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Ritual Body Postures: Empirical Study of a Neurophysiological Unique Altered State of Consciousness

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This study examines ritual body postures (RBPs), a technique for the induction of a unique altered state of consciousness (ASC) characterized by the paradoxical arousal of a combined trophotropic and ergotropic trance. The objectives were (a) to test the specificity of RBPs, (b) to describe effects on daily life, and (c) to analyze experts and novices regarding the aforementioned objectives. The study was conducted over a ten-month period with 19 participants. Participant observation and open-ended interviews were conducted, and previous experiences with RBPs and ASCs were assessed. Experience-focused interviews were conducted with four novices and four experts. (a) No specificity of the RBPs was noted; (b) effects on daily life included higher awareness of the body, mind, and social interactions, above all a better understanding of the participant's biography, increased self-care and self-assertion, and higher levels of tolerance and acceptance; (c) novices described more tactile and nociceptive experiences, experts more visionary experiences. Considering effects on daily life, no differences were detected between novices and experts. ASC experiences while in RBPs serve the satisfaction of basic needs that are central to counseling and psychotherapy. Due to their unique paradoxical arousal, RBPs open up an independent research field for future studies on ASCs.

GENERAL OBJECTIVE

One of the main mechanisms of change in counseling and psychotherapy is resource activation (Caspar & Grosse Holtforth, 2010; Gassmann & Grawe, 2006). It allows for the experience of personal strengths and is associated with a satisfaction of basic needs that is central to both approaches: the enhancement of self-esteem and self-care (Epstein, 1991, 2003). Additionally, resource activation is an important factor for conducting a meaningful life (Duckworth, Steen, & Seligman, 2005). Studies on meditation (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Grawe, Donati, & Bernauer, 2001) and hypnosis (Grawe et al., 2001; Meyerson & Gelkopf, 2004; Myerson & Konichezy, 2009) have shown that the induction of altered states of consciousness (ASCs) exerts positive effects on participants' daily lives. Both meditation and hypnosis are associated with physical and psychological health and have proven efficacious in

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clinical settings. Regarding its conceptual ground and therapeutic aims, mindfulness-based stress reduction (MBSR) is one of the best-established techniques (Chiesa & Serretti, 2010; Grossman, Niemann, Schmidt, & Walach, 2004; Kabat-Zinn, 1990). According to Fischer's (1989) topography of ASCs, hypnosis and meditation describe hypoaroused ASCs, so-called trophotropic ASCs (see also Vaitl, 2005). According to Guttman (1992), they describe neurophysiologically highly activated states of consciousness but differ according to their degree of self-awareness. In contrast, ritual body postures (RBPs) induce ecstatic ASCs, so-called ergotropic ASCs (Fischer, 1989; Vaitl, 2005). According to Guttman (1992), they describe neurophysiologically deactivated states of consciousness but with clear self-awareness (Figure 1). In his electroencephalography (EEG) studies, he demonstrated the unique neurophysiological correlates of RBPs: their *paradoxical arousal* signals a combination of beta and theta activity indicating an ASC that is not just ergotropic but *both trophotropic and ergotropic*. Such ASCs are less well recognized in scientific documentation; we examine them here using RBPs.

This study was designed to contribute to the evaluation of the potential for ASCs during and after RBPs. It will broaden the investigation of ASCs—thus far focused on meditation and hypnosis but limited to trophotropic ASCs—by reporting empirical findings from a different technique, that is, the effects of combined trophotropic and ergotropic ASCs as induced by RBP. The objectives were (a) to test the specificity, i.e., content-relatedness, of ASC experiences in RBPs, (b) to describe the psychological effects of having experienced ASCs in RBPs on the participants' daily lives, and (c) to analyze whether experts and novices in the practice of RBPs differ regarding the aforementioned objectives.

