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Psychedelic Renaissance

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Psychedelic Renaissance

Psychedelic substances, which were once categorized as Schedule 1 drugs, are gaining public attention for their potential to treat individuals with mental conditions. Every Schedule 1 drug was once considered to have no medicinal value, with the potential for high abuse, but recent research has suggested otherwise. LySergic acid Diethylamide (LSD) and MethyleneDioxy-MethAmphetamine (MDMA) are two Schedule 1 class substances, which have been studied on a diverse amount of subjects and shown to have positive benefits on the physical and mental psyche with no potential for addiction or bodily harm. Moreover, studies regarding neuroplasticity in humans displayed benefits in how the brain can restructure itself through new learning while under the influence of psychedelic substances. Psychedelic substances are becoming more accessible to scientists, who now have legal authority to conduct research regarding their advantages to further investigate the benefits and unfound knowledge. As new information about psychedelic substances progress, and are now being introduced to the public, regulations are needed in order to uphold public demand. Open source projects, which are accessible to the public, such as Golden Euphorics at goldeneuphorics.org, have already contributed to providing individuals with safe and reliable products. Although psychedelic substances have made a significant amount of progress in the realm of medicine, and psychological sciences, further research is required to ensure safety of the public.

HISTORICAL OVERVIEW

Human existence thrives on the fundamentals of new research. While the unknown carries a great deal of fear, the uncertainty should be a common objective to discern uncharted information for the benefit of society. The earliest research was initiated by Albert Hofman, the creator of one of the first chemically made tryptamines, a compound responsible for the hallucinogenic effects in LSD (Doblin 93). Dr. Richard Doblin, a Harvard graduate and founder of the Multidisciplinary Association for Psychedelic Studies (MAPS), debriefs that psychedelic substances have an extensive history with human nature. His studies concluded that individuals have been consuming organic psychedelic plants such as psilocybin, ayahuasca, and peyote for over a thousand years for their perceived medicinal, spiritual, and mental values (95).

Psychedelic medicine has long been reproached since the 1950's due to its psychoactive properties and the counterculture movement. Timothy Leary, a scientist who received his Phd in psychology from Berkeley University, initiated one of the first research projects, Harvard Psilocybin Project, by documenting and recording the perceived benefits on the expansion of consciousness in 1960. By 1963, the project was discredited by Harvard due to a "lack of scientific rigor and failure to observe established research guidelines" (Capshew et al.). The counterculture movement and psychedelic substances gained traction during recreational events in the 60's such as the Woodstock Music and Art fair in August of 1969. Individuals who participated in the counterculture movement were labeled hippies whose drug of choice was LSD, often tripping and demonstrating strange rebellious nature. In 1968, LSD had first been classified as a Schedule 1 substance and, by the late 1980s, the Federal Drug Administration (FDA) classified all psychedelic substances as Schedule 1 drugs. Despite the prohibition on psychedelic substances, the Central Intelligence Agency carried out unlawful experiments

utilizing LSD in an attempt to control a victim's mind, and the project was known as Project MK-Ultra during the Cold War era in 1953. Dr. Frank Olson, a Central Intelligence Agency biochemist, was allegedly a victim of suicide that stemmed from Project MK-Ultra. Initially, In 1953 the CIA claimed that Dr. Olson's suicide was a result of consuming LSD which prompted him to exhibit depression and strange behaviour. During Dr. Olson's autopsy, forensic scientists discovered that the physical damage described as a "blow" to the head, along with other bodily harm, exhibited signs of homicide in 1994 (Kuzmarov 3). No further investigation was enacted that overturned Dr. Olsomns death from suicide, ultimately resulting as an *unknown* death. History proves that transparency and trust between the public and government agencies in regards to the handling of psychedelic substances is crucial for the progression of scientific research.

