

**The Effect of Indoor-Outdoor Physical Exercise on Individual Psychological Well-being**

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## **Abstract**

Exercise has been proven to greatly effect an individual's overall physiology. It has been proven to improve a person's cardiovascular health, cardiorespiratory endurance, prevent strokes, prevent some cancers, and osteoporosis. However, there is not much known about how exercise effects one's psychological well-being. Over forty million of the population suffers from some form of decreased psychological well-being. The purpose of this research is to determine if introducing exercise into an individual's day to day life will prove to be effective and improve the person's overall psychological well-being. A phenomenological design was used for this study. The experiment was conducted during a period of three weeks and ten people participated. They were given two questionnaires to fill out. One at the beginning of the study and another after the three weeks. The hypothesis was supported by the data collected after the three weeks. The researcher believes that a before-after experimental design should be used for a more accurate understanding of the effects of exercise on an individual's psychological well-being.

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## **Chapter 1: Introduction**

### **Introduction**

Exercise has been proven to have numerous amount of physiological benefits. It has shown to greatly improve cardiovascular health and cardiorespiratory endurance, prevent strokes, some cancers, and osteoporosis. However, there is still need for knowledge of the effects of physical exercise on an individual's well-being. This is a tragedy, because the world is in need of complementary treatment to psychotherapy and medication, to improve individual's psychological well-being.

### **Background**

Exercise has many known positive effects on the human physiology. According to the American College of Sports Medicine (ACSM), "*Every US adult should accumulate 30 minutes or more of moderate-intensity physical activity on most, preferably all, days of the week*" (Scully, Kremer, Meade, Graham, & Dudgeon, 1998, p.111). Exercising on a regular basis has been proven to lower the risks of stroke, heart attack, some cancers, osteoporosis, and improve cardiovascular and cardiorespiratory functioning.

However, there is still more to be known of the effects on an individual's psychological well-being. Psychological well-being is the overall mental health of an individual's life. This includes an individual's stress level, mental illness, and self-image. This paper will hopefully bridge the gap between psychological well-being and physical exercise.

## Statement of the Problem

According to the National Institute of Mental Health, there are 43.8 million adults aged 18 or older living with some sort of mental illness in the United States (National Institute of Mental Health, 2015). *“This represents 18.5 percent of all U.S. adults”* (National Institute of Mental Health, 2015). That number does not include those who refuse to seek treatment.

In 2011, the U.S. Centers for Disease Control and Prevention (CDC) reported that antidepressant use in the United States has increased nearly 400% in the last two decades, making antidepressants the most frequently used class of medications by Americans ages 18-44 years. By 2008, 23 percent of women ages 40–59 years were taking antidepressants (Levine, B 2013).

Suicide rates have also increased significantly in the last ten years; about 28 percent (Levine, B 2013). These numbers are alarming.

Due to the daily pressures of life, there has been a significant decrease in psychological well-being in the United States. More and more people are stressed out about life, have low energy, and are dealing with mental illness. Some people seek the help of psychologists and psychiatrists and some do not. Although, medication is effective, prescription medication is not the end all be all. That is where exercising comes into play. It can complement psychotherapy, drug therapy, and other forms of therapy to increase energy, decrease stress, and decrease the symptoms of mental illnesses.

Exercise is a physical activity that is planned, structured, and repetitive intended to improve overall well-being. Exercise has been proven to improve physiological well-being. It has been proven to decrease blood pressure levels, increase endurance, improve cardiovascular health, and cardiorespiratory endurance. While doing this research project, exploring whether

exercise incorporated into a person's day to day life will prove to be effective and improve the person's overall psychological well-being.

### **Purpose**

The purpose of this research is to determine if introducing exercise into an individual's day to day life will prove to be effective and improve the person's overall psychological well-being.

### **Major Research Question**

Does exercise improve an individual's overall psychological well-being?