BACKGROUND

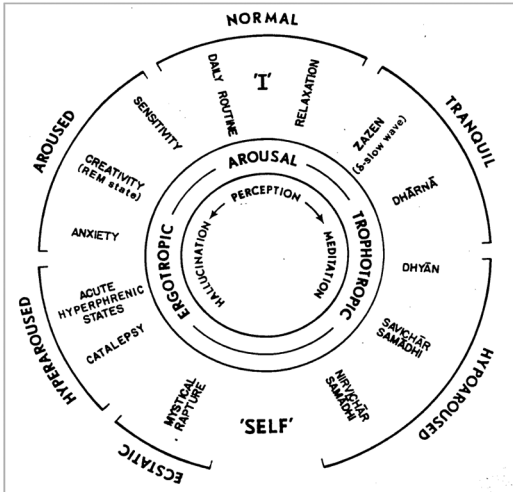
In 1986, the psychological anthropologist Felicitas Goodman published the first article about RBPs. She found them to have the potential to induce ASCs and content-related experiences (Goodman, 1986). Nearly 10 years later, Wenzel (1995) validated Goodman's assumptions, whereas Kremer and Krippner (1994) and Woodside, Kumar, and Pekala (1997) rejected the specificity of RBPs. All of them, however, found that experiences while in RBPs made a significant difference to the unaltered consciousness. Another 10 years later, Rittner and Fachner (2006) investigated neurophysiological correlates of RBPs. They found a combination of beta and theta activity indicating combined trophotropic and ergotropic ASCs, thus revalidating the findings on RBPs by Guttman (1992). This paradoxical arousal (Fachner & Rittner, 2007; Rittner & Fachner, 2006) makes RBPs stand out regarding the neurophysiological character of their ASCs. Above and beyond these investigations on RBPs, an important question still remained unanswered: What are the effects on the participants' daily lives when experiencing ASCs induced by RBPs? How can it help or hinder people to cope well with their daily life? Our study will answer this question.

RITUAL BODY POSTURES (RBPs)

RBPs are a technique for inducing ASCs that has been trademarked by the Cuyamungue Institute, USA, and the Felicitas Goodman Institute, Germany.¹ These institutes are responsible for

¹www.cuyamungueinstitute.com.

(a) Fischer's topography of ASCs



(b) Guttman's (1992) two-dimensional model of ASCs

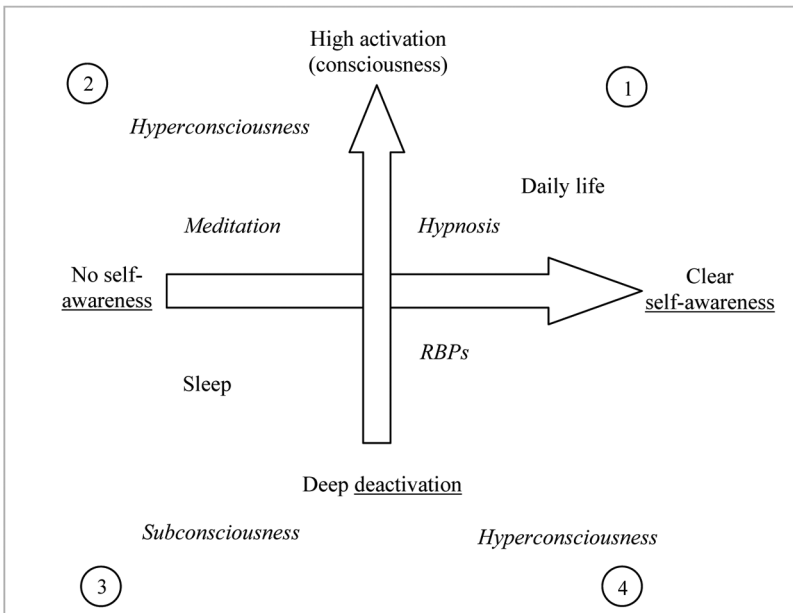


FIGURE 1 Fischer's (1989) topography of ASCs and Guttman's (1992) two-dimensional model of ASCs (terms in italics are inserted by Christina Hunger).

research into this technique and for the training of practitioners. The technique itself is a result of the assimilation of shamanic tradition and practice into modern North American and German cultures by integrating findings from psychological anthropology (Bourguignon, 1973, 1979) and early meditation research (Emerson, 1972). Special attention was paid to the enactment of

body postures and the stimulation of the auditory system. RBPs thus can be described as a certain kind of rhythm-induced ecstatic trance or shamanic-type experience (see Vaitl, 2005).

Shamanism is one of the oldest human belief systems, dating back 20,000–40,000 years (Clottes & Lewis-Williams, 1997; Hultkrantz, 2000). Goodman (1986) made references to the shamanic worldview and techniques in developing the RBPs. Central to the shamanic belief system is the determination of life events by the spirit world (Baruss, 2003). Shamans have the ability to travel of their own volition to the spirit world, to acquire information for members of their society and, if necessary, to bring back lost parts of a diseased individual's soul (Bourguignon, 1973; Harner, 1980). While traveling, shamans experience ASCs (Harner, 1980). According to Ludwig (1966) and Dittrich (1996), these ASCs can be described by voluntary losses of control, positive and negative affects, sensations, thoughts, meanings, emotional expressions, and body images that are different to the unaltered consciousness. Goodman (1986) describes these alterations as central to RBPs.