SAFETY OF PSYCHEDELICS

Knowledge carries power, but in some instances information is often tainted by ideology which has a detrimental effect on the progression of sciences. The ideology that revolves around psychedelic substances is stereotypically confined to other destructive drugs such as methamphetamine and fentanyl, which cause users to enter a state of psychosis even causing permanent damage. Programs such as MAPS have been created in order to offer the public reliable information in regards to the vast differences between methamphetamine and psychedelic substances. Dr. Richard Miller within his book *Psychedelic Medicine* explains that programs such as MAPS have been created to combat barriers of ideology over science (Miller, 5-7). David Nicholas, a professor of medicinal chemistry and molecular pharmacology, has made great strides to try to uncover the benefits of psychedelic substances. He discovered that LSD can

activate serotonin 5-HT_{2a} and 5-HT_{2c} receptors which are responsible for cognition, and higher cortical processing. Although the neuroscience behind activating serotonin receptors among other neural chemicals is still fairly unknown, Nicholas claims that psychedelic therapy has an impact in “rebooting” behavior in patients with severe Obsessive Compulsive Disorder (OCD). Another scientist, Dr. Richard Miller published a study in the 1970’s demonstrating the recovery of a patient who lost his job due to his OCD. The patient's compulsive behavior disabled him from living a conventional life. During therapy the patient was given a precise dosage of pure chemically made tryptamines, which is an active component in psychedelics. In order to ensure a controlled environment, the patient is left in a settling room where they can explore an altered mind. Behavior was exhibited under the influence of psychedelic substances wherein the patient exhibits strong spiritual behavior related to the natural environment. The patient was subdued, ego-less and non combative. After the psychedelic tryptamine therapy, the subdued patient fully recovered and many of his family members reported that he no longer had signs of OCD and thus reverted back to normal (Miller 24). Overall there is no exact formula given to conclude what an individual may experience under psychedelic therapy as it is different for everyone. The difference in effects that individuals experience is based on demographics such as age, sex, weight and other physiological factors. Subjects often report their hallucinations as a way of expanding their consciousness. In slang, “heroic trip” experiences offer individuals a new process of cognition through hallucinations promoting the *conception* of brand new synapses. The scientific term users may be hinting at is neuroplasticity. Through the progression and discovery of new research, science is now able to overwrite the barriers of ideology previously placed on psychedelic substances as a medicine.

NEUROSCIENCE

In addition to the medicinal values psychedelic substances have on the human psyche, psychedelics offer an opportunity to experience neuroplasticity. Neuroplasticity is the way in which the brain restructures, and forms itself in response to new learning experiences. Although neuroplasticity is enhanced by psychedelic substances, current research has demonstrated that rapid neuronal excitation forms new synapses. Synapses play a vital role in learning, memory and adaptation. The dendritic arbor is a biological process that allows for an increase of synaptic connections through a branching structure in the brain, and promotes more neuronal networking, thus improving brain function. Rachael Sumner, a graduate from the University of Auckland further emphasizes that, “Studies using rodent models confirmed that 5-HT_{2A} receptor pathway activation by psychedelics leads to neuroplasticity in vivo” (3). The 5-HT_{2A} and other receptors after the administration of psychedelic substances can be proved by the Head Twitch Response (HTR), confirmed in rodent models. HTR is the rotational head movement that confirms the release of serotonin and 5-HT_{2A} receptors after consuming psychedelics. Rapid head speed movement recordings were utilized to analyze head movements of rodent subjects during the experiment. In order to fill in missing gaps of knowledge, animal models are needed in order to perform controlled experiments and in turn produce viable and direct evidence of efficacy. In order to produce viable data three criterias must be met: face validity, predictive validity and construct validity. Face validity is concerned with the effectiveness of being able to measure and predict test variables or results prior to conducting said test. In the case of the rodent and psychedelics, HTR had been anticipated and observed. Predictive validity is concerned with the ability to accurately keep reproducing expected results. Lastly, construct validity deals with the

ability of being able to construct information based on patterns of repetition in regards to indirect measurements such as the release of serotonin and 5-HT_{2A} receptors.

