

Cannabis altered-states impact auditory perception and absorption

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INTRODUCTION

The longstanding historical association between cannabis and music, coupled with its current widespread use, warrants exploration. Anecdotal claims suggest heightened enjoyment and enhanced acoustic properties of sound and music in a cannabis-induced altered state, but empirical evidence is limited (e.g., Tart, 1971; Webster, 2001). Questionable conclusions such as using cannabis as a hearing aid have also been reported within the limited literature (Fachner, 2002).

Hence, we begin by laying down an exploratory mixed-methods framework to understand the experience of audition while in a cannabis-induced state.

METHODS

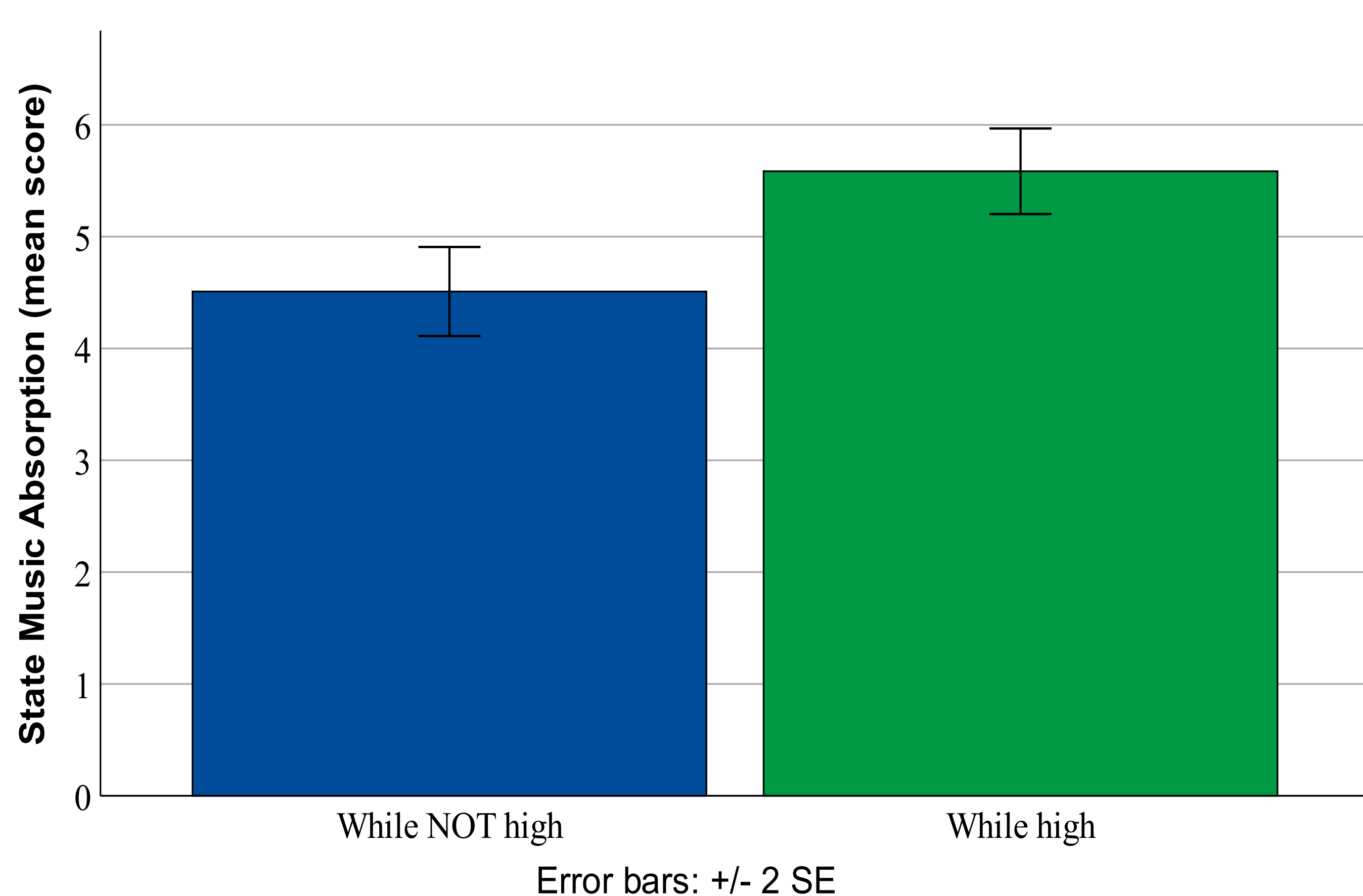
Online questionnaire

- Demographics, cannabis use, auditory and music experience.
- 65 participants (experienced recreational cannabis users)
 - $M_{\text{age}} = 27$ (39 females, 25 males, 1 intersex)

Semi-structured interview

- Core topics such as: listening habits, such as perceptual and attentional differences, auditory hallucinations, emotional experiences, and other sensory interactions. Analyzed thematically (Braun & Clarke, 2006)
- E.g., “Tell me about a time when you have noticed a difference in your hearing while stoned or high.”
- 10 participants (experienced recreational cannabis users)
 - $M_{\text{age}} = 29$ (6 males, 4 females)

FINDINGS



State Music Absorption increased by 1.07 points while in a **high state**, relative to a **non-high state** ($M_{\text{sober}} = 4.51$, $M_{\text{high}} = 5.58$, $p < .001$). Therefore, participants reported being more absorbed in the music while under the influence of cannabis.

THEMATIC ANALYSIS

Theme 1: Altered Cognitive Processing

- E.g., heightened memory recall and attention
- “I’m having flashbacks when listening to certain music [while high]. It stimulates my memory. I’ve been to many different places, and I forgot most of it, and sometimes listening to the music high helps me to uncover areas of my memory that I considered lost.”
- “When I’m not high, I just don’t pay enough attention to music. It’s almost background noise compared to when I am stoned—it’s the only thing I am focused on.”

Theme 2: Transformed Auditory Perception

- E.g., salient isolation of auditory streams
- “It’s as if I can’t hear anybody else. A lot of background noise is really diminished around me. If I’m talking to somebody, I hear them and can interact with them... if there’s a background conversation, I can’t hear it, or at least I don’t pay attention to it. It’s kind of whatever I’m concentrating on sound-wise.”
- “I’ll get high, and I’ll just sit with an equalizer on my computer for hours. I’m obsessed with finding the best sound... it [cannabis] really helps me dial in and find the sweet notes.”

Theme 3: Intensified Emotion

- E.g., deeper emotional connection to music and artist
- “Oh, I’ve cried listening to some of Adele’s music [while high]. Into my pillow, sobbed my eyes out. I’m not breaking up with anybody, but in my head I am... Depending on what I’m listening to, I get very emotional, either crying or like super nostalgic of like my childhood, super happy, even anxious...”

Theme 4: Enhanced Embodiment

- E.g., greater desire for movement and dancing
- “I’m just more attentive to the rhythm, just like bopping my head, a lot more... the urge to dance is greater and moving my body without a care.”

CONCLUSION

Cannabis has a significant impact on auditory experiences! The thematic analysis identified four core themes that point to the alteration of: cognition, perception, emotion, and embodiment. However, it is important to note these are highly individualized experiences, and although mostly positive (e.g., reports of auditory clarity and enhancement); there are also potential challenges and downsides (e.g., intensification of negative emotional experiences, greater listening effort).

Notably, better hearing sensitivity was reported by 50% of participants (36% no change, 14% worse). Participants also reported feeling more absorbed in the music while under the influence of cannabis.



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