Body Posture

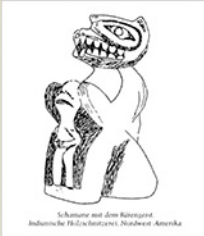
Goodman (1986) discovered the importance of the exact body posture related to ASCs through research on meditation, above all from Emerson (1972). She then studied in detail historic and prehistoric postures taken by shamans to enter the spirit world (Goodman, 1990). The oldest RBP is believed to be approximately 32,000 years old. Today, more than 65 RBPs have been described in detail (Goodman, 1990; Gore, 1995). The historical background of the four RBPs in our study is given in Figure 2.

Auditory Stimulation

Goodman (1990) used rhythmic auditory stimulation (210 beats per min produced by a rattle or drum). Central to a shaman's soul journey (Harner, 1980), acoustical incitement is seen as key to entering into ASCs as it stimulates altered brain rhythms and neurochemical correlates (Vaitl et al., 2005). Guttman (1992) and Rittner and Fachner (2006) have validated this statement; therefore the auditory practice is an essential part of the RBP ritual.

Visionary Experiences

RBPs have the potential to induce visionary experiences (Goodman, 1986; Rittner & Fachner, 2006). Compared to imagination as an act of volition, visionary experiences encompass a qualitatively different loss of autonomy that induces intense optical hallucinations (Ludwig, 1966). Their practice within a secure and ritualized process is fundamental to the experience of a controlled loss of control (Rittner & Fachner, 2004). In the five-dimensional questionnaire for measuring ASCs independently from their etiology, Dittrich (1996) defined visionary experiences as similar to the developmental stages of visionary experiences described by Clottes and Lewis-Williams (1997, Figure 3). The questionnaire starts with elementary and amorphous experiences (e.g., 5D-ABZ: "I saw light or flashes in complete darkness or with closed eyes"; "I saw colors in complete darkness or with closed eyes"). The experience of structured hallucinations and images comes next (e.g., 5D-ABZ: "I recognized patterns or scenes in complete

Bear Posture

(Goodman, 1996, p.20)

Stand with your feet parallel, about six inches apart. Your knees should be slightly bent. Gently roll both your hands, as though you were holding a small egg in the palm of each hand. Position your hands so that your folded fingers form a tall triangle over your navel, with the knuckles of the index fingers touching to form the apex of the triangle; your thumbs are placed one in front of the other, not on top of each other. Your upper arms rest easily at either side of your body, so that your elbows do not stick out. With your eyes closed, lean your head back as though you were looking at a point just above the line where the wall meets the ceiling. There may be a strained feeling in the muscles at the back of your neck.

(Gore, 1995, p.54)



(Goodman & Nauwald, 1998, p.126)

South Moravian Woman

(Goodman & Nauwald, 1998,

Stand with your feet parallel, keeping your back straight, your legs and your fingers tightly closed, your knees slightly bent. Your fingers form a bowl. Your lower arms are held at right angles to your upper arms. Tilt your hips forward while keeping the upper part of your body straight. Lean your head back. Your mouth is closed.

(Goodman & Nauwald, 1998)



(Goodman & Nauwald, 1998,

FIGURE 2 Ritual body postures (RPBs) that were examined with regard to their specificity.

darkness or with closed eyes’’). Finally, the individual experiences an altered meaning (e.g., 5D-ABZ: “Things involved me more emotionally than at other times”; “Things in my environment took on new, strange meanings”; “Sounds appeared to exert an influence on what I saw”; “The colors I saw seemed to be changed by sounds”; Dittrich, 1996). Geometric patterns can merge; patterns of light can be characterized by lines, contours, and colors (Phase 1). A zigzag band metamorphoses into a snake (Phase 2). Passing through a tunnel, a helix or a swirl turns out

