

ABSTRACT

EFFECTS OF RHYTHMIC DRUMMING ON EEG  
AND SUBJECTIVE EXPERIENCE

The purpose of the research was to determine whether various drumming patterns would be associated with different brain wave activity, as measured by cortical EEG, and to determine if the subjective experience of percussion in general, and rhythmic drumming in particular, would elicit images or sensations with a common theme.

Twelve participants were divided into three groups and monitored for EEG frequency response to three separate drumming tapes. These tapes included: Shamanic Drumming, at approximately 4 to 4 1/2 beats per second; I Ching Drumming, at approximately 3 to 4 beats per second; and Free Drumming, which incorporates no sustained rhythmic pattern. Four cortical sites, bilateral parieto-temporal and parieto-central areas, were monitored for each participant during three sessions.

At the conclusion of the sessions, each participant prepared a brief written account and was given a tape-recorded interview of his or her subjective experience. These subjective experiences were then categorized according to recurring themes and consensual topics.

This research supports the theories that suggest that the use of the drum by indigenous cultures in ritual and ceremony has specific neurophysiological effects and the ability to elicit temporary changes in brain wave activity, and thereby facilitates imagery and possible entry into an ASC (altered state of consciousness), especially the SSC (shamanic state of consciousness).

Drumming in general, and rhythmic drumming in particular, often induces imagery that is ceremonial and ritualistic in content and is an effective tool for entering into a non-ordinary or altered state of consciousness (ASC) even when it is extracted from cultural ritual, ceremony, and intent. The drumming also elicits subjective experiences and images with common themes. These include: loss of time continuum; movement sensations, including pressure on or expansion of various parts of the body and body image distortion, "energy waves," and sensations of flying, spiraling, dancing, running, etc.; feelings of being energized, relaxed, sharp and clear, hot, cold, and in physical, mental, and/or emotional discomfort; emotions, ranging from reverie to rage; vivid images of natives, animals, people, and landscapes; and non-ordinary or altered states of consciousness (ASC), whereby one is conscious of the fact that there has been a qualitative shift in mental functioning, including the shamanic state of consciousness (SSC) journeys, out-of body experiences (OBEs), and visitations.

A pattern that incorporates approximately 4 to 4 1/2 beats per second is the most inducting for theta gain. (Theta frequency is usually associated with drowsy, near-unconscious states, such as the threshold period just before waking or sleeping. This frequency has also been connected to states of "reverie" and hypnogogic or dream-like images.)

MELINDA C. MAXFIELD, PH. D.

The pattern of the drumbeat as it relates to beats per second can be correlated with resulting temporary changes in brain wave frequency (cycles per second) and/or subjective experience, provided the drumming pattern is sustained for at least 13 - 15 minutes.