PUBLIC SUPPORT

Further research can not be made possible without the appropriate funds and support which is needed in order to carry out research for the full understanding of psychedelic substances. Philanthropists have taken initiative financially to enhance research as most government, private companies, and universities have been skeptical about funding psychedelic research. Entrepreneurs such as David Bronner, Elon Musk, Bill Linton and the children of the late Richard Rockefeller, and many others have all contributed to the study of psychedelic medicine (Gunther 23). The emergence of new research and human impact has prompted executives to contribute to the cause of the psychedelic renaissance. Whereas recreational claims relate to spiritual growth and mental creativity, medically backed claims have benefited veterans with Post-Traumatic Stress Disorder (PTSD). Richard Doblin, a PhD researcher from Harvard, advocated for psychedelic substances not for personal gain, but for the benefit of individuals who are suffering. Only through scientific research and development will individuals be able to aid patients with mental disorders such as PTSD. A breakthrough therapy regarding MDMA, has helped veterans with PTSD. MDMA is more infamously known for its recreational ability and mild psychedelic effect to increase one's empathy and prosociality which is popularized in rave settings promoting euphoria and sex. The psychedelic component found within MDMA has proven to aid individuals who suffer from PTSD. Over 20,000 patients who suffer from PTSD have shown a significant amount of support for the legalization of MDMA. Trials which involved 200 to 300 patients which proved to be favorable has moved MDMA closer to

legalization for PTSD patients (Miller). Support is required in order to continue psychedelic research which is being maintained by philanthropists who believe in helping individuals who are suffering.

As psychedelic research offers more information about the safety and efficacy of its properties, laws and policies are constantly being changed in order to accommodate public support. In order for psychedelic substances to transition out of the Schedule 1 classification, the Food and Drug Administration needs to enact laws which will allow for the legal process of psychedelic medicines. The stigma behind psychedelic substances is that they were once generalized as a deadly drug. The decriminalization process raises concern to how the public will handle such deregulation. Dr. Mason Marks, a professor and leader of the Project on Psychedelics Law and Regulation (POPLAR), further explains the legality concerning psilocybin and psychedelics. Dr. Marks states, “psilocybin-containing fungi are sold over the counter in the Netherlands, and a public health study commissioned by the Dutch Minister of Health concluded that their availability posed little risk to public health or safety” (226). Dr. Marks notes that the availability of psychedelic substances poses little public health concerns. It is important to mention that decriminalization on the federal level is highly unlikely, which will prompt states to decide the legal status of psychedelics. Dr. Mason Marks further emphasizes legal issues citing, “today, over a dozen U.S. cities have partially decriminalized psilocybin producing fungi and various psychedelic plants. They include large cities like Washington, D.C. and Seattle, Washington. States are also proposing or enacting psychedelic decriminalization bills” (226). Before any legislation is made, state officials, researchers, health professionals and legal authorities have come together to decrease criminal penalties tied to psychedelic substances. Public support is then needed to enact official legislation which has been done in the example of

Washington D.C. Recently in 2022, the Senate Bill 58 was introduced to target the decriminalization of possessing psychedelic substances, such as psilocybin (Marks 226). Reform and revision will further guarantee the efficacy of psychedelic substances as the production and distribution across certain states are already in progress.

MEDICINE WITHIN THE CORPORATE SCENE

Corporations who intend on profiting from psychedelic substances pose a problem to the general public as the concern shifts from a medicinal value, to a profitable value diminishing the exigence of psychedelic renaissance. As psychedelic substances are introduced into the market, further complications arise. Psychedelic research has been defiled by companies seeking to gain profit. Johan Söderberg, a graduate from the University of Gothenburg with extensive research on psychedelics, embarks on the psychedelic industry stating, “the transformation of psychedelics into prescription medicines will demonstrate to the pharmaceutical industry that the outlaw model for procuring innovation can be successfully applied to the drug discovery process”. The outlaw model allows companies to encroach on psychedelic substances for profit. Psychedelics being sold as a prescription has an estimated value of \$8 billion and corporations encroach on this opportunity for profit (Söderberg 393) Compass Pathways is a biotechnology company that develops psilocybin to treat mental health conditions. A key example of attempting to encroach on psychedelics for profit can be found within the patent established by Compass Pathways which claims ownership of intellectual property over crystalline psilocybin, which is the crystalline structure or pure form of psilocybin. Patenting the crystalline structure may halt progressions because crystalline psilocybin is utilized as a controlled variable to produce accurate test results. Public safety, research and treating patients should be prioritized over