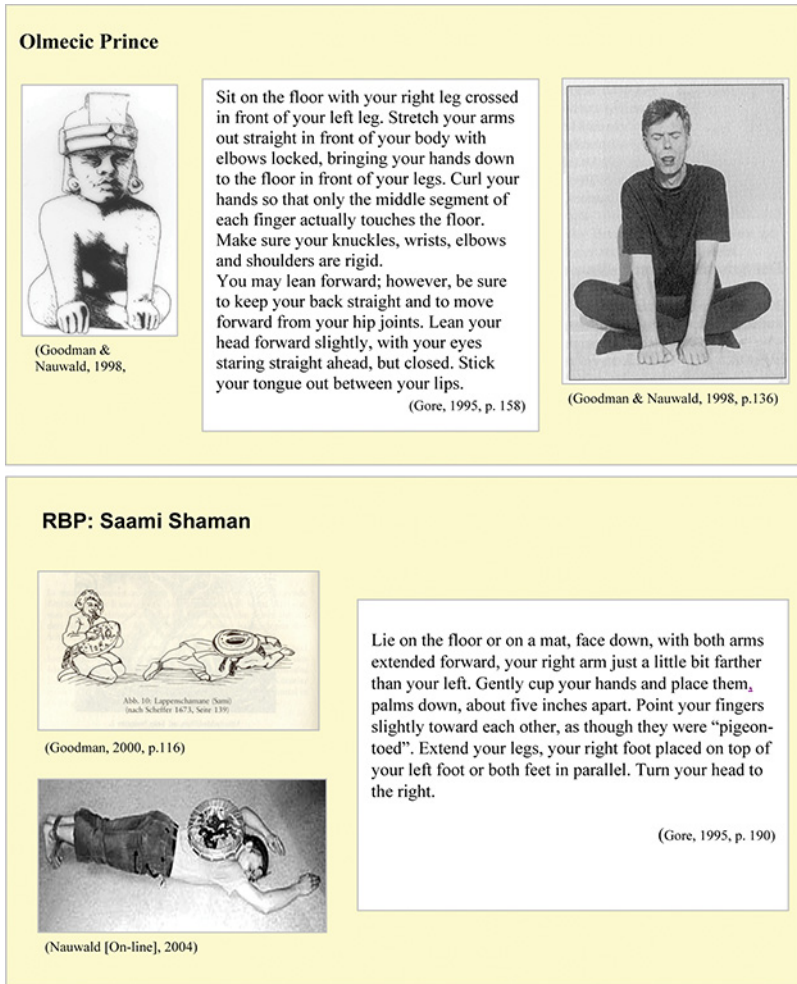


FIGURE 2 Continued.

into a world that is strange when compared to nonaltered daily life (Phase 3; Clottes & Lewis-Williams, 1997). The three phases can, but do not necessarily, have to develop step-by-step. Indeed, one may experience the third phase directly.

Set and Setting

Set and setting are foundational to ASC experiences (Hess, Fachner, & Rittner, 2009; Kremer, 2003). The setting is the physical surroundings in which the RPB ritual takes place: Its being a safe, sheltered environment may help people to act, express emotions, and create meaning in a way that they cannot otherwise do in daily life (van Quekelberghe, 2005). RPBs

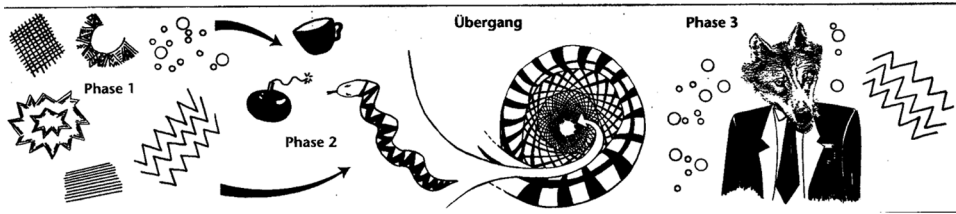


FIGURE 3 The three phases of ASCs (Clottes & Lewis-Williams, 1997, p.14).

are conducted in secure places not used by the public at the same time. The setting also refers to the social aspect of practicing RBPs either in a group or alone and the perception of whether instructions are seen as helpful or confusing (Kremer, 2003).

The set describes the effect that participants' bio-psycho-spiritual-social-cultural state exerts on their experience of RBPs. Tart (1975, in Kremer, 2003) differentiated between long-term and proximate factors. Long-term factors encompass the cultural disposition (e.g., whether the individual lives in a culture accepting of ASCs or not), the personality (e.g., suggestibility, the capacity to dissociate), the physiology (e.g., attention and vigilance) and the acquired capacity to get into trance (e.g., the level of RBP experiences). Proximate factors describe the individual's expectations (e.g., positive vs. negative associations with RBPs), mood (e.g., distress vs. relaxation), motivation (e.g., intention to experience RBPs) and the relationship between participants and the leader.

