

NEUROPSYCHOLOGICAL MECHANISMS OF THE INFLUENCE OF SHAMANIC PRACTICES ON CREATIVITY: A MIXED-METHODS STUDY

Lahuta Liudmyla

*Master's Student, Taras Shevchenko National University of Kyiv, Faculty of Psychology, Ukraine
Founder, Institute of Psychological Maturity, USA*

Abstract

This study investigates the impact of shamanic practices, specifically Ayahuasca consumption and sound healing combined with guided meditation, on creativity. Using a mixed-methods approach, we examined changes in creativity, openness to new experiences, executive functions, and divergent thinking among 47 participants. Results indicate that meditation and sound healing positively influence executive functions, enhancing task initiation, planning skills, and creative self-efficacy. This research provides insights into the potential of shamanic practices for enhancing creativity and cognitive functions.

Keywords: Shamanic Practices, Ayahuasca, Sound Healing, Creativity, Divergent Thinking, Executive Functions, Openness To Experience, Cognitive Psychology, Meditation, Neuropsychology.

Introduction

Shamanic practices have long been associated with altered states of consciousness and potential enhancements in cognitive functioning. Recent research has begun to explore the neurological underpinnings of these practices, suggesting that they may induce changes in brain activity associated with creativity and altered perceptions[1]. This study aims to contribute to this growing body of knowledge by examining the specific impacts of Ayahuasca consumption, sound healing and meditation on various aspects of creativity and cognitive function.

The objectives of this study were to:

1. Assess the impact of shamanic practices on creativity, executive functions, openness to new experiences, and divergent thinking.
2. Compare the effects of live versus online practices.
3. Evaluate the influence of sound healing and guided meditation on creativity, particularly when experienced online in group settings versus individually through recordings.

Methodology and Measures

Forty-seven participants of diverse ages and nationalities were recruited based on their experience with shamanic practices and sound healing. They were divided into four groups: three experimental groups (9 participants each), one control group (20 participants).

The study adopted a mixed-methods design to comprehensively assess the impact of shamanic practices. Quantitative data were collected through

standardized psychometric tests, while qualitative insights were obtained through structured interviews and participant reflections.

The independent variables included:

1. Ayahuasca practices (in a traditional ceremonial context).
2. Sound healing sessions (delivered online, both live and pre-recorded).
3. Directed meditation with a focus on creative visualization.

Dependent variables measured were:

1. Openness to experience: assessed using the Openness subscale of the Big Five Inventory (BFI).
2. Divergent thinking: evaluated through the Torrance Tests of Creative Thinking (TTCT).
3. Executive functions: measured using the Behavior Rating Inventory of Executive Function (BRIEF).
4. Creative self-efficacy (CSE): assessed via a modified Creative Self-Efficacy Scale.

Participants (N=47) were divided into four groups:

1. Ayahuasca group (n=9): Participants attended guided ceremonies under the supervision of experienced facilitators.
2. Live sound healing group (n=9): Sessions conducted via live-streamed sound healing events.
3. Pre-recorded sound healing group (n=9): Participants accessed recordings of the same sound healing sessions.
4. Control group (n=20): No exposure to shamanic practices during the study. A mandatory requirement in this group was participation in long-term psychotherapy.

Statistical Analysis:

The statistical processing of the collected data was conducted using the Jamovi statistical software. To examine the impact of shamanic practices and/or sound healing on creativity, attention, openness to new experiences, willpower, and divergent thinking, a paired samples test (Student's t-test) was employed. For comparing the groups of participants categorized by the type of practice, a one-way analysis of variance (ANOVA) was performed using Fisher's and Kruskal-Wallis criteria, along with an independent samples test (Student's t-test).

Results

Ayahuasca practices showed a significant positive impact on executive functions. Participants in this group exhibited a 6.556-point increase in executive function scores ($t(8) = -2.376$, $p = 0.045$), particularly in planning and task management skills. This finding aligns with previous research suggesting that psychedelic experiences can enhance cognitive flexibility and creative problem-solving [1].

Sound healing also demonstrated positive effects, particularly in online group settings. Participants in this group showed a 13-point increase in general executive qualities, indicating improved focus and future-oriented task processing.

This result supports the notion that non-pharmacological altered states of consciousness, such as those induced by sound, can also influence cognitive functions [2], [4].

Interestingly, only minor differences were observed between live and recorded sound healing sessions. Recorded sessions slightly enhanced task detailing, although the statistical significance was marginal ($p = 0.051$). This finding suggests that the benefits of sound healing may be accessible through various modalities, potentially increasing its accessibility for therapeutic applications.

Sound healing demonstrated a positive impact on creative self-efficacy (CSE) and creative self-perception (CPSE). Participants in live online sound healing sessions showed a 0.5-point improvement in CSE, compared to a 0.2-point increase for those using recordings. CPSE scores also improved among those using recordings (0.26 points). These results indicate that sound healing may enhance individuals' confidence in their creative abilities and their self-identification as creative persons.

Discussion

The findings of this study provide compelling evidence for the potential of guided meditation and sound healing, to enhance creativity and cognitive functions. The observed improvements in executive functions, especially in planning and task initiation, suggest that these practices may facilitate more effective cognitive processing and problem-solving abilities[1].

The positive impact on creative self-efficacy and self-perception is particularly noteworthy. These improvements may lead to increased engagement in creative activities and a greater willingness to explore novel ideas, potentially fostering long-term creative development[3].

The comparable effects of live and recorded sound healing sessions suggest that the benefits of these practices may be accessible through various modalities. This finding has important implications for the potential integration of shamanic-inspired practices into more mainstream therapeutic and personal development contexts, as well as into the educational process[2].

Limitations and future directions

While this study provides valuable insights, several limitations should be noted:

1. The small sample size limits the generalizability of the findings.
2. The lack of long-term follow-up assessments prevents conclusions about the durability of the observed effects.
3. The study design could have benefited from more in-depth qualitative interviews to provide richer context to the quantitative findings.

Future research should address these limitations by employing larger sample sizes, incorporating longitudinal designs, and utilizing more comprehensive qualitative methods. Additionally, exploring the integration of artificial intelligence and augmented reality in shamanic-inspired practices could open new avenues for cognitive enhancement and therapeutic interventions[4].

Conclusions

This study provides evidence for the positive impact of shamanic practices, guided meditation, and sound healing on creativity and cognitive functions. The observed enhancements in executive functions, creative self-efficacy, and creative self-perception suggest that these practices may offer valuable tools for fostering creativity and cognitive flexibility.

The next phase of research at the Institute of Psychological Maturity will examine how artificial intelligence (AI) and immersive technologies, combined with guided meditation and sound healing, influence creativity and cognitive functions. This future direction aims to leverage these advanced technologies to improve student engagement in educational processes. By combining the insights gained from shamanic practices with cutting-edge technological interventions, we anticipate developing novel methods to enhance learning experiences and cognitive development.

This upcoming research represents an exciting intersection of ancient wisdom and modern technology, potentially revolutionizing our approach to education and personal growth. It underscores the Institute's commitment to pushing the boundaries of psychological research and its practical applications in fostering human potential.

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