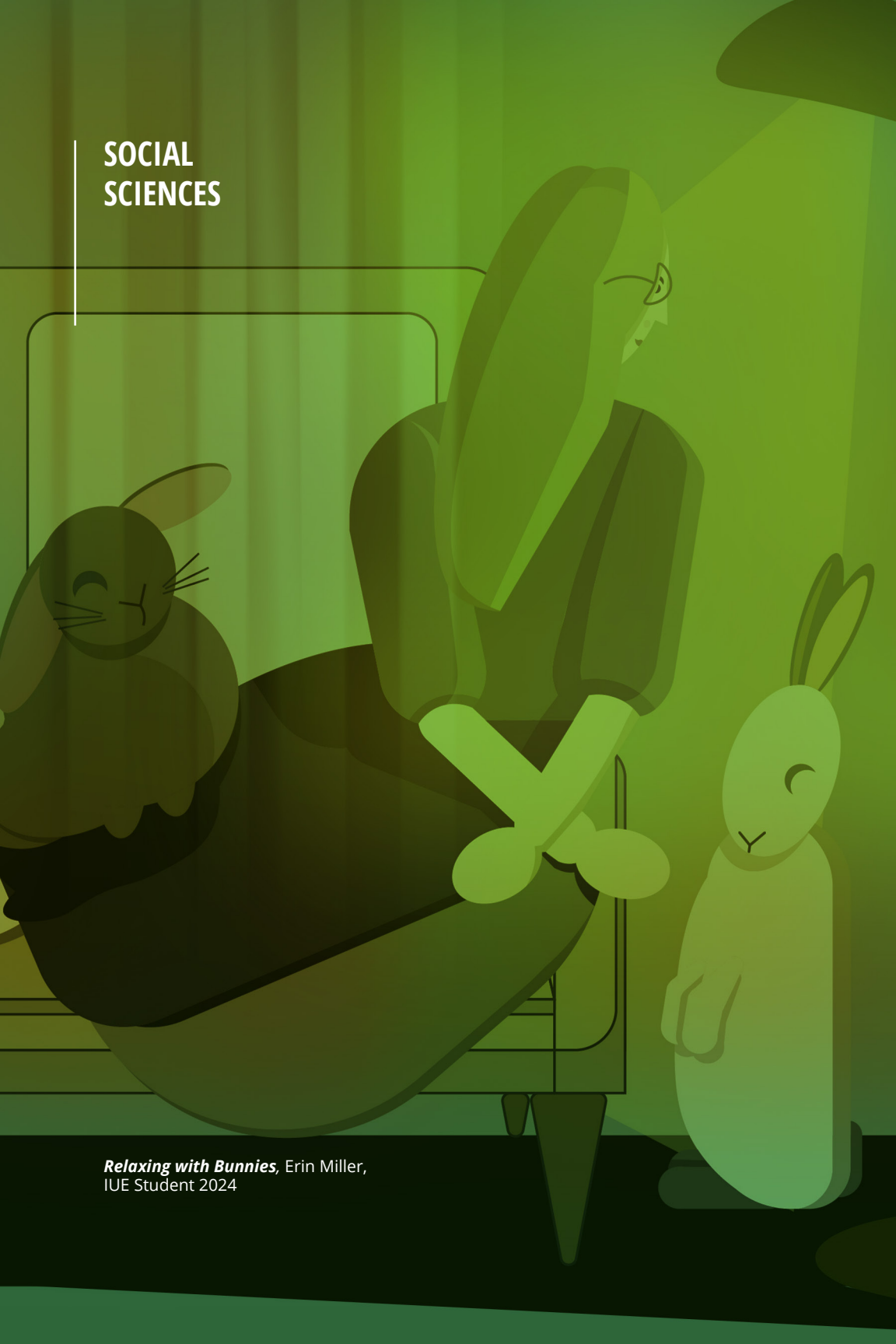


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# IS THE GRASS GREENER ON THE OTHER SIDE? A LITERATURE REVIEW

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## **Abstract**

The rapid legalization of marijuana has greatly affected this country, and it would be foolish to not acknowledge that. The legalization has led to widespread changes in the criminal court system, a new cultural acceptance of the substance, and one of most debated topics in modern American politics. This literature review aims to synthesize five different scientific articles about marijuana. These articles focus on different aspects of marijuana. Some of the articles focus on the physical effects of the substance, while others focus on social situations (like marijuana in the workplace). Two conclusions can be drawn from the five articles. One, marijuana is detrimental, despite the popular belief that it is not; two, much more research is needed in this area. Finally, it is important to note that all five articles are unbiased, and they are not written by politicians, policy makers, or opinionated journalists.