STATE OF RESEARCH

Psychological and anthropological databases (PsycINFO, PubMed; JSTOR, AnthroSource; *AnthropologyPlus*) and the archive of the Felicitas Goodman Institute show that 12 studies have been conducted on RBPs since Goodman's (1986) first article, i.e., within the past 25 years (Table 1). As indicated previously, in that article she formulated one fundamental principle behind RBPs: the assumption of the specificity, or content-relatedness, of ASC experiences in RBPs. More precisely, Goodman stated that RBPs do not arbitrarily stimulate changed states of consciousness, but rather that each of them induces a certain kind of ASC experience that can be differentiated from those occurring in other RBPs.

Of the 12 studies, three EEG studies (Goodman, 1999; Guttmann, 1992; Rittner & Fachner, 2006) showed the unique neurophysiological correlates of RBPs: the paradoxical arousal signaling a combination of beta and theta activity which indicates an ASC that is both trophotropic and ergotropic. One neurochemical study (Goodman, 1999; together with Johann Kugler, University of Munich) demonstrated an increased distribution of catecholamines, which are associated with the stimulation of intense feelings of joy and reduced pain perception. The neurochemical findings in this study, however, are limited to one participant because no data from additional participants could be analyzed (personal communication with Johann Kugler, 10.10.2004).

Seven studies examined psychological correlates of RBPs through questionnaires and qualitative data seeking to understand the phenomenology of ASCs: although all of them confirmed the potential of RBPs to induce ASCs, findings on the specificity of ASC experiences in RBPs were very inconsistent. Wenzel (1995), however, validated their content-relatedness.

TABLE 1
Studies About Ritual Body Postures (RBPs; in Alphabetical Order)

<i>Author Year</i>	<i>Objective</i>	<i>Design Setting</i>	<i>Instruments</i>	<i>STs/Age</i>	<i>Recruitment</i>	<i>CG/C-RBP</i>	<i>RBP Name</i>
Baldemair 1999 ^c	Phenomenology of trance experienced in RBPs	Design: Naturalistic Setting: Single	Semistructured interviews, retro-spective	14 STs (6 STs practiced RBPs, 6 Techno, 2 STs practiced RBPs and Techno) Age: Not specified	Addressed in RBP seminars, techno parties and through contacts by third persons	CG: no C-RBP: no	RBPs in general, no specification of a certain RBP name
Gesell 2004 ^b	Consistency of trance experienced in RBPs	Design: Naturalistic Setting: Group	Narrative interviews; 5D-APZ; PCI	2 STs (1♀, 1♂) Age: Not specified	Addressed in a group of scholars trained in RBPs	CG: no C-RBP: no	1 RBP: Olmecic Prince
Goodman 1986 ¹⁶	Consistency of trance experiences; comparison with descriptions from the anthropological literature	Design: Naturalistic Setting: Group	Narrative interviews	1) 8 STs (6♀; 2♂) 2) 6 STs (3♀; 3♂) 3) 10 STs (4♀; 6♂) 4) 4 STs (4♀) 5) 3 STs (2♀, 1♂) Age: 19–60 years	Announced workshop about altered states of consciousness	CG: no C-RBP: Venus of Willendorf	5 RBPs: 1) Shaman and Bear Spirit, 2) Singing Shaman, 3) Nupe Mallum Divining, 4) Bone Pointing, 5) Shaman of Lascaux
Goodman 1999 ²⁶	Neurophysiological and neurochemical determinants of RBPs	Design: Experimental Setting: Single	EEG; pulse; blood examinations	1 ST Age: Not specified	Addressed in a group of scholars trained in RBPs	CG: no C-RBP: no	1 RBP: Not specified
Guttmann 1992 ²²	Neurophysio-logical determinants of RBPs	Design: Experimental Setting: Not specified	EEG	10 STs Age: Not specified	Not specified	CG: no C-RBP: no	1 RBP: Not specified
Kremer and Krippner 1994 ²⁷	Consistency of trance experienced in RBPs	Design: Naturalistic Setting: Group	Narrative interviews; PCQ	54 STs Age: Not specified	Announced workshop about altered states of consciousness exemplified by RBPs	CG: no C-RBP: Venus of Willendorf	2 RBPs: 1) Singing Shaman, 2) Chitian-Posture

