 8 in feelings of increased mood after the workout. On the third trial subject the recursion was a 10 in feelings of increased mood after the workout. On the fourth trial subject the recursion was a 10 in feelings of increased mood after the workout. On the fifth trial subject the recursion was a 2 in feelings of increased mood after the workout. On the sixth trial subject the recursion was a 9 in feelings of increased mood after the workout. On the seventh trial subject the recursion was a 1 in feelings of increased mood after the workout. On the eighth trial subject the recursion was a 7 in feelings of increased mood after the workout. On the ninth trial subject the recursion was a 3 in feelings of increased mood after the workout. On the tenth trial subject the recursion was a 10 in feelings of increased mood after the workout. In the end the average was 8.09.

Conclusion

In this experiment I determined whether exercising for a week increases mood or keeps it the same. And yes according to my project and several data it does improve mood. This is because when you exercise your brain releases endorphins which can lead to improved mood by stimulating your brain's pituitary gland and hypothalamus. My hypothesis was correct. Exercise does increase the release of endorphins in the brain leading to improved mood. The tested group did report an increase in endorphin release leading to increase in mood. The participants had fun while moving versus the control group didn't have any release or improved mood.According to my data analysis it showed that the type of exercise used was not preferred for others. Like CrossFit others preferred cardio. And the change of mood was increased mostly by those who do exercise on a daily basis. But the ones that don't exercise were just neutral with their mood.In this lab I learned that exercise helps release endorphins which are chemicals in your brain which can lead to improved mood by stimulating your brain's pituitary gland and hypothalamus. Also that the type of exercise you do affects your mood like if you do weights and you don't like doing it it won't be the same as if you do running and you love running you get more into it and have more fun. If I do this experiment again, I will choose the group by experience category such as; high intensity workouts, hot yoga, strength training . Secondly, do a 1 minute recovery time within each workout. Then, I would conduct the trial longer and not just 10 weeks, maybe a 30 day challenge. Finally I would let them choose what type of music they want to listen to.