### **Sub Questions**

1. What impact will exercising have on an individual's self-esteem?
2. Will physical exercise improve an individual's stress levels?
3. How does physical exercise improve symptoms of depression and anxiety?
4. Does physical exercise elevate mood levels?

### **Scientific Hypothesis Statement**

Indoor-outdoor physical exercise will have a positive effect on an individual's psychological well-being.

### **Null Hypothesis Statement**

Indoor-outdoor physical exercise will have no effect on an individual's psychological well-being.

## **Theoretical Framework**

There are countless studies of the benefits of physical activity and exercise on physiology. Whether that be how it aids in improving cardiovascular health, cardiorespiratory endurance, some cancers or bone density. However, due to the recent increase in mental illnesses, there has been a growing interest on how physical exercise improves psychological well-being. Psychological well-being is an umbrella term, which includes depression, anxiety, stress, mood, and self-esteem.

Individuals with depression, tend to be less active than healthy average adults (Kravitz, 2015). So, it is crucial for individuals with depression to exercise. Kravitz found that aerobic and anaerobic exercise are the most effective in producing anti-depressive effects on those with depression (Kravitz, 2015). Studies have shown, individuals suffering from anxiety benefit the most from physical exercise. Even short bursts of 5 minutes of aerobic exercise has been known to stimulate anti-anxiety effects (Kravitz, 2015). There are still many unknowns of the effect of physical exercise on stress, mood, and self-esteem. Kravitz found, exercise is more of a preventative intervention in managing stress as opposed to a corrective intervention and that the more aerobically fit an individual is, the better they manage stress (Kravitz, 2015). Mood is affected by countless reasons. Aerobic and anaerobic exercise has been known to improve mood levels; however, it is hard to pin point the effect of exercise on an individual's mood level. Researchers have had trouble studying the effects of self-esteem and physical exercise, because it differs from person to person. Some people's self-esteem are dependent on their outward appearance, while others are not. A person might have an ideal body type, yet have negative feelings towards their bodies. Other's self-esteem may come from how well there doing in life, the validation of the opposite or same sex liking them, or their academics.

### **Significance of the Study**

Eighteen percent of the population suffer from some sort of mental illness. By conducting this study, researchers can better understand the relationship between exercise and psychological well-being. Too many people are suffering in silence, because they do not want to get proper treatment. Or, because therapy and medication is not helping. This study will hopefully demonstrate that the benefits of exercising is not only physical, but psychological.

### **Definition of Terms**

- **Psychological Well-being-** is the overall mental health of an individual's life, which includes an individual's stress level, psychological health, mood, and self-esteem.
- **Exercise-** planned, structured, and repetitive physical activity that is performed in order to become stronger, healthier, and improve overall well-being (World Health Organization, 2015).
- **Anxiety-** is a mental disorder characterized by intense, excessive, and persistent worrying and fear about the future, social situations, school, work, and family and friends.
- **Depression-** is a mood disorder characterized by overwhelming sadness and loss of interest (Mayo Clinic, 2015).
- **Mood-** a feeling or state of mind.
- **Stress-** physical or emotional response to internal or external stimuli.

## **Assumptions, Limitation and Delimitations**

### **Assumptions**

- Psychological well-being is an umbrella term that includes an individual's stress level, mental illness, and self-image.

### **Limitations**

- Some participants may provide false information.
- Some participants may not exercise.
- The sample may inadequately represent the population.
- External factors such as school, work, weather, and family obligations may interfere with a participant's ability to exercise.

### **Delimitations**

- Research study is based on individuals on Facebook.
- Participants in this study are eighteen years of age or older.
- Research study tests the effect of indoor-outdoor physical exercise on an individual's psychological well-being.

## **Chapter 2:**

### **A Review of the Related Literature**

#### **Introduction**

Almost anyone can do some form of exercise. It has no side effects, when properly done, except for the occasional soreness, there is also no stigma behind exercising, and no one is going to advise another individual to stop exercising unless that person is injured or have a disorder like anorexia or bulimia. With this being said, exercise is one of the most under use forms of therapy. Most people want quick fixes and turn to diet pills, plastic surgery, or wraps; knowing those things will not fix their insides.

