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Physical Activity Helping to Reduce Depression

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According to Merriam-Webster's definition, depression is "a serious medical condition in which a person feels very sad, hopeless, and unimportant and often is unable to live in a normal way" (Merriam-Webster, 2013). Having this condition affects every area of live, including relationships, jobs, self-esteem, and so on. It can develop in a variety of ways, and will develop differently in men and women, but one of the biggest ways is the path leading from stress to depression (Morgan, 1997). There is also a large impact on those of lower socio-economic status because of their higher levels of stress. We should keep in mind that "only 1 person in 10 with [psychological] disorders gets adequate treatment. The solution to this pandemic public health problem is prevention" (Morgan, 1997). The important thing to remember is that it can be treated, and it can be prevented. The best way to do this, according to the *Nordic Journal of Psychiatry* is to exercise (Martinsen, 2008). We know that there are several different ways to get physical activity, including leisure time physical activity, occupational physical activity, domestic physical activity, and transportational activity. The most effective is leisure time activity, and has been found to decrease levels of said hopelessness and unimportance by vast amounts (Teychenne, 2008). A person's psychological state can be helped by exercise vastly; therefore, there are certain variables that need to be taken into consideration in order to have the greatest impact possible.

The four domains of physical activity—leisure, occupational, transportational, and domestic—all have benefits physically, however there is only one that has been found to truly have an effect on a person's psychological state of mind. In the *American Journal of Preventative Medicine*, they say, "No significant

associations were observed for other physical activity domains (active commuting, yard/household)" (McKercher et al. 2009). This leisure time physical activity, whether it includes going to the gym, going for a run or swim, hiking, biking, or any number of activities, provides an escape from the world. Morgan writes: "Rather than hypothesizing that improved mood following exercise is due to alterations in brain levels of neurotransmitters or endorphins, one could hypothesize that observed psychological changes are caused by the distraction afforded by exercise" (Morgan, 231). Another source writes: "Exercise is a distraction that can get you away from the cycle of negative thoughts that feed anxiety and depression" (Mayo Clinic Staff, 2011). Unlike the three other domains, our mind is able to take a break from normal life, and to forget about the stressful parts of life fraction of time. In this small amount of time, a minute of peace can be found in order to reevaluate and take a breath before returning to the troubles and worries of life. There are myriad number of things that can affect the way life is seen and dealt with, but sometimes there are too many to handle, which is when stress becomes overwhelming and depression has begun.

Another form of physical activity is transportational. It may seem that this would be extremely helpful in the endeavor to decrease depression, however there are several reasons that tell us otherwise. Walking or riding a bike, the two more prevalent types of transportational exercise, are both acceptable forms of exercise. However, there is more mentally going on than when merely doing them for fun. When biking to work, walking to the grocery store, or something of the sort, we are still completing a task that falls into the worries and troubles of the day. There is no

distinction between this exercise and the problems of life in order to have a break from what is causing the stress in the first place. According to the Harvard School of Public Health, "Driving cars increased from 67 percent of all trips to work in 1960 to 88 percent in 2000, while walking and taking public transit to work decreased" (Harvard School of Public Health, 2013**)**. This increase gives evidence against the idea to bike or walk to work or school because it means we do not have enough test subjects to do so. There is also not a good way to measure this physical activity because there are so many other things to factor in. Factors such as traffic, hills, and a general level of difficulty need to be taken into consideration in order to count the correct amount of minutes that it takes to get to and from the destination. These factors can all be remediated, however people are not willing to do so without the understanding that these are the kinds of life-decision that will be an effect on life in the future.

Domestic physical activity has many of the same problems as transportational. It is extremely difficult to measure what happens in a person's home, and even the people answering the questions have a hard time deciding what things are worthwhile to report. One of the questions that IPAC asks in their questionnaires is this:

Think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do moderate activities like carrying light loads, sweeping, washing windows, and raking in the garden or yard" (IPAC, 2002)?

The problem with this it that the individual taking this assessment may not have a clear understanding of what "moderate" means, and they may also not understand how they should measure everything that they do. There is so much room for error, however it does not leave enough room for a person who does not have a strong grasp on this issue of low levels of physical activity. Because these are so difficult to measure, and because there is again still no escape from the worries of real life when doing domestic physical activity, we can say again that there are no gains psychologically from doing these.