financial gains. Söderberg further debriefs the nature of companies that continue to encroach on medicine stating, “Compass Pathways...was set up as a non-profit charity... closed down and replaced with a for-profit venture” (Söderberg 394). The integrity of promoting public health is tainted by companies such as Compass Pathways that are seeking profit by exploiting non-profit domains. The concern within the progress of psychedelic medicine is being hindered by capitalization which requires public attention as to not let the encroachment of industries diminish the efficacy of psychedelic medicines. The hazards that venture companies introduce poses concerns within the progression of psychedelic distribution.

CONCLUSION

As of 2023 the National Institute of Health has not declared any direct deaths with psychedelic substances, but there are associated risks with cases that range from trauma that are induced through negative hallucinations (National Institute on Drug Abuse). Negative hallucinations are tied to bad states of conscious which may prompt individuals who already struggle with mental issues, to commit suicide following their previously induced trauma. When determining risks, the psychological factors are most abstract due to the changes of brain structure. Nonetheless, all current research regarding mentally ill patients has proven to dismay any life-threatening physiological harms. Furthermore, research from rodent and human models has demonstrated positive neural networking as well as the release of hormones and thus enhancing brain synapses and cognition. Moreover, research observing PTSD war veterans and other individuals who suffer from mental disorders have encouraged philanthropists to contribute to the cause of psychedelic research. Although research has progressed significantly in regards to the benefits of psychedelic substances, further research and regulation is required to fill in gaps

of knowledge. The introduction of psychedelics initially insinuated public outbreak, and mistrust between government officials due to the lack of research. Law reformation and revision are nonetheless required in order to make the distribution of psychedelic substances medically available. Enacting laws that protect medication such as psychedelics will halt corporations that encroach on psychedelic medicines for profits which poses a problem, further proving reform and revision are necessary.

Appendix

Psychedelic Renaissance: An Annotated Bibliography

Doblin, Richard E., et al. "The Past and Future of Psychedelic Science: An Introduction to This Issue." *Journal of psychoactive drugs* vol. 51,2 2019: 93-97.

doi:10.1080/02791072.2019.1606472

Summary: Psychedelic plants have been consumed by indigenous tribes for traditional use over a millenia of years. The first synthesized psychedelic compound was named lysergic acid diethylamide (LSD) which was created by Albert Hofmann and became the first to ingest his own creation. Since then psychedelics have had emergence but also divergence due to legal issues concerning the substance and the efficacy that revolves around its consumption for medicinal values within research. After rigorous attempts made by multiple associations and scientists, barriers such as legal issues, stigma and unknown knowledge have been revised for the benefit of the public. Therapies are not being offered through clinical trials with MDMA assisted-therapies as an example to treat patients with Post Traumatic Stress Disorder (PTSD).

Evaluation: Richard Doblin is a founder and executive director of the Founder and Executive Director, Multidisciplinary Association for Psychedelic Studies (MAPS) graduated from Harvard University with a PhD in 2001. MAPS aims to medicalize psychedelics as well as changing and reforming drug policies and believes that the government should not intervene in areas of medicine that may greatly benefit society.

Reflection: The research Richard Doblin provides is crucial for providing background knowledge and current knowledge of the status of psychedelics as a medicine but also as a Schedule 1 drug. This will allow readers to gain an insight perspective as to

why certain stereotypes arose from the introduction of psychedelics to mainstream media and why perspectives are changing. Being informed of the history of psychedelic medicine also establishes a familiarity of the substance which paves the way for newer research to overwrite unknown claims that had previously been made such as the potential for addiction with no medical benefits.