The Centers of Disease Control and Prevention (CDC), recommends exercising for 2 hours and 30 minutes per week of moderate-intensity aerobic activity (Walking, water aerobics, and dancing ) or 1 hour and 15 minutes per week of vigorous-intensity aerobic activity (Running, playing basketball, and swimming laps ). Exercising has many benefits, from aiding in reducing the risk of heart diseases and some cancers to improving overall physiological well-being. Countless of studies that prove this to be true. However, there is still a need for research to prove this to be true for psychological well-being. During the last decade, there has been a significant decrease of psychological well-being in America. (Centers of Disease Control and Prevention, 2015)

Suicide rates, mental illness in the population, and daily pressures of life, have all increased at an alarming rate. Many people are constantly stressed, suffer from anxiety, depression, low self-esteem, and decreased mood levels that it is alarming. For example, 43 million adults are living with some sort of mental illness in the United States (National Institute of Mental Health, 2015). Putting this number into perspective, that is the population of California

and Massachusetts combined. This is where exercise comes into play. Hopefully, it will have the same effect on psychological well-being as it does on the physiological well-being.

### **Overview of the Literature**

The purpose of this research project is to determine if introducing exercise into an individual's day to day life will prove to be effective and improve the person's overall psychological well-being. Overall the literature on the effects of exercise on psychological well-being all come to the same consensus that anaerobic and aerobic exercises are essential to overall physiological well-being and both have a positive and negative effect on psychological well-being. However, they all have varying opinions on to the extent of the effects on psychological well-being. Some state there is no notable change until after a month, while others state that an individual notices changes in a day. Studies on this topic, all seem to have a variance of the same experimental design and ways of collecting data for this research.

### **The Effect of Indoor-Outdoor Physical Exercise on an Individual's Self-Esteem**

Self-esteem is said to be the starting point of an individual's psychological well-being. Low self-esteem is usually linked to poor health habits and many forms of mental illnesses (Fox, K. R. 2007, p.413). Exercise and self-esteem have a complex relationship because every individual is different. Many of the studies showed the exercises having both a positive and negative effects on self-esteem. Those suffering from low self-esteem using exercise to increase their self-esteem might exercise to the extreme, which may lead to other damaging disorders like anorexia and bulimia, or they can use it effectively. Others with normal self-esteem can have the same relationship with exercising. They either use it to the extreme, making them have a whole set of other problems or exercise can have a continuation of a positive effect.

### **The Effect of Indoor-Outdoor Physical Exercise on an Individual's Stress Levels**

Stress is the physical or emotional response to stressors (internal or external stimuli). These stressors may be acute (hassles) or chronic (bereavement), small in magnitude (standing in a long line), or traumatic (violent attack) (Matthew A. Stults-Kolehmainen and Rajita Sinha, 2014). Researchers have found a positive correlation between aerobic exercises and an individual's stress level. Studies show exercise as being a manager of stress instead of a corrective intervention. However, individuals, when stressed do not, feel the need to exercise nor want to exercise for that matter. While on the other hand, some individuals might use exercise as a stress reliever. Researchers still; however, have questions of how exercise chemically decreases stress levels.

### **The Effect of Indoor-Outdoor Physical Exercise on Depression**

Depression is a mood disorder characterized by overwhelming sadness and loss of interest (Mayo Clinic, 2015). Researchers have found, by the year 2020, depression will be second only to coronary heart disease as a cause of illness burden worldwide (Blumenthal et al., 2007, p. 2). However, they have hope for the future, since they are numerous studies on the relationship between exercise and depression, that those suffering from depression will use exercise as a form of complementary therapy to medication and psychotherapy. Studies from James A. Blumenthal, PhD, Michael A. Babyak, PhD, P. Murali Doraiswamy, MD, Lana Watkins, PhD, Benson M. Hoffman, PhD, Krista A. Barbour, PhD, Steve Herman, PhD, W. Edward Craighead, PhD, Alisha L. Brosse, PhD, Robert Waugh, MD, Alan Hinderliter, MD, and Andrew Sherwood, PhD research group, demonstrated that exercise is equally as effective as

antidepressant medication in reducing depressive symptoms in 156 older patients with Major Depressive Disorder (Blumenthal et al., 2007, p. 2).

