Impact of Psychedelics on Creativity

El impacto de los psicodélicos en la creatividad

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RESUMEN

Este trabajo proporciona información sobre la naturaleza de los psicodélicos y el microdosing, resaltando sus efectos psicoactivos, mecanismos de acción y posibles beneficios. En este contexto, se plantea la posibilidad de una influencia positiva de los psicodélicos en la creatividad, a través del aumento de la percepción del significado. El estudio también enfatiza la importancia de reconocer y abordar las limitaciones en la investigación para avanzar en el conocimiento y la comprensión en los campos respectivos. Los psicodélicos y sus efectos no supusieron una amenaza para la vida; pero, pueden potenciar la creatividad mediante mecanismos biológicos.

Palabras clave: creatividad, microdosing, psicodélicos, significado

ABSTRACT

This work provides valuable insights into the nature of psychedelics and microdosing, highlighting their psychoactive effects, mechanisms of action, and potential benefits. It suggests a potential positive influence of psychedelics on creativity through the augmentation of the perception of meaning. The study also emphasizes the importance of recognizing and addressing limitations in research to advance knowledge and understanding in the respective fields. Research has found that psychedelics generally do not have life-threatening negative effects. However, they can slightly enhance creativity through biological mechanisms.

Keywords: creativity, meaning, microdosing, psychedelics

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Creativity, according to Walia (2019), is the phenomenon in which a human action gives rise to something new, whether it be a physical object or a mental construct. For quite some time, people have sought ways to improve creativity, recognizing its importance in various human endeavors. This has led to different approaches, including cognitive, behavioral, and even pharmacologic methods. This underscores the importance of acquiring comprehensive knowledge to optimize our creativity (Sweat, et al. 2016).

As Walia (2019) noted, one's creative idea can be entirely novel. When this idea is expressed in a physical form, it becomes real and can interact with other things. Therefore, creativity can transform into creation. Furthermore, it is explained that the act of creation involves using one's creativity to produce concrete and visible solutions or forms that are unique, innovative, and bring about some sort of transformation. These creations are recognized and acknowledged as such.

As mentioned by Cameron et al. (2020), a great variety of psychedelic compounds such as Lysergic acid diethylamide (LSD), psilocybin, and even Dimethyltryptamine (DMT), have been used for a very long time both for religious and medical purposes. The authors also mentioned that practices like psychedelic micro-dosing have lately been growing in popularity. It is worth mentioning that Prochazkova et al. (2018), declare that the area of creativity holds promise as a potential behavioral target of psychedelics due to their purported benefits in enhancing mental flexibility.

Kowal et al. (2015) conducted research exploring the potential correlation between creativity and the use of drugs, particularly cannabis. Their findings suggested that the perceived increase in creativity, that many people report , when using cannabis, may not be an accurate or reliable effect. Instead, the authors argue that it could be a subjective or misleading perception, referred to as an “illusion”.

The , uncertainty that arises when someone tries to find a correlation between the consumption of specific drugs and how it affects our ability to make new mental constructs, increasing our creativity motivates this monography. To sum it up, this work seeks to address the following questions: Is there a correlation between psychedelic use and enhanced creativity? What are the potential risks and benefits of using drugs to enhance creativity? What is and what role does microdosing have in psychedelic usage? And finally, what are the implications of the relationship between drug use and creativity for the field of music?
Theoretical Framework

Defining psychedelics

Before we try to fathom how a substance, more specifically, psychedelics can affect individuals, it is first necessary to understand what psychedelics are. Hartogsohn (2018) defines them as substances that enhance the perception of meaning, or as he explains, intensify mental phenomena, causing their impact to emerge more dramatically in comparison to non-substance-influenced individuals.

An alternative interpretation that holds merit is the definition that originates from the Greek language: “The word psychedelic is derived from combining the Greek words psyché meaning ‘mind’ or ‘soul’ and dêlos, meaning ‘to manifest’ or ‘make visible’” (Kaelen et al. 2015, p. 1).

On the definition of microdosing

Microdosing is defined as the regular administration of minute amounts of psychedelic substances (Kuypers, 2022), however, according to Polito and Liknaitzky (2022) defining the exact amount that qualifies as a microdose is a challenging task, and thus far, researchers have not

reached a consensus on a consistent criterion for it. The previous authors proposed three explanations for the lack of clarity in establishing dosing criteria: Firstly, users face uncertainty about the nature of their drugs and the specific quantities of the active ingredients they contain. Secondly, there is notable diversity in both the pharmacological and subjective effects experienced with different substances, as well as variances in individual responses to those substances. Lastly, there is a lack of agreement on the subjective effects that should be linked to microdosing.