Gunther, Marc. "A Psychedelic Renaissance: Hallucinogens Hold Great Promise in Treating PTSD, Depression, and Addiction. But Government Won't Pay for the Research. That's Where Philanthropists Come in." *Chronicle of Philanthropy*, vol. 31, no. 7, May 2019, pp. 22–27. EBSCOhost, search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=136217826&site=ehost-live.

Summary: Birth control pills are a staple example of philanthropist intervention that would change the discourse of medication offered to females when no government, private companies, or universities would fund such a drug research. Philanthropists again have responded to the modern stigma revolving around psychedelic medicine that lacks fundings and support from institutions due to the bad reputation psychedelics gained through time and lack of understanding. Psychedelic research has been funded and made possible with the help of Tim Ferriss, conservative activist Rebekah Mercer, and the Rockefeller family all of which recognize the mental health revolution this drug has on individuals. Many individuals who have supported the psychedelic renaissance all have a common conception that this drug can have benefits for people who suffer from PTSD and severe depression as well as other well known mental disorders.

Evaluation: Marc Gunther offers a perspective into the funding that goes into well known research organizations such as Multidisciplinary Association for Psychedelic

Studies (MAPS) and the people who fund such organizations. Most of the funds that are provided are from philanthropists or people who have the same intention of promoting the welfare of others. Individuals such as Elon Musk and anonymous Bitcoin millionaire Pine were inspired by psychedelic trips to fund psychedelic research both of which believe that psychedelic research is a better alternative to former sources of prescribed medicine that would “zombify” patients as Elon Musk states. A good proportion of the people who advocate for psychedelic research have seen the medical benefits and therefore have personally funded psychedelic research in order to better the health of individuals.

Reflection: This article will provide background knowledge as to where, how and why funds are being donated to psychedelic research. This not only highlights the philanthropist intervention to better society's health but it also contrasts the amount of dedication certain groups of people have to fund research more than private or government institutions. This will allow the reader to make interpretations of their own in regards to what hearings government powers will prioritize in regards to the health of society. The common cause that many of the donors withhold also highlights the intention behind funding psychedelic research which should ease the stigma revolving around psychedelic medicine being a Schedule 1 drug with no benefits. The article also highlights the lack of support psychedelic research receives and although a great deal of their funds sources from philanthropists it is arguable that support from government would further hasten the process for psychedelic research and inturn offer more knowledge and a clear point of view in regards to the arguments imposed on psychedelic medicine.

Kuzmarov, Jeremy. “‘There’s Something Rotten in Denmark:’ Frank Olson and the Macabre Fate of a CIA Whistleblower in the Early Cold War.” *FIU Digital Commons*, 2020, digitalcommons.fiu.edu/classracecorporatpower/vol8/iss1/3.

Summary: Dr. Frank Olson is a CIA Biochemist as well as a victim of the CIA during the MK-Ultra project which administered LSD without prior consent. Dr. Olson's true reason for fatality had been omitted with attempts by the CIA to pay the family a loft financial settlement whilst making claims of suicide that Dr. Olson initiated after his bad experience after taking LSD. An autopsy later revealed that the cause of Dr. Olson's death was due to a blow to the head in which the New York Attorney later established the suicide ultimately to be unknown with no further investigation. Regardless of the available information, the secrecy and resistance of the truth continue to persist with no final resolution.

Evaluation: Jeremy Kuzmatov is an associate professor of American history at the University of Tulsa with an extensive amount of research that has been done within 20th century relations, politics and culture. The research that the author provides is beneficial in revealing the insidious nature of the government action in their interventions with drug policy as well as revealing their own private unethical research. Not only does this provide unethical research for readers to delve into which prompts for transparency between officials and individuals but also the powers that were sought out after that stem from psychedelics.