*Keywords: marijuana addiction, physical effects of marijuana, adolescents and marijuana use, legalization, safety, health effects*

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In the United States today, cannabis is viewed as relatively harmless. Many people view it as a natural and somewhat healthy way to relieve stress. For example, a CNN Health article reported that 44% of surveyed people believe that cannabis is “somewhat or much safer” than tobacco (LaMotte, 2023, para. 7). This data indicates that people view tobacco as more dangerous than cannabis and therefore

do not fully understand the dangers of cannabis addiction and its detrimental side effects. Scientists have found that cannabis can cause more intense acute effects when compared to tobacco, and cannabis can cause many detrimental long-term effects. While the negatives of cannabis do not justify smoking cigarettes, this survey does illustrate a broad misunderstanding of marijuana.

This literature review summarizes five articles that discuss the dangers of cannabis in different areas including workplace health, mental health, general health, and the health of adolescents. These articles present a wide array of cannabis research, but they reach two general conclusions. One, cannabis can be detrimental; two, because it can be detrimental if used excessively or irresponsibly, there needs to be more research on the effects of cannabis on minors, the mentally ill, addicts, and others.

### **The Dilemma**

The legalization of the recreational use of cannabis is one of the greatest areas of contention among Americans, but it has been legalized in many states despite the opposition's push back. This is one reason for the explosion of research into the topic. After reviewing five different peer reviewed sources, two problems can be identified. First, cannabis is dangerous, despite the popular belief that it is not. Junyi Dai (2020) of University of Otago, stated that "marijuana can lead to cognitive issues and impairment", and there are high rates of abuse in countries that legalize it (p. 48). Neeraj Kancharla (2021) of King George Hospital, Department of Psychiatry stated that cannabis has been linked to anxiety, depression, psychosis, paranoia, hallucination, disorientation, bipolar disorder, delusion, suicidal ideation, impaired memory, and sleep problems (Kancharla et al., pp. 944-945). Elizabeth Nielson's (2023) article, "Marijuana Dependence," focused on treatment plans for those with a marijuana addiction, and subsequently concluded that "Marijuana users have higher rates of other mental

disorders than are found in the general population” (2023, para. 18). Paweł Śledziński (2019) of Poznan University stated, “The presented review of the literature clearly indicates that marijuana is not a harmless drug” (Śledziński et al., para. 31). Lastly, Elle Wadsworth (2020) of University of Waterloo stated, “The lower percentages of cannabis users who reported that cannabis had worsened their mental health is reassuring, as evidence suggests that there are possibilities of increased risk for mental health conditions from heavy cannabis use, such as depression and psychosis (NASEM, 2017)” (Wadsworth et al., p. 587). These five articles researched and analyzed drastically different cannabis-related topics; however, they coalesce in acknowledging the potential dangers and risk of cannabis.

Second, there has not been sufficient research on the subject of cannabis. Several of the articles reviewed in this essay were concluded with the simple statement that more research is required to fully understand the effects of cannabis (Dai, 2020, p. 51; Kancheral, 2021, p. 945; Śledziński et al., 2019, para. 32; Wadsworth, 2020, p. 587). These articles clearly state that the effects of cannabis have not been well researched in several areas such as: effects on mental illness, addicts, adolescents, and the workplace environment. One would assume that a substance that is not well understood would not be legalized for recreational use and deemed safe for the masses; however, this does not appear to be the case.

### **The Debate**

Two of the articles point to the growing divide between citizens concerning the ideological agreement with or rejection of marijuana use. For example, there has been a divide among employers because “a psychoactive component could give people a ‘high’ mood” (Anderson, Rees & Tekin, 2018)” (Dai, 2020, p. 48). These employers do not want intoxicated employees, and the possible hiring of an employee under the influence of a drug is only made possible due to legalization. Other

employers believe their employees should have specific access to medical marijuana. This debate over employees' rights is a microcosm of the greater problem, which Nielsen (2023) stated in her paper. Nielsen (2023) stated that this was happening because thirty-eight states (including the District of Columbia and three territories) have approved the use of cannabis for medical purposes, and twenty-four states (including the District of Columbia and two territories) for recreational purposes (para. 1). Nielsen's statement clearly outlines the greater problem, the disparity of opinions between states.