Outlining hazards of misconstruing the manifestation of enhanced creativity

Psychedelics, according to Hartogsohn (2018), can indeed have a variety of effects on the individuals who decide to take them, among these are: Psychotherapeutic insights, mystical-type experiences, and finally, the one phenomenon relevant to this work, creative breakthroughs. However, Baggott (2015), says it is complex to evaluate whether psychedelics that are said to enhance creativity do so, or creativity is being mistaken for other effects. Luckily, for this paper, research regarding psychedelics finds itself in its greatest activity ever in history, not only for neuroscience but also for therapeutic intents (Doblin, 2019).

It is worth taking note of Baggott's (2015) statement, "…qualitative impressions are not always confirmed when quantitative assessments are made, and there are reasons to be skeptical about the perceived effects of psychedelics on creativity" (p. 2). This suggests that subjective impressions, beliefs, and experiences around the effects of psychedelics on creativity may not always be supported by objective data. The statement also mentions reasons to be skeptical about the perceived effects of psychedelics on creativity, this implies that some factors or considerations cast doubt on the notion that psychedelics reliably enhance creativity. These reasons could include limitations in study designs, inconsistent findings, potential biases in individual experiences, or the complex nature of creativity itself. Therefore, the author makes it advisable to approach any claims about the effects of psychedelics on creativity with a critical mindset.

Although studies on psychedelics offer proof of the healing benefits of high doses, these encounters are frequently highly intense and therefore entail significant risks for participants (Anderson et al., 2019). In addition, according to Cameron et al. (2020), there is no conclusive evidence to support the idea that the hallucinations induced by psychedelic substances are essential for their positive impact on mood and anxiety. In fact, various pieces of evidence contradict this notion. Single administrations resulted in slight yet advantageous impacts on specific performance measures and personal experiences (Kuypers, 2022).

Regarding the practice of microdosing, Anderson et al. (2019), explain that personal accounts assert advantages such as enhanced mood, concentration, and creativity, along with reduced symptoms of depression and anxiety, but a lack of scientific research that validates the effects of microdosing prevails. The statements that microdosing psychedelics could potentially improve cognitive function, combined with the growing popularity of pharmacological cognitive enhancement, emphasize the importance of subjecting this practice to thorough scientific research to assess its potential advantages and risks (Cameron et al., 2020).

The risks of using psychedelics

According to Schlag et al. (2022), evaluating the potential hazards associated with the use of psychedelic substances presents considerable complexity due to the existence of several distinct compounds, diverse application methods, varied environmental factors, and a wide array of population groups involved with them.

Since psychedelics influence cognitive processes, Johansen and Krebs (2015) thought that maybe psychedelics would increase the suicidal behavior of individuals who have taken them. However, their study could not find connections between the use of psychedelic substances and an elevated probability of experiencing suicidal thoughts, making plans, or engaging in suicidal attempts within the past year. On the other hand, individuals with a history of childhood depression who had engaged in psychedelic use demonstrated a diminished likelihood of encountering such thoughts and making plans within the past year of having consumed the psychedelics.

Another concern that might come to light when speaking of psychedelics is dependence on them. Psychedelics do not pose a threat regarding dependence, given that tolerance, which refers to the diminished response experienced with the repeated usage of a substance, has been observed to manifest swiftly with the euphoric and psychedelic impacts of hallucinogenic substances. However, this phenomenon does not extend to the autonomic effects, including pupillary dilation, heightened reflex activity, elevated blood pressure, increased body temperature, goosebumps, and rapid heart rate. It is worth noting that a phenomenon known as cross-tolerance exists, wherein individuals who have developed tolerance to LSD also exhibit reduced sensitivity to other hallucinogens (Schlag et al., 2022).

How psychedelics impact creativity

As previously said, psychedelics enhance the perception of meaning. According to Hartogsohn (2018), they may contribute to the improvement of creativity and problem-solving abilities by potentially augmenting the significance or depth of meaning when used.
By magnifying the perceived significance of creative challenges and insights psychedelics provide users with the impetus to pursue new, less obvious lines of ideation that they might otherwise have ignored; and with enhanced motivation to explore new creative directions to their fullest ramifications. (Hartogsohn, 2018, p. 3)

Through complex biological mechanisms, psychedelics' effects can include changes in perception and distortion of time perception, among others, including, altered meaning and sensations related to insight. The latter two of them are acknowledged as a typical immediate outcome of using psychedelics.
A study by Weißner et al. (2022) revealed that when compared to a placebo, LSD had a notable impact on creativity, showing effects on novelty, surprise, originality, and semantic distances. It triggered the phenomena of pattern break, associated with heightened novelty but decreased organization, reducing utility and convergent thinking, and to a slight extent, elaboration across tasks.. Further research is required to fully comprehend the potential benefits and risks of using LSD in these contexts. The study suggests that abstract stimuli and drawing tasks, for example within psychedelic-assisted psychotherapy or art therapy, might be interesting techniques to stimulate symbolic thinking to express and process problems on a meaningful level. These findings could have implications for the use of LSD in creative activities in education and the arts.
Anderson et al.'s (2019) found that individuals practicing microdosing showed greater creativity when generating unconventional applications for everyday objects. This discovery aligns with the idea of a positive association between microdosing and creativity. Nonetheless, the study acknowledges the need for additional research to confirm this correlation.