Reflection: Informing individuals of the attempts of the government to omit information is crucial in establishing a trust between the readers and the efficacy of establishing psychedelics as a medicine. It is important to realize that the transparency of

information is crucial for the advancement of mankind and any attempts to omit truth by higher officials should be taken into account. Questioning government is an idea that should arise based on the reading as the patterns of history demonstrate that higher officials are highly suggestive of hindering human progression for personal agendas.

Marks, M. The varieties of psychedelic law. *Neuropharmacology*, 226, 109399–109399, 2020. <https://doi.org/10.1016/j.neuropharm.2022.109399>

Summary: The article touches on the decriminalization of psychedelic substances between state and local laws which would allow for the consumption of psychedelics for research, medical and recreational purposes with an emphasis on the availability of research. History of DEA and federal regulation is also reported with the classification of psychedelics to be a Schedule 1 drug with the present consideration of FDA approval of the substance due to the medicinal properties. Although this approval is still pending there are still two paths in which psychedelics can be administered through bills passed by legislatures and or ballot measures initiated by activities or voters. All in all the article stresses the process of the legal state of the Schedule 1 drug substance and the importance of the implementation phase after all is said and done. Such laws are not being transformed as the functionality of previous penalties for the drug has proved to be more pernicious than beneficial. A good deal of the change in laws are also due to public appeal and concern with the growing resurgence of psychedelic research and utilization.

Evaluation: The author Brian T. Anderson article provided is by the "National Institutes of Health Psilocybin Research Speaker Series" which is considered to be a reputable institute and as most of the contents within the article contain legislation there is not much room for bias. The process in which the psychedelic research and

administration does not contain opinion but rather observations of the functionality of the law as well as what to expect based on the process of legislation. All these key points are brought up through research studies, government regulations, and legislation which again does not leave room for interpretation but rather the process of legislative interaction. Overall most of the content within the article has to do with the complexities of the legal and regulatory processes that any other law would have without factoring this law in particular not that there is a way to favor this law more than others.

Reflection: This article will help in establishing the legal procedures in being able to produce and distribute psychedelic substances safely and legally. This will also help me in being able to persuade the audience to change their perceived stigma and illegal aspects that come from Schedule 1 drug substances such as psychedelics. Honestly, yes this article changed my legal perspective of the drug and informed me of the complexities that go into the legal system in order to safely administer psychedelics. This will also be useful for the audience as they will further be able to understand the precautions and process of being able to have a successful transition from a symbolically radioactive substance to a medical plant. Transparency once again is a key reflection that can be brought up from the article as decisions made by government agencies and advisory boards can set different outcomes for policies enacted.

Miller, Richard L. *Psychedelic Medicine: The Healing Powers of LSD, MDMA, Psilocybin, and Ayahuasca*. *Inner Traditions International, Limited*, 2017.

Summary: Dr. Richard Louis Miller is an American Psychologist and professor who taught psychology at the University of Michigan who had an opportunity to experience dimethyltryptamine (DMT). DMT inspired him to learn more about the

properties of psychedelics and its healing powers by interviewing leading scientists investigating the effects of an arrangement of psychedelic substances. The purpose of the interviews informs readers of the medical benefits of psychedelics and also persuades readers to avoid emphasizing ideology over science. The studies inform readers of the required cautions needed when interacting with such a substance and emphasizes the utilization of science. Government interaction is revised as the social norm of overmedicating mentally ill patients which should be addressed and revolutionized not by government but action that involves research in psychedelic medicine. Overall, the content within the book illustrates the potential of psychedelic medicine but also highlights the more needed research required in order to understand the negatives and positives of psychedelic substances.