When studied depression scores were higher among those with a sedentary lifestyle than among those exercising moderately (Hassmen, Koivula, & Uutela, 2000, p. 17). Those suffering from depression typically tend to not have a desire to exercise, due to their loss of interest in the basic functions of life and other human beings. Therefore, exercise is usually heavily recommended to those suffering from depression. Unlike the consensus of the effects of exercise and stress, researchers have found exercise to be both a preventative and corrective intervention. Also, both anaerobic and aerobic exercises, throughout the literature seem to have enormously positive effects on depression (Marco Aurélio Monteiro Peluso and Laura Helena Silveira Guerra de Andrade, 2005).

### **The Effect of Indoor-Outdoor Physical Exercise on Anxiety**

Anxiety is a mental disorder characterized by intense, excessive, and persistent worrying and fear about the future, social situations, school, work, and family and friends. In terms of psychological well-being, exercise has the greatest effect on anxiety. Especially, in individuals who stayed on an aerobic exercise regime for 12-16 weeks. Researchers also found that even short burst of five-minute aerobic exercises stimulates antianxiety effects. (Fox, K. R. 2007, p. 413, Powers, .G. Asmundson, & J. Smits, 2015, and Kravitz, 2015).

## **The Effect of Indoor-Outdoor Physical Exercise on an Individual's Mood Levels**

Mood is a feeling or state of mind. Out of all the psychological well-being mood is the least documented. Researchers are still perplexed as to how exercise affects mood. Due to the fact mood is affected by many factors. Like depression, anxiety, self-esteem, and stressors (work, family, friends, or money). Anaerobic and aerobic exercise acts as an anti-depressive drug and it releases endorphins, which has been proven to have a calming effect and improve mood levels (Marco Aurélio Monteiro Peluso and Laura Helena Silveira Guerra de Andrade, 2005, Dr. Fox, 2007, and Powers, .G. Asmundson, & .J. Smits, 2015).

## **Research Designs and Study Methods Found in the Literature**

The studies all seem to have a variance of the same experimental design and ways of collecting data for this research. The vast majority of researchers review for this literary review, favored a balance of both quantitative and qualitative research. The researchers studied somewhere between thirty to five hundred subjects. They organized subjects into those completing anaerobic and aerobic exercise, those taking prescription medication and going to psychotherapy, and those who were to stay sedentary. Most added a survey to see how their test subjects were effected and affected by the experiment. From this, the researchers saw how their subject's mood levels, stress levels, symptoms of anxiety and depression improved, worsened, or remained unchanged.

After gathering information from the literature, this study will use a qualitative research design using a phenomenology approach. Semi-structured interviews and the use of a survey will be conducted.

**Summary**

The overall consensus from the literature is, exercise has a positive effect on an individual's psychological well-being. Although, when self-esteem comes into play, some individuals utilize exercise in a negative way, which in turn yields a negative effect. All in all, there is still a great deal of research needed in order to fully understand every aspect of how exercise and to what extent, effects an individual's psychological well-being.

## **Chapter 3**

### **Research Design and Methodology**

#### **Introduction**

The intention of this study is to investigate the effects of indoor-outdoor physical exercise on individual psychological well-being. Millions of people in the United States are suffering from a decrease in psychological well-being and the numbers are increasing every single year. There are countless of studies on the effect of exercising on an individual's physiology. However, there is only a small percentage of research on the effect of exercise on psychological well-being. The objective the researcher is trying to accomplish is to show there is a correlation between exercising and increased psychological well-being.