Psychedelics in the field of music composition and meaningful construction of songs

Barret et al. (2018) explained that the use of psychedelic substances has been

discovered to improve the processing of emotions by boosting the functions of brain areas associated with the regulation of emotions, like the amygdala and prefrontal cortex. This effect can result in improved emotional control and a heightened feeling of overall happiness.

Research showed that psychedelics can enhance the communication and interaction among the brain regions responsible for mental imagery, including the default mode network. This can result in more vibrant and immersive encounters during psychedelic experiences. Furthermore, psychedelics have been demonstrated to augment creativity and the ability to think divergently, which could be linked to their impact on mental imagery (Barret et al., 2017).

This information can also be backed up by Halberstadt (2017), whose research demonstrated that LSD elevated the perceived significance of music that was previously considered meaningless or neutral. Notably, this effect of LSD on the perception of meaningfulness was accompanied by heightened brain activity in the frontal cortical regions associated with processing information related to oneself.

Kaelen et al.'s (2015) study, examined the impact of LSD on emotions evoked by music. The main hypothesis that LSD amplifies music-induced emotions was confirmed, as well as the more specific hypothesis that emotions associated with transcendence would be heightened by the drug. Particularly, emotions such as wonder, transcendence, tenderness, and power demonstrated the greatest improvement. This could be connected with Weißner et al.'s (2022) paper, where the data-driven approach of the study revealed an occurrence of heightened meaning, characterized by symbolic thinking and ambiguity. This principle applied to music listening means that under psychedelics, individuals assign more meaning along with emotions to the things they are hearing.

Limitations and the need for future research
This section highlights key challenges in researching the link between creativity and psychedelic use. These limitations, identified by scholarly studies, set clear boundaries within which the correlation between the previous constructs can be effectively explored. It aims to clearly outline these challenges to better understand and explore the relationship between these two constructs.

Hartogsohn (2018) points out that while classical narratives and clinical studies support the idea that psychedelics enhance meaning, this aspect has not been sufficiently explored. Doblin et al. (2019) acknowledge the expanding body of research on psychedelics' effects, signifying a renaissance in psychedelic research. However, Baggott (2019) also identifies significant methodological limitations: First, the quantitative tasks in studies may not fully capture areas where psychedelics show benefits. Second, there's a lack of control for the variability in psychedelics' effects. Third, the measures used in studies may not fully engage participants.

Weißner et al. (2022) advise caution in interpreting study results, citing small sample sizes and numerous variables that can impact the reliability of the findings. This underscores the need for more rigorous and controlled research to validate the relationship between psychedelics and creativity.

Conclusions

Research has successfully delineated the concept and practice of microdosing (Kuypers, 2022. This exploration has shed light on the potential benefits associated with microdosing as a distinct phenomenon within the realm of psychedelic usage (Cameron et al, 2020; Hartogsohn, 2018).

It has been observed that the body of research shows a subtle inclination towards

endorsing the notion that psychedelics exert a positive influence on creativity through the augmentation of meaning (Hartogsohn, 2018). While the findings are not definitive, they suggest the potential of psychedelics to enhance creative capacities by fostering a heightened sense of significance. Significant risks regarding the use of psychedelics in different studies haven't been found (Johansen, & Krebs, 2015). However, it is essential to recognize that further investigation is warranted to establish conclusive evidence and ascertain the precise nature and extent of this relationship (Baggott, 2015).

Analysis of numerous scientific articles across various fields reveals that limitations are crucial in research and experimentation. These limitations, frequently highlighted and discussed within the articles, provide insights into the boundaries and potential flaws of studies. These can arise from factors such as sample size, methodology, data collection, statistical analysis, funding constraints, time constraints, or even the inherent complexities of the subject being studied. Recognizing and acknowledging these is vital for researchers as they help establish the scope and validity of their findings, encourages further investigation, and allows a better understanding of the scientific landscape. (Baggott, 2015).

Despite observing a subjective connection between psychedelic usage and the attribution of meaning while listening to music under its influence, no evidence was found to substantiate the notion that psychedelics could facilitate musical composition. It is important to note that further investigation is necessary to explore the potential impact of psychedelics on musical creativity and composition (Kaelen & Krebs, 2015).

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