Evaluation: The information that is provided comes from the interviewer Dr. Richard Louis Miller. Dr Miller interviews individuals of different PhD backgrounds ranging from pharmacologists to neurologists and so forth. It should be acknowledged that Dr. Miller mainly focuses on the studies that are found from scientists who lead psychedelic research therefore most of the studies back psychedelic medicine. The interviews within the book acknowledge deaths that have been correlated to psychedelic utilization, although the deaths were psychological rather than physiological; this factor is still taken into account when researching the effects of psychedelics. The contents within the book emphasizes a demand for transparency and look into the sciences of this medicine by administering the substance in a controlled professional setting to advanced cancer patients for example and report the data that is found. Although death by overdose of psychedelics has not been reported, it should be noted that a hefty dosage will have

different outcomes as any other drug would. The people who are interviewed not only have extensive knowledge stemming from their education background but also have experience within their practice. For example Richard Doblin founder of the Multidisciplinary Association for Psychedelic Studies (MAPS) and Roland Griffiths researcher of psychedelic medicine within the Johns Hopkins university and a variety of other individuals.

Reflection: This source will be helpful to me as it can be difficult to find specific research and studies presented on the internet explicitly mentioned by learning scientists. This direct source of information will not leave much room for any key information that is not mentioned and will leave plenty of room for the audience to draw conclusions of their own. Honestly, yes my interpretation did change while reading this book as at first I believed psychedelic medicine to be simple and easy to understand but I now see that there is still a lot of research to be done on the effects of this substance. I still believe that the public should be informed more transparently of what happens behind the scenes of government interaction and true intentions but I now understand that this point may be more difficult to address as it is a hard pill to swallow knowing that the government may work for self interest.

Söderberg, Johan. "The Psychedelic Renaissance: A Case of Outlaw User Innovation in the Pharmaceutical Industry." *Prometheus*, vol. 38, no. 4, 2022, pp. 385–98. JSTOR, <https://www.jstor.org/stable/48717779>. Accessed 5 Nov. 2023.

Summary: Big Pharmaceutical companies gain secondary profit from black markets, a key example is found within the cooking of meth from leakage of controlled or over prescribed medicines such as ephedrine, an active ingredient utilized to produce

methamphetamine. Corporate lobbying takes initiative to defeat proposed regulations against secondary profits therefore revenue from secondary sources are protected by big pharmaceutical companies. With the introduction of psychedelic medicine, big pharma has established a trend within seeking to gain profit from the psychedelic renaissance as it is estimated that the global market for psychedelics on prescription will be worth \$8 billion United States Dollars by 2029. Entrepreneurs and firms are now battling to claim ownership of every possible aspect of the therapeutic procedure psychedelic therapy offers. Such case examples include the patent filed by Compass Pathways that takes ownership of certain music that can be played during psychedelic therapy. Similarly, Compass Pathways initially introduced themselves as a non-profit organization seeking to gain support from experts and community leaders in the field of psychedelic research then once fully equipped designated themselves as a for profit organization.

Evaluation: Author Johan Söderberg is an associate professor in Theory of Science at the University of Gothenburg and is a Founding Member of the peer-reviewed Journal of Peer Production which are all reputable sources giving insight into his experience in journaling and writing. Within the article Söderberg does not initiate in biases or clear opinions that would hinder his reputation when establishing claims within the psychedelic renaissance and innovation. Söderberg draws his claims directly from the source such as patents filed by Compass Pathways which overrides any possible biases as this comes directly from the company. The same situation applies within the transition from the non-profit to a for profit organization Compass Pathways acted upon.

Reflection: This source will be beneficial to my claims as this article focuses on pharmaceutical companies and the activity that revolves around the capitalization of

psychedelic medicine. Not only does this highlight the potential found within this medicine enough for pharmaceuticals to start capitalizing but also highlights the continuity of change within history. From a complete criminalization of psychedelic substance to a substance for capitalization and the lengths companies and entrepreneurs will go through to encroach on capital gains dismissing any stigma that revolved around psychedelic medicine before the renaissance. Not only will this offer readers a different perspective in regards to the legal status of psychedelic medicine but it will also offer a unique perspective within the capitalization of medicines new to the market. This also highlights conflict between psychonauts and restrictions imposed by intellectual property, Compass Pathways and its patents sets a key example of the conflict between the cultural resources psychonauts developed depicting the jeopardization of psychedelic patients in turn for maximization of profits.

