

Effect of Exercise on Young Adults with Depression

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Research Proposal

**Abstract**

This quantitative study focuses on exercise implementation in helping reduce depressive symptoms in young adults ages 18-25. To conduct this study, a sample of 105 young adults affected by depressive symptoms in the Greater Boston area were randomly assigned to a regimented exercise program for one month. Methods: Pre-test and post-test design measures consisted of a series of questionnaires to assess participants' level of depression, exercise and activity level, and overall psychological well-being before and after the 1 month period of the study. To determine whether the participants had legitimately exercised, the experimental group was given a Polar FT60 fitness watch to monitor physical activity. As predicted, young adults who had engaged in moderate exercise of at least 30 minutes a day for one month showed a significant reduction of symptoms associated with depression in comparison to the control group who did not exercise.

*Keywords:* Depression, young adults, Exercise, Health

### Effect of Exercise on Young Adults with Depression

With 1 out of every 5 Americans being affected by mental illness, it doesn't seem as surprising that college is the No. 1 reason students drop out of school or commit suicide (Kerr, 2012). 44 percent of American college students report having symptoms of depression, but 75 percent of college students do not seek help for mental health (*American College Health Association*, 2012). Despite the continuous implementation of new and improved treatments, technology, and widely available prescription drugs to counteract symptoms of depression, the rate of affected young adults continues to be a growing epidemic. However, sometimes the most complicated diseases have the simplest remedies: exercise. If exercise primes the brain to show decreased response levels to stress (*Blue*, 2010), it is unfortunate that less than a quarter (20.6%) of Americans getting sufficient exercise (*Jaslow*, 2013). Why has America as a society become so far removed from natural remedies, and are these modern "remedies" proving to be more harmful and damaging than helpful as they claim to be? This study aims to better understand how exercise, or lack thereof, can influence depressive symptoms in young adults.

### Methods

**Participants:** A sample of 105 college students residing in the Greater Boston area between ages 18-25 were recruited for this study. Since this study specifically needed young adults who exhibit signs of depression or depressive symptoms, non-probability purposive sampling was used. In order to obtain a purposive sample, ads and flyers were posted inside local subways, hospitals, and colleges and universities. The flyers and ads posted read: "Are you between the ages of 18-25 and not getting enough exercise? Do you ever find yourself feeling

sad, hopeless, lethargic, or unable to concentrate or enjoy the things you once did? You may be eligible to participate in a clinical research study by the BRA (Boston Research Association) on young adults with depression or exhibiting depressive symptoms, with compensation up to \$250.” In addition, a local listing on Craigslist was posted to recruit people ages 18-25 meeting the criteria of having an inactive and sedentary lifestyle and exhibiting symptoms of depression. The demographics consisted of a near-equal ratio of men and women (53% and 47%) ranging from low, moderate, to severe levels of depression. However, all participants had to meet the criteria of having a sedentary lifestyle, which defines as having no or irregular physical activity. In addition, the 105 participants had to be drug free; taking no prescribed drugs for depression or otherwise.

**Design & Materials:** Levels of depression in participants were operationalized using questionnaires during both the pre and post-test stages. Participants level of physical activity were measured by the use of a Polar wrist watch on post-test only; a fitness watch that tracks distance, heart rate, level of activity, and calories. The design type used in this experiment was a Between-subjects Design, because there were two levels of the IV, so to observe any differences between the experimental and control group. The groups of participants differed in that one was assigned 30 minutes of daily exercise and placebo pills (experimental), and the control group was only assigned the placebo pills (control). The only difference between these two groups was the Independent variable (exercise). In both the experimental and placebo group, a series of pre-test and post-test questionnaires were given in order to evaluate the participants’ current level of depression, self-esteem, and activity level. These pre-test and post-test measures were taken before and after the experiment to ensure internal consistency reliability and reduce order effects. In order to determine participants’ current level of depression, the Goldberg Depression

Questionnaire (18 items) was issued to the participants as a pre-test measure. Other pre-test measures included the IPAQ (International Physical Activity Questionnaire), and Rosenberg's Self-Esteem Scale. These items were all individually added on a scale in order to provide comparisons or differences between pre and post-test conditions in both the experimental and control group to determine whether or not exercise had an impact on psychological well-being.

**Procedure:** To reduce confounding variables and better conceal the true intent of this study, participants were (unbeknownst) separated and randomly assigned into two groups for means of comparison. Prior to the pre-test measures, all participants were given a consent form explaining their legal rights to autonomy, privacy, estimated time involved, and the right to withdraw from the experiment at any time. On the slightly unethical side since the participants did not know the true purpose of the study; both groups were told that the intent of the study was to test the effectiveness of a new antidepressant, but were actually given sugar (placebo) pills instead. After the participants in both the experimental and control groups had signed their consent forms and answered the questionnaires, both groups were told to take one pill around the same time every day and report back in exactly one month. One month later, after post-test experimental measures were taken, participants in control and experimental group were debriefed. They were told the true purpose of the study, which was to measure the effect of exercise on depression, not the effectiveness of an antidepressant. They were then paid the full compensation of \$250 for taking their time to participate in this study.

### **Proposed Analysis**

To determine the effectiveness of exercise on depressive symptoms, items on the pre and post-test questionnaires for both the experimental and control groups were added up. Cronbach's

Alpha was used to test internal consistency reliability by adding up items on questionnaire into a nominal scale of measurement. After comparing the two scores of the same group to each other (experimental group pre and post-exercise implementation), it was evident that exercise does reduce symptoms of depression based on the reliability scale. By using exercise as the primary IV, and reduced depression as the DV, this was statistically significant ( $p=.79$ ) with all variables.

### **Discussion:**

Like hypothesized, the findings of this study suggests that engaging in as little as 30 minutes of exercise a day can significantly improve one's overall psychological well-being by significantly reducing depressive symptoms in young adults. This also signifies that exercise could and should be used more often as an alternative to prescription drugs in treating depression. In addition to exercises' many other well-known benefits, there is no side effects, warning label, or expense unlike prescription drugs. Exercise is a cheap, fun, and healthy way to prevent, cure, and maintain ones overall physiological health. Unfortunately, awareness of it seems to be often overshadowed by the empty promises of the synthetic lifestyle of the modern day that many people fall victim to. Exercise should be taken into consideration to not only treat symptoms of depression, but prevent an array of physiological illnesses as well. I think an increased emphasis on exercise at treatment centers, rehabilitation, and hospitals would have much better and longer-lasting impact than would prescription drugs. Exercise: the most natural, safest, and effective way of curing an array of physiological disorders.

## References

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