### **Consequences**

A common conclusion of many of the articles was that "further research is needed in a much wider population and in cases of various mental illnesses" (Kancherla et al., 2021, p. 944). Kancherla focused on medical marijuana and the appropriate dosage for mentally ill users; she stated that since there is a lack of research, medical professionals are struggling to find the "right dosage" (p. 943). This can lead to addiction and overuse that worsens their condition (pp. 943 - 945). This dilemma is a consequence of the lack of research and rapid legalization of marijuana, as mentioned by Nielsen (2023).

Śledziński's (2019) article focused on the effect of marijuana on adolescents -- people whose brains are still developing. Śledziński believed that the cause was the "medical applications and the progressive legalization of their recreational use" (Śledziński et al., para. 2), and this has an "undesirable" (para. 35) outcome. The undesirable outcome stems from the normalization and presence of legally sanctioned marijuana. In the Conclusions section, they state "..., we should also expect youth-targeted advertising, which is rather undesirable in the context of marijuana's effects described in this article" (Śledziński et al., 2019, para. 35) after discussing the legalization of marijuana. Śledziński and his co-authors are correct that cannabis products can seem childlike (i.e. CBD gummies or fruit flavored THC

vape pens), and this is a rather undesirable consequence of the rapid legalization because cannabis has an extremely negative physical effect on adolescents, like disruption of neural connectivity in the brain or impaired cognitive function (para. 14-22). It is important to note that adolescents are not children; they are people whose brain is still developing, so they could be as old as 21 years old (para. 14). Even though a 21-year-old has the legal right to buy cannabis, that does not mean that it is desirable for their health.

The outcome discussed in another article was that “Researchers have found associations between cannabis and mental health, notably psychosis, and to a lesser extent anxiety and depression (Degenhardt et al., 2013; Lev-Ran et al., 2014; National Academies of Sciences, Engineering and Medicine [NASEM], 2017). A meta-analysis on longitudinal studies of cannabis and depression found that heavy cannabis use may be associated with an increased risk of depression (Lev-Ran et al., 2014). Heavy cannabis use is also associated with an increased risk of psychosis (Moore et al., 2007; Semple, McIntosh & Lawrie, 2005; Volkow et al., 2016)” (Wadsworth et al., 2020, p. 582). As evidenced by the previously mentioned articles, the widespread legalization and misunderstanding of cannabis can lead a user to anxiety, depression, and overall worsening mental health. This may be due to a lack of research or a general misunderstanding among the populus.

### **Possible Solutions**

Unfortunately, none of these articles offer a solution to the legal debate. However, all five state that more research is needed, and this will aid with understanding the substance. Additionally, some of the articles propose minor/inadequate solutions for their field of expertise. For example, Śledziński proposed that “smoking of marijuana should be avoided particularly by women during pregnancy, children, and adolescents” (para. 31).

Nielsen (2023) stated several solutions in the addiction/treatment area, including “motivational interviewing (MI) and cognitive behavior therapy (CBT)” (para. 16). Additionally, she noted that “administering synthetic  $\Delta 9$ -THC (dronabinol, trade name Marinol) will reduce symptoms of marijuana withdrawal” (para. 17); this can be beneficial because they significantly diminish or eliminate the negative reinforcement (withdrawal symptoms) that often drives drug addictions (para. 17). Understanding these solutions, therapy or pharmaceutical (para. 17), is important because it helps one understand the reality of marijuana addiction and dependence.

Nielson (2023) never outright states the solution to the greater problem of increased addiction to marijuana. Like Śledziński (2019), she does not take a hard stance on the morality of legalization: good or bad, beneficial, or harmful.

### **Conclusion**

One of the main takeaways of the five articles is that much more research needs to be done on recreational cannabis use. Several articles stated this as a problem and a solution. The legalization of the recreational use of marijuana is new, so one can expect an uptick in research over the next ten years. The other largely agreed upon consensus is that marijuana is dangerous – and is in fact a drug that causes one to be intoxicated – and despite popular belief one can become addicted to it. These papers outline the risks and dangers of marijuana from an unbiased perspective; furthermore, they do not pick apart policies or politicians. Instead, they attempt to limit themselves to scientific data and facts, and in doing so, reveal startling data about the dangers of marijuana. ■

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