Sumner, Rachael, and Kacper Lukasiewicz. "Psychedelics and Neural Plasticity." *BMC Neuroscience*, vol. 24, no. 1, June 2023, pp. 1–3. EBSCOhost, <https://doi.org/10.1186/s12868-023-00809-0>.

Summary: A recent discovery has found that Psychedelics have an effect on the neuroplasticity of the brain which is the ability of the brain to restructure and form itself in response to new learning experiences. Molecularly psychedelics has an effect on the rapid neuronal excitation which prompts one neuron to share information to the next through action potential, formation of new synapses responsible for memory, learning, and adaptation as well as changes in dendritic arbor which allows for an increase of synaptic connections. While the neuroscience within psychedelics is still fairly new, psychedelics transmit differences in neuro activity for example classic psychedelics

activate serotonin 2A receptors responsible for perception, cognition, and psychosis implicated in treating mental disorders. Classical psychedelics such as dimethyltryptamine and lysergic acid diethylamide stimulate neurogenesis which is the development of nervous tissue and formation of new dendrites which are all backed by changes measured with electrophysiological responses of the neurons. Further studies found within rodents confirm that the serotonin 2A receptor pathway activation leads to neuroplasticity and a discovery within the plasticity of the prefrontal cortex long term.

Evaluation: Rachael Sumnar obtained her Phd at the University of Auckland School of Pharmacy investigating neurological and psychiatric disorders and Kacper Lukasiewicz obtained a PhD in Neurobiology at the University of California Santa Cruz where he has previously studied psychedelic medicine within mice. The article primarily focuses on the neurological effects that psychedelic medicine has on people and primarily on rodents serving as the preclinical research as the neuroscience behind psychedelic research is still fairly new. Although there is still a wealth of knowledge to be gained from psychedelics, the infancy state still proves to be beneficial and requires more research to be able to establish arguments backed through hours and hours of research. There are no clear biases as most of the research revolves around neuroscience and information is provided by two well educated researchers who specialize in neuroscience and behavioral studies.

Reflection: This article provided by Rachael Sumnar and Kacper Lukasiewicz will prove to be beneficial for my argument as this article takes an approach into the neuroscience of psychedelics. Although the research is still fairly new the serotonin 2A receptor proves promising results and resides as a clear indication as to why or how this

change in receptor has beneficial outcomes for patients who are mentally ill. This will allow the reader to gain insight into the myriad of opportunities to be gained as psychedelic research is still at its infancy state with a lot of knowledge to be gained through support and fundings. Research within the neuroscience of psychedelics will be a foundation to legitimizing psychedelics as a medicine for consumption of patients who are ill. The neuroplasticity that is caused by psychedelics may be caused by a myriad of benefactors and observing the neuroscience behind this substance will further determine the potential of this medicine.

Timothy Leary. Department of Psychology, psychology.fas.harvard.edu/people/timothy-leary.

Summary: Timothy leary began to research the effects of psychoactive substances on the human mind in 1960 along with his associate Richard Alpert. Psychedelics at this period had largely been unknown of its dangers and effect in how the mind is altered as well as any possible dangers. Leary and Alpert sought out to start the Harvard Psilocybin Project in order to provide the public with the newly discovered information but by 1962 controversy arose within the project and in 1963 the project was ultimately dismayed and discredited. Despite the discredited project both Timothy Leary and Richard Alpert are icons of the counterculture movement and the human potential movement. Leary had a slogan “Tune in, Turn On, Drop Out” which highlights his character and ambition to question and investigate his surroundings.

Evaluation: Timothy leary is pivotal in starting the psychedelic renaissance as regardless of all controversy and risk he took putting his credentials on the line he established the basis of psychedelic research and inspired many others to continue with the movement. The article primarily highlights the associated risks Timothy Leary and

his associate took when embarking on the psychedelic research journey and although his research ended abruptly, the project was necessary in order to continue further research.

Reflection: The article offers readers an insight perspective into what risks researches delved into when dealing with a highly controversial drug. This allows readers to understand what kinds of difficulties researchers face when discovering the benefits of this medicine.

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