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11/21/25
7th grade Science
Science Fair Logbook

Logbook

Title:

- The science of exercise and happiness

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!

Dependent and Independent Variable:

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

Hypothesis:

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

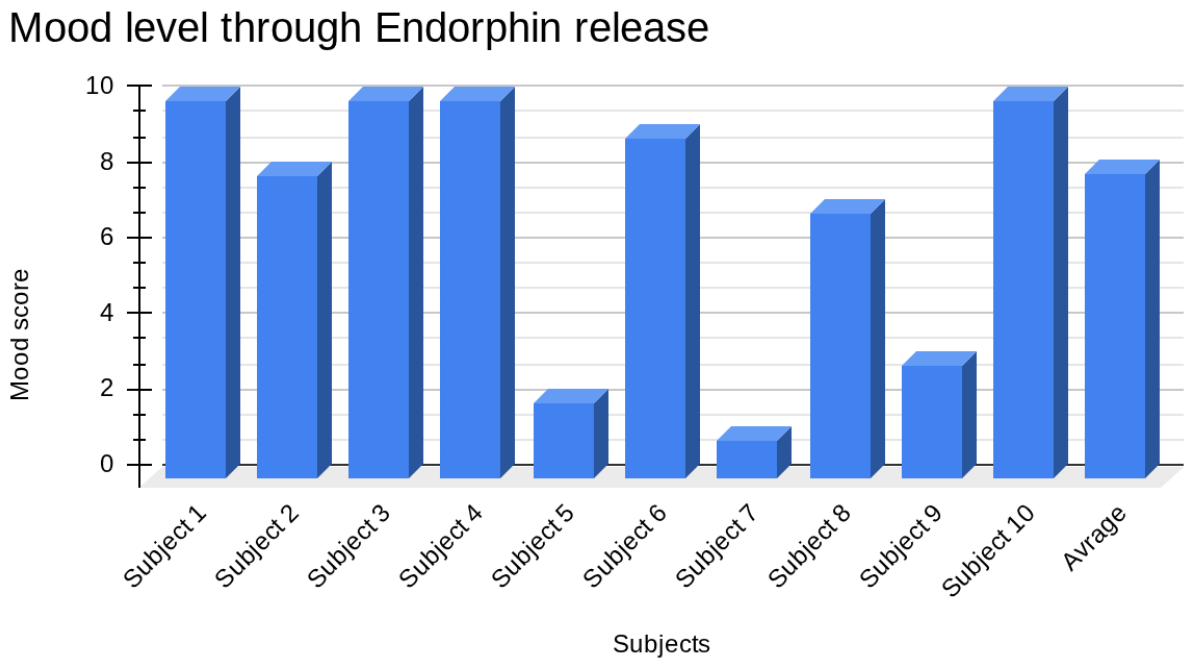
Materials:

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

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:



Narrative

The results show that most of the participants had a change in their mood. But others didn't really have a change in their mood. This was because they preferred a different workout.

Conclusion:

In this experiment I determined whether exercising for a week increases mood or keeps it the same. 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.

References:

- Google
- 05/19/2022
- Cleveland Clinic
- Endorphins
- Sep, 21, 2025