

Relationship between addiction and depression psychology essay



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Depression is a very serious mental disorder that affects the way the patient perceives the world. They usually view things with a more negative attitude in comparison to non-depressed people, and are very pessimistic about the future. With a prevalence of almost three percent (Whitlock & Evans, 1978), it is among the most common diseases. Many factors can influence depression, including thyroid underactivity (Harvard Health Publications, 2011) and stressful events (Kessler, 1997). D. F. Levinson from the Department of Psychiatry at the University of Pennsylvania conducted a meta-analysis that also found Major Depressive Disorder to have genetic factors (2006). In addition to all these other factors, illegal drug use appears to have a significant impact on the onset and progression of depression as well. Based on several studies, this correlational relationship between illegal drugs and depression can be supported on the biological, cognitive and sociocultural levels of analysis. A Monitoring the Future study (2000) states that the youth global drug use rate has been increasing since 1991 (Figure 1), so if this correlation between illicit drug use and depression exists, then depression will also become an increasing problem. Since we cannot determine a causal relationship between drugs and depression, a clear indication of which to treat is not possible. However, with a positive correlation between the two, it is likely that treating one will consequently reduce the effects of the other. Hence, the important question to figure out is: to what extent can depression be linked to illegal drug use?

Figure 1

Retrieved from: [https://www.ncjrs.](https://www.ncjrs.gov/ondcppubs/publications/policy/ndcs01/images/youthtrends.gif)

[gov/ondcppubs/publications/policy/ndcs01/images/youthtrends.gif](https://www.ncjrs.gov/ondcppubs/publications/policy/ndcs01/images/youthtrends.gif)

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Depression

Beth Wilkinson (1994) states in her book, *Drugs and Depression*, that there are three common types of depression. Major depression causes the patient to experience a combination of symptoms. It can interfere with everyday function, and may be episodic. Dysthemia is less severe but is long-term. Bipolar disorder, also known as manic depression, is associated with a biochemical imbalance in the brain. It can be controlled with appropriate medication (pp. 10-11).

There are many symptoms of depression and these can manifest in very severe or relatively mild manners. Restlessness and agitation are common with depressed patients. They tend to become isolated and withdrawn from everyone else. With depression usually comes a dramatic appetite change, with tremendous weight loss or gain. Patients suffer from fatigue and feelings of worthlessness and hopelessness. They no longer enjoy activities that were previously pleasurable. They either sleep too much or suffer from insomnia (Wilkinson, 1994, pp. 11-12). All of these dramatically change the patient's life regardless of their severity. Illegal drugs and alcohol "can [also] make depression worse and might lead to thoughts of suicide" ("*Major Depression*," n. d.).

Illegal Drug Use

The global use of illicit drugs has been increasing, due to rise to 25% by the year 2050, based on a study conducted by the United Nations (as cited in *The Guardian*, 2012). That means that around 25 out of every 100 people will have tried illegal drugs. This increasing problem also seems to be <https://assignbuster.com/relationship-between-addiction-and-depression-psychology-essay/>

concerning mostly young people in their late teens and early twenties. (Figure 2).

Figure 2

Retrieved from: <http://seniorjournal.com/NEWS/Features/DrugUse-Age-2006.gif>

Illegal drug use may have genetic factors. There is a higher frequency of addiction when close relatives also suffer from addiction. Twins are also likely to both suffer from addiction, according to the Harvard Twin Study of Substance Abuse, conducted by Ming T. Tsuang, Jessica L. Bar, Rebecca M. Harley, Michael J. Lyons (2001). This means that there is a highly genetic influence in illicit drug use, because twins have very similar DNA and if both twins of a pair have a certain disorder, it is very likely that it has at least some genetic influences.

Neurotransmitters carry signals between neurons as chemical messages. The use of drugs increases dopamine, a neurotransmitter associated with pleasure and reward, in the body. The higher the level, the more the brain needs to increase tolerance. When the brain has more tolerance to dopamine, more dopamine is needed to provide pleasure. It means that people who are reliant on drugs require a lot more dopamine in order to feel pleasure, but the only way to achieve this amount of dopamine is through taking more drugs. This is a vicious cycle that increases in severity over time.

Since most drugs are extremely addictive due to this dopamine factor, as well as their use increasing dramatically, the connection between drug use <https://assignbuster.com/relationship-between-addiction-and-depression-psychology-essay/>

and depression will become more and more serious as more people turn to drugs to cope with their problems. This is why the correlational relationship between illegal drug use and depression is such an intriguing subject to investigate.