The final type of physical activity is occupational physical activity. Of the four domains, this domain contains the most differences between men and women. Because of the different roles that men and women tend to have in the workplace, there are different levels of physical activity as well. According to the CDC, "6.5% of adults likely met the [minimum] guidelines [for physical activity]. The increase was greatest for Hispanic men (14.4%) and men with less than a high school education (15.9%)" (Bensley, 2011). Along with this, women only went up about five percent, only minimally increasing the percentages of people doing occupational physical activity compared to men (Bensley, 2011). However, this domain is complex to try and measure because again, people do not necessarily know how to judge how hard something is, and they tend to estimate numbers rather than being exact. Based off of the theory that an escape is needed in order to have an impact on one's psychological state, we know that this is not an escape—it is not a distraction from normal life because it *is* normal life. It is probably where many of the stresses and

worries come from in life. This is important because it is reiterating the fact that leisure-time physical activity is essential to prevent stress leading to depression.

The difference in men and women is bigger than just the occupational physical activity. The ways that men and women deal with stress are extremely different. Brunilda Nazario writes:

> In women, when cortisol and epinephrine rush through the bloodstream in a stressful situation, oxytocin comes into play. It is released from the brain, countering the production of cortisol and epinephrine, and promoting nurturing and relaxing emotions. While men also secrete the hormone oxytocin when they're stressed, it's in much smaller amounts, leaving them on the short end of the stick when it comes to stress and hormones (Nazario, 2005).

Women are also almost twice as likely to become depressed as men (Mayo clinic staff, 2013). This correlation allows us to see the difference as something that needs to be addressed; women are more likely to become depressed, therefore they need attention in order to realize that they need this physical activity. There are several other different theories as to why this true. One looks at the occupational physical activity, and sees that men are more physically active in the workplace. In a traditional home, the wife stays home with the children while they man goes to work. This is not necessarily a stress-inducer, but there is definitely stress that comes from constantly being at home without a technical occupation. Women also have a tendency to need to talk through everything that is stressful for them, and men do not. Without those lines of communication, women will be more prone to let the stress build up and affect them. Therefore, women need to compensate for this

by setting aside a time to get the physical activity necessary to prevent the depression that is likely to come from high levels of stress.

Finally, the socioeconomic status has an indirect, but considerable affect on the levels of stress and depression. Morgan writes: “Education, income, male gender, and age are consistent and powerful correlates of physical activity habits” (Morgan, 1997). A lack of these things makes for a much more stressful environment due to the lack of income, and a lack of education that would normally lead to a better income. There are cornucopia people working multiple jobs just to pay the bills and eat. This kind of stress, trying to fulfill roles and care for yourself and potentially the people around you, adds unnecessary pressure to life. There is a barrier that needs to be crossed for the lower-income population, because middle and upper class citizens are much more capable to go to a gym and work out, or get some type of leisure-time physical activity. These barriers seem impenetrable because of the issues of time and money. There is not time to exercise when they work two jobs, and even with the two jobs, there is never enough money to afford a gym membership or workout gear. Because of this, depression is far more prevalent in low socio-economic settings (Morgan, 1997). It is necessary to see these distinctions between classes and people because amongst these, there are groups of people who need to be monitored more closely for signs of depression.

Each of these domains and examples of differences are described in order to explain the impact that physical activity can have on a person’s psychological state. Leisure-time physical activity has been found to affect it the most, theoretically because of the escape it provides from the normal, everyday parts of life that give

that cause the most stress. This stress has been found to lead to depression due to the lack of hope and interest in that daily life. This stress has also been found to be dealt with differently between men and women, and can be caused by any number of things, however the most common are a lack of income, lack of education, and working multiple jobs. This impact from physical activity has been seen the most through leisure-time activity because of the difficulty of measuring the other three domains (domestic, transportational, occupational), and because of the lack of studies done.

In the future, more studies should be done in order to see if the other domains could actually be beneficial for depression. The problems have all come from the individuals not being able to understand how to measure correctly; therefore, they should be educated on the ways to measure before they write down all of the physical activity they have gotten.

A preventative measure to take in the future for the lower class is to fund for gyms in their areas in order to give them more affordable and accessible opportunities to exercise in a way that is convenient for them. There also needs to be an education portion to this in order to convey to people the importance physical activity can be in their lives. These can all help substantially to support the fact that physical activity can decrease depression.

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