#### **Overview of Research Design and Rationale**

A phenomenological design will be used for this experiment. It is the best design for the time restraint of three weeks. Using a phenomenological approach allows the researcher to truly see the effect of exercise on an individual psychological well-being, because she is getting accounts first hand from the participants. They will describe how they regularly deal with their psychological well-being and what approaches they use. Then they will be asked to implement exercising into their daily lives for three and report weekly, the effect of indoor-outdoor exercising on their overall psychological well-being.

#### **Sampling Design**

Purposeful sampling, specifically criterion, will be used in this study. Volunteers who were willing to participate in this study from an announcement posted on Facebook and suffer from a decrease in psychological well-being, were used in this research. They were asked a

series of field-tested questions to determine if they were good candidates for this experiment.

Next, participants were given the task of exercising for a period of three weeks, to see what effects exercising yielded to the improvement of their overall psychological well-being.

Volunteers checked in every week to see how they were coming along and if they had any questions, either in person or through video chat (Skype, Facetime, and ooVoo). During the last week of the experiment all of the data collected were reviewed, for any inaccuracies, personal information and the voice recorder used was destroyed.

### **Data Collection Procedures**

1. Post an announcement on Facebook for volunteers for the research study.
2. Supply informed consent papers for volunteers to sign.
3. Go over any questions the volunteers have about the research study.
4. Ask volunteers what they are currently doing to manage their psychological well-being and the history of when they or others notices their psychological well-being began to deteriorate.
5. Ask volunteers to implement indoor or outdoor physical exercise into their daily lives for three weeks.
6. At the beginning of every week contact volunteers to go over the effect exercise is having on their mood levels, stress levels, self-esteem, depression and anxiety symptoms.
7. Make sure to remind volunteers they are allowed to stop at any time during the study if the questions are triggering unpleasant memories and thank them for participating in the study.

**Data Instrumentation**

Data instrumentations used were a voice recorder for in person interviews, some form of video chat (Skype, Facetime, ooVoo), computer assisted personal interviewing (CAPI), and telephone interviews for those participating who live more than three hours away.

**Field Testing/Pilot Testing**

Questions asked during some form of video chat interview or in person interviews, were field tested before asked to subjects in the study. They were screened for accuracy, precision, how long it takes to answer questions, if any of the questions were triggering to the subjects, and if the questions are easy to comprehend.

**Data Analysis Plan and Procedures**

Individuals suffering from a decrease in psychological well-being who are eighteen and older, will be used in this study. There will be no discrimination of race, gender, or weight in order to participate in this study. In the preliminary stage, volunteers will be asked to rate their mood, stress, and self-esteem levels, their depression and anxiety symptoms, and the history of their psychological well-being.

The researcher will use thematic analysis. Thematic analysis allows the researcher to examine patterns in the research. At the end of each week, for three weeks, the researcher will see if there are any patterns in the research and to see if the individuals participating in the study are noticing any effects of exercise on their psychological well-being. The researcher will also go over the voice recorder after each session to look for themes coming across in the research, from the participants.

### **Limitations of the Research Design**

Limiting the number of participants in this study to individuals on Facebook, may inadequately represent the whole population. Some participants may not exercise, but say they did. Others may provide false information about themselves, like their age, weight, and physical capabilities. External forces such as school, work, weather, financial status, and family obligations may interfere with a participant's ability to exercise.

### **Internal and External Validity**

The small sample size used for this research study allows for it to be internally valid. Participants will check in once a week to verbalize how their mood, stress, self-esteem levels, and depression and anxiety symptoms have changed or stayed the same since they started to exercise. Subjects may also ask any questions they have during check-ins. This has been proven to produce the most accurate results for this study. External validity of this study is demonstrated due to its capability to be tested on a grander scale and yield the same results.