Relationship Between Addiction and Depression

A Monitoring the Future study (1999) showed that a significant percentage of adolescents had tried various types of drugs before the age of 14. After this study, researchers wanted to investigate the factors that predict the initiation of substance abuse. Steven H. Kelder, Nancy G. Murray, Pamela Orpinas, Alexander Prokhorov, Larkin McReynolds, Qing Zhang and Robert Roberts (2001) conducted a study investigating the association between substance-use and depression of middle-school students. 5721 students participated in this study. These students self-reported depression symptoms and use of marijuana, alcohol and other substances. The researchers examined all the responses and discovered that there is a significant positive correlation between depressive symptoms and substance use.

This study has both strengths and limitations. It is very strong due to the vast number of participants. These give room to determine anomalies and eliminate them. Self-reporting may be very useful also, because the participants can report their experiences without the interference of another person. However, it could be a limitation because some participants may be unsure of exactly what they are feeling; they cannot be certain on their own whether or not they actually have depression or if they are only experiencing common sadness. They may exaggerate certain aspects, or they may not remember some parts of their experience. Another limitation is that the <https://assignbuster.com/relationship-between-addiction-and-depression-psychology-essay/>

participants cannot describe exactly the way they feel. The researchers can only accept the statements of the participants superficially and trust that they disclosed only the truth.

Another study, published in the American Journal of Public Health, conducted by Eva Y. Deykin, Janice C. Levy and Victoria Wells (1987) also supports the correlation between depression and illegal drug use. This study investigated the relationship between the prevalence of Major Depressive Disorder (MDD) and the prevalence of substance abuse and alcohol abuse. The sample consisted of 424 students of age 16 to 19 who were attending college. The findings support the positive correlation between the two variables. The researchers discovered that substance abuse was closely related to Major Depressive Disorder; the substance or alcohol abuse almost always followed the MDD onset. This supports the theory that drugs are used to drown out depression.

Although this research can provide valuable information to the target population of college students, it may be difficult to generalize the findings to a greater population due to the narrowness of the target population. Perhaps this limitation could be widened by conducting a new experiment that includes a greater variety of age groups from various educational backgrounds. However, it is possible that the researchers intended to study only the 16 to 19 year age cohort as this is among the groups that are most vulnerable to drug use and depression.

The studies by Sobel (1991), Kelder et al. (2001) and Deykin et al. (1997) all show just the general correlation between illegal drug use and the onset of

depression. Going to a further depth on the levels of analysis will give a better understanding of this relationship. There are many studies conducted to support the link on the biological, cognitive and sociocultural levels.

Walter Dorus and Edward C. Senay conducted an experiment investigating the correlation between depressive symptoms, demographic variables and patterns of drug use (1980). This was studied with a sample of 432 drug abusers. The researchers measured depression with the Beck Depression Inventory Scale (see Appendix A: Beck Depression Inventory Scale Sample Questions), the Current and Past Psychopathology Scale and the Hamilton Rating Scale for Depression (see Appendix B: Hamilton Rating Scale for Depression Sample Questions). While using the drugs, 46 percent of the participants scored high or moderate levels of depression on the Beck Depression Inventory Scale and 29 percent of them scored high or moderate levels of depression on the Hamilton Rating Scale for Depression (Walter & Senay, 1980). They again found correlation between the variables.

A strength of this study is that it was conducted with a sample of 432 drug addicts. This gives a variety of data and can help eliminate anomalies. Also, it uses three types of scales that measure the depression. This can show a pattern for each participant, and is more accurate than simply using just one measurement. However, this experiment studied drug abusers in general, so the relationship may only be applicable to prescription or over-the-counter drug use, and not illegal drug use.

There are differences in the brains of those who are clinically depressed and those who are not (Figure 3). There is significantly The certain parts that are

more active are associated with the negative thoughts and emotions.

Andrew F. Leuchter, Ian A. Cook, Aimee M. Hunter, Chaochao Cai and Steve Horvath (2012), from the University of California, Los Angeles, discovered that depressed patients have more connections between neurons in most of the areas of the brain. Leuchter (2012) says that the brains of people with depression “lose the ability to turn these connections off” (para. 5). This is one of the differences between the biology of the depressed brain and the biology of the non-depressed brain.

Figure 3

Retrieved from: http://www.mayoclinic.com/images/image_popup/c7_pet_depression.jpg

The higher-up of the colour on the scale to the left, the more active that part of the brain is. (e) is a depressed brain and (f) is a non-depressed brain. The colours in (f) are significantly more blue, meaning that there is more activity in the depressed brain.

Many studies have been conducted to investigate biological aspect of the relationship between addiction and depression. A study was conducted on mice by Dr. Eric Nestler and his colleagues from the Mount Sinai School of Medicine (2011). In his research, he investigates the increase of the severity of depression in relation to chronic use of cocaine. Research already demonstrated that an individual’s danger of having a mood disorder, especially depression, increases with drug use (para. 3). Dr. Nestler and colleagues designed an experiment involving mice to investigate the

biological aspect of this connection. Their findings were published in *Neuron* by Cell Press.

The researchers studied the involvement of a kind of chromosomal modification, H3 lysine 9 dimethylation (H3K9me2), in the effect of the use of cocaine on the susceptibility of depression and other mood disorders. Less H3K9me2 means fewer histone methyl groups. There is a significant relationship between histone methylation and mood disorders (Nestler, 2011, para. 4). Nestler and colleagues found that the use of cocaine substantially increased the vulnerability of mice to stress. They discovered significantly less G9a, an enzyme that controls the H3K9me2 in the nucleus accumbens, an important reward centre of the brain. They discovered that this enzyme increases stress-susceptibility, when an insufficient amount is present in the body. However, if there is excess of this enzyme in the nucleus accumbens, it can block the vulnerability to stress (para. 5). The discovery of such a common mechanism can help neurologists develop new methods of treating both depression and addiction. This would be a possible future application of the results of the study.

One of the limitations of this experiment is that it was conducted on lab mice, and while there are many similarities in the biological makeup of humans and mice, there can be instances where the results of studies performed on mice cannot be generalized to humans. Therefore, further research and triangulation would need to be conducted in order to solidify the results. Also, the study tested for one only aspect of the relationship between addiction and depression: the mechanisms that increase

vulnerability to stress and depression. However, there are many other things
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that could influence the relationship, such as neurotransmitters and hormones. Further research could investigate these other aspects as well. The experiment is also quite broad in that it investigates the influence of drugs on all types of mood disorders, especially depression, but not specifically depression. This could mean that the results are fully applicable to some forms of mood disorders, but that the application to depression may have limited value because it is the general mood which is affected rather than the various symptoms that are specific to depression

Another study conducted with a similar aim shows that the repeated use of cannabis also increases risk of depression. Roy Otten from the Behavioural Science Institute of Radboud University Nijmegen (2011) carried out an experiment published in the online form of Addiction Biology. Otten believes that the results of this study are very relevant because there nearly 30 percent of adolescents of age 16 have tried marijuana before and 12 percent revealed that they used it in the past month (Otten, 2011). This is an alarmingly large fraction of teens that use the drug. The use of marijuana has been linked to poor performance in school and also increases chances of developing psychosis and schizophrenia. Since more than 60 percent of people have the gene variant related to depression (Otten, 2011), the correlation between depression and cannabis-use is likely because of the high rates of both.

Otten's study was conducted over a period of five years, with data from 428 families. Every year, the adolescent children of the families were given questions about various topics, including symptoms of depression and other behaviours. 5-HTT is a variant of the serotonin gene. The experiment shows <https://assignbuster.com/relationship-between-addiction-and-depression-psychology-essay/>

a connection between this variant and the susceptibility of developing depression. His results showed that cannabis is very harmful to adolescents, increasing the chances of developing depression. This is evidence against the practice of using it to self-medicate, because many believe that doing drugs when they are depressed will cure them. Although marijuana provides short-term relief, it also causes an increase in the symptoms of depression.

This experiment was well carried out. Some of its strengths are that it had quite a large sample size, of 428 families, and that it was carried out over five years, rather than all at once. Otten was also very careful during this experiment, taking into consideration other variables that could have caused the effect, such as alcohol intake, upbringing, socioeconomic status, smoking habits and personality. However, a limitation of the study is that it was conducted only in the Netherlands, where there is a very large population of cannabis users. This means that the results may not be generalizable to other countries where less of the population uses marijuana. To expand the results of the study, further data could be collected from other regions with different levels of cannabis users.

Conclusion

These studies provide evidence in support of the correlation between illegal drug use and depression. Further development of this research could be done to better define the significance, because the legality of drugs is a complex issue. Drugs that are now illegal may have been commonplace in previous years. Enforcement of drugs has also changed significantly over the years. There are several factors that have not been taken into consideration

that would likely increase the validity of the research. The correlation
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between illegal drug use and depression is very useful because the rates of both depression and drug use have been increasing. This will become a major problem for adolescents because both drug use and depression are strongly affecting teenagers and young adults, and both have been linked to poor performance in school. Although it is not known whether one causes the other, or they just simultaneously occur, there is definitely a strong relationship between the illicit drug use and depression.