### **Expected Findings**

The purpose of this study is to determine if introducing exercise into an individual's day to day life will prove to be effective and improve the person's overall psychological well-being. It is expected that exercise will have a positive effect on individual's mood, stress, self-esteem levels, and depression and anxiety symptoms. Implementing exercise into those suffering from poor physical health has been proven to improve overall physiology. It has shown to greatly improve cardiovascular health and cardiorespiratory endurance, prevent strokes, some cancers, and osteoporosis. So, it is expected that individuals suffering from a decrease in psychological well-being, exercise will yield the same results.

**Ethical Considerations**

There are a few ethical considerations that needs to be kept in mind for this study. For one, each participant will be given an informed consent form to be signed before being able to participate in this study. Those participating will be informed that their participation is greatly appreciated and optional. If at any point in time they no longer wish to participate, they can do so, without any consequences. This is especially true for those struggling with low self-esteem, because they have been proven to use exercise to the extreme. Another ethical consideration is all data collect will be anonymous and all recordings will be destroyed after the data is recorded in the study. Last but not least, none of the data will be manipulated or fabricated in order to support the hypothesis.

**Conclusion**

Although, there are a few risks to this study, the benefits outweigh them tremendously. Millions of people suffer every single day from poor self-esteem, depression, anxiety, stress, and mood imbalances. Believing they have no way out, because psychotherapy and pharmacological therapy is not successful in treating or managing their psychological well-being. Conducting this study will enhance researchers understanding of the relationship between exercise and psychological well-being. Subjects will not have to worry about breaches of privacy or confidentiality. If everything goes as plan and the participants are effected by exercise positively, then an experimental design can be used for further research.

## Chapter 4

### Research Findings and Discussion

Psychological Well-being	Known Effect	Theme
Self-Esteem	<ul style="list-style-type: none"> <li>• Exercise has both a positive and negative effect on individual's suffering from low self-esteem.</li> <li>• A person may use exercise in a way that is damaging to the physiology.</li> <li>• Some individuals may develop eating and other mental disorders due to excessive exercising.</li> </ul>	<ul style="list-style-type: none"> <li>• During discussion six out of the ten participants noticed changes in their self-esteem.</li> <li>• They felt better about themselves.</li> <li>• The six participants noticed they were more assertive in their daily lives, they felt more confident when going out, and when self-doubt crept into their minds, they did not let it ruin their whole day.</li> <li>• None of the participants reported exercising excessively.</li> </ul>
Stress Levels	<ul style="list-style-type: none"> <li>• Aerobic exercise is known to have a positive correlation on stress levels.</li> <li>• Studies show exercise as being a manager of stress instead of a corrective intervention.</li> </ul>	<ul style="list-style-type: none"> <li>• All ten of the participants reported a significant decrease in their stress levels.</li> <li>• Eight of the participants said they went to bed at a reasonable time each night.</li> <li>• Those who exercised in the morning reported feeling less stressed throughout the day.</li> <li>• Those who exercised at night said they felt more relaxed after exercising.</li> <li>• One participant reported they did not have frequent headaches, since beginning the program; which is a symptom of stress.</li> </ul>
Stress (Continued)		
Depression	<ul style="list-style-type: none"> <li>• People suffering from depression</li> </ul>	<ul style="list-style-type: none"> <li>• Out of the five participants suffering with depression</li> </ul>

	<p>have a tendency to not exercise.</p> <ul style="list-style-type: none"> <li>• Exercising for thirty minutes a day has been proven to have anti-depressive effects on those with depression.</li> <li>• Researchers have also found exercise to be both a preventative and corrective intervention.</li> <li>• Programs lasting at least sixteen weeks yield the best results.</li> </ul>	<p>three noticed a change in their depression symptoms.</p> <ul style="list-style-type: none"> <li>○ Decreased insomnia episodes to seven out of the twenty-one days.</li> <li>○ Increased energy.</li> <li>○ Increased appetite.</li> <li>○ Decrease in the amount the amount of times they felt lonely, hopeless, and worthless.</li> </ul>
<p><b>Anxiety</b></p>	<ul style="list-style-type: none"> <li>• In terms of psychological well-being, exercise has the greatest effect on anxiety.</li> <li>• Researchers have found that even short bursts of five-minute aerobic exercises stimulate anti-anxiety effects.</li> </ul>	<ul style="list-style-type: none"> <li>• Exercise had the most impact on those suffering from anxiety.</li> <li>• All participants noticed a change in their anxiety symptoms. <ul style="list-style-type: none"> <li>○ Decrease in worrying about the future.</li> <li>○ Decrease worrying about traumatizing past events.</li> <li>○ Being more open to social situations.</li> <li>○ Less fatigue.</li> <li>○ Decrease in the frequency of headaches.</li> <li>○ Decrease sweat levels, in social situations.</li> <li>○ Decrease instances of hot flashes. (Overwhelming increase in body temperature)</li> </ul> </li> <li>• Two of the participants that</li> </ul>
<p><b>Anxiety (Continued)</b></p>		

	<p>suffer from frequent anxiety attacks reported to only having eleven panic attacks out of the twenty-one days.</p> <ul style="list-style-type: none"> <li>○ One of the participants said they would have panic attacks at least twice a day.</li> <li>○ The other said they would have them once a day, depending on their schedule.</li> </ul>
<p><b>Mood Levels</b></p>	<ul style="list-style-type: none"> <li>• Out of all the psychological well-being mood is the least documented.</li> <li>• Researchers are still perplexed as to how exercise affects mood.</li> <li>• Due to the fact that mood is affected by many factors.</li> <li>• Anaerobic and aerobic exercise acts as an anti-depressive drug, by releasing endorphins, which has been proven to have a calming effect and improve mood levels.</li> </ul> <ul style="list-style-type: none"> <li>• Participants found this the hardest question to answer.</li> <li>• Two of the participants did not notice any changes in their mood levels.</li> <li>• One participant said they noticed a change in their moods, but did not know if it was due to his promotion at his job that he was hoping for or due to exercising.</li> <li>• Another participant reconnected with a loved one and does not know if their mood levels changed due to that or exercising.</li> <li>• The other six participants attributed, their increase in mood level to exercising.</li> </ul>

## **Chapter 5**

### **Conclusions**

#### **Gaps in Understanding and Research**

The physiological effects and benefits of exercise is well documented, but not the effects and benefits of exercise on an individual's psychological well-being. Exercise has shown to greatly improve cardiovascular health and cardiorespiratory endurance, prevent strokes, some cancers, and osteoporosis. However, up until the 1990's, there were not many studies being done to showcase the effects and of exercise on an individual's psychological well-being. Researchers have a hard time figuring out the true implications exercising has on individual's psychological well-being, because there are many factors that contributes to a person's overall well-being. Every single individual on this planet is unique. Due to this fact, an enormous amount of the data researchers collect come with a disclaimer. Exercise used to help an individual with decrease psychological well-being, may or may not work. Just like how pharmacological and psychotherapy, work for some and do not work for others.

#### **Summary of Key Findings**

The hypothesis states that indoor-outdoor physical exercise will have a positive effect on an individual's psychological well-being. The data collected supports this hypothesis. Breaking down psychological well-being into five categories: self-esteem, stress, depression, anxiety, and mood demonstrated the effects of indoor-outdoor physical exercise in depth.

During discussion six out of the ten participants noticed changes in their self-esteem. The six participants noticed they were more assertive in their daily lives, they felt more confident when going out, and when self-doubt crept into their minds, they did not let it ruin their whole day. All ten of the participants reported a significant decrease in their stress levels. Exercise had

the most impact on those suffering from anxiety. All of the participants showed a decrease in their anxiety symptoms. Participants found questions about changes in their mood levels the hardest to answer. Some of believed exercising attributed to their increased mood levels. While others could not decipher whether exercising or an event in their life caused fluctuations in their mood levels.

### **Implications and Recommendations for Further Study**

For further study by other researchers, this research should be tested out on a larger sample size to get a better understanding of the true effects of exercise on an individual's psychological well-being. The use of an experimental design should be used for future studies. By using a control group to compare the results of the experimental group, this will hopefully further validate the findings in this study. An estimated period of at least sixteen weeks would be ideal, due to the fact that the full effects of exercise on depression and anxiety symptoms do not manifest until sixteen weeks. Researchers should also consider the limitations and delimitation of this study on the effects of indoor-outdoor physical exercise on an individual's psychological well-being.

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**Appendix A**  
**Informed Consent Form**

Dear Participant,

You will be participating in a study investigating the effects of indoor-outdoor physical exercise on individuals.

The purpose of this research is to determine if introducing exercise into an individual's day to day life will prove to be effective and improve the person's overall psychological well-being.

For the first part of this study, you will be filling out a questionnaire on your history dealing with your psychological well-being and how you felt before introducing exercise into your life as either a complementary treatment to psychotherapy and pharmacological therapy, or your daily life. After completing this study, you will fill out another questionnaire on how exercising has impacted your mood, self-esteem, stress levels, and/or depression and anxiety symptoms.

Your participation is voluntary. If at any time during this study you wish to no longer participate, you are free to do so without any consequences.

After I collect your data, I will delete the recordings to protect your privacy.

The information provided in this study will be anonymous.

Eighteen percent of the population suffer from some sort of mental illness. By constructing this study, researchers can better understand the relationship between exercise and psychological well-being.

If you have any further questions prior to your participation, please do not hesitate to contact me.

Date: \_\_\_\_\_

Initial: \_\_\_\_\_

## Appendix B

### **Questionnaire #1: The Effect of Indoor-Outdoor Physical Exercise on an Individual's Psychological Well-being**

1. Name:
2. Age:
3. Height:
4. Weight:
5. Highlight or circle the decrease in psychological well-being you are currently experiencing (Select All That Apply).
  - a. Decrease Mood Level
  - b. Decrease Self-esteem Level
  - c. High Stress
  - d. Depression
  - e. Anxiety
6. History of decrease psychological well-being.
7. Rate your mood level from 1-10 on average. 10 being the best and 1 being the worse.
8. Rate your self-esteem level from 1-10 on average. 10 being the best and 1 being the worse.
9. Rate your stress level from 1-10 on average. 10 being the worse and 1 being the best.
10. List your depression symptoms.
11. List your anxiety symptoms.
12. How would you describe your mood and how do you normally improve it?
13. How would you describe your self-esteem?
14. How would you describe your stress, what causes you to stress out, and how do you normally deal with your stress?
15. How do you normally cope with your depression symptoms?
16. How do you normally cope with your anxiety symptoms?

## Appendix C

### **Questionnaire #2: The Effect of Indoor-Outdoor Physical Exercise on an Individual's Psychological Well-being**

1. Name:
2. Age:
3. Height:
4. Weight:
5. Highlight or circle the decrease in psychological well-being you are currently experiencing (Select All That Apply).
  - a. Decrease Mood Level
  - b. Decrease Self-esteem Level
  - c. High Stress
  - d. Depression
  - e. Anxiety
6. Rate your mood level from 1-10 on average. 10 being the best and 1 being the worse.
7. Rate your self-esteem level from 1-10 on average. 10 being the best and 1 being the worse.
8. Rate your stress level from 1-10 on average. 10 being the worse and 1 being the best.
9. Have you noticed a change in your depression symptoms, since introducing exercise into your daily life? If so, how?
10. Have you noticed a change in your anxiety symptoms, since introducing exercise into your daily life? If so, how?
11. Which exercises were the most beneficial in improving your overall psychological well-being?
12. Will you incorporate exercise as a complementary therapy, into your daily life?