Richter and Richter 2005 ³⁰	Potential of RBPBs for the treatment of psychosomatic complaints	Design: Naturalistic Setting: Single	Case report	1 ST	Addressed in outpatient hypnotherapy	CG: no C-RBP: no	1 RBP: Saarni Shaman
Rittner 2006 ⁴³	Potential of RBPBs for the treatment of psychosomatic complaints	Design: Naturalistic Setting: Single	Case report	1 ST	Addressed in outpatient psychotherapy	CG: no C-RBP: no	1 RBP: Lady of Cholula
Rittner and Fachner 2004 ³¹	Neurophysiological determinants of RBPBs; phenomenology of trance experienced in RBPBs	Design: Natur-alistic Setting: Group	EEG; narrative interviews; 5D-APZ; PCI	2 STs (1♂, 1♀) Not specified	Addressed in a group of scholars trained in RBPBs	CG: no C-RBP: no	1 RBP: Olmecic Prince
Schirmbrand 1991 ^d	Stait anxiety; well-being; personality traits; locus of control	Design: Natur-alistic Setting: Group	Narrative interviews; STAI; AMS; FPI; IPC	60 STs Age: 20–33 years	Announced workshop about “altered states of consciousness (trance) induced by the squash rattle”	CG / TG: 30 persons each C-RBP: sitting or lying body posture accompanied with relaxation music	2 RBPBs: Indian posture from South America; Chicomecoatl (“goddess of maize”); female resp. Tattooed Jaguar (male)
Wenzel 1995 ²⁹	Consistency of trance experienced in RBPBs	Design: Experi-mental Setting: Group	Self-constructed questionnaire about the trance experiences	25 STs Age: 19–37 years	Addressed in student seminars	CG: no C-RBP: Yoga posture	1 RBP: Bear Spirit
Wood-side, Kumar and Pekala 1997 ²⁸	Consistency of trance experienced in RBPBs	Design: Naturalistic Setting: Group	Narrative interviews; PCI	284 STs (54%♀; 46%♂) Age: 17–38 years	Addressed in student seminars; randomized group assignment	CO: no C-RBP: sitting posture with/ without rhythmic stimulation with drums	1 RBP: Quetzalcoatl (“feathered-ser-pent”)

Note. STs = Study participants, CG = control group, C-RBP = control ritual body posture, TG = treatment group. EEG = electroencephalography, i.e., the measurement of summed post-synaptic electrical activity of the cortex. 5D-APZ = Questionnaire for Measuring Altered States of Consciousness, PCI = Phenomenology of Consciousness Inventory, PCQ = Phenomenology of Consciousness Questionnaire, STAI = State-Trait Anxiety Inventory, AMS = Adjective Mood Scale, FPI = Freiburger Personality Inventory, IPC = Questionnaire for Locus of Control.

His investigation encompassed 25 participants, 23 of whom experienced alterations with regard to their body schema, kinaesthetic and acoustic pseudohallucinations and an intense feeling of well-being. Additionally, seven participants experienced contact with “a big animal or something similar” (Wenzel, 1995, p. 186) and four participants heard or saw a bear or experienced their metamorphosis into this animal. Contrariwise, Gesell (2004), Kremer and Krippner (1994) and Woodside et al. (1997) rejected the specificity of ASC experiences in RBPs. The participants in these studies experienced physical discomfort rather than vivid imagery, which can be explained by their lack of experience in holding the body posture. Woodside et al. (1997) concluded that Goodman’s results supporting the assumption of the content-relatedness of ASC experiences in RBPs “may be attributable to subjective analysis of participants’ narratives by Goodman herself” (p. 83).

Besides this specificity question, Baldemair (1999) and Goodman (1986) described the potential of RBPs for enhancing self-understanding and one’s relationship to other living beings. They did not study, however, to what extent ASC experiences in RBPs affect the study participants’ daily lives. Schirmbrand (1991) asserted that the level of previous experience with ASCs facilitates entry into RBP-induced ASCs. However, she did not study in detail the differences between novices and experts in RBPs. More generally, she found a statistically significant reduction in the state of anxiety post RBPs. This finding was validated by the participants’ increased sense of well-being as documented in narrative interviews. On the other hand, established psychological self-reporting measures did not show statistically significant alterations in the participants’ locus of control and well-being. Schirmbrand (1991) concluded that most established psychological measures may not be able to reliably detect subtle changes in mood or affect, such as those experienced during RBP-induced ASCs. Similarly, Woodside et al. (1997) found differences in qualitative and quantitative data when investigating their participants’ imagery. They explain that their quantitative measure, the Phenomenology of Consciousness Inventory (PCI; Pekala, 1991), measures the amount of imagery, whereas the qualitative narratives assesses the nature of that imagery.

Two case reports from psychotherapy confirm the aforementioned potential of RBPs for leading to a better understanding of oneself and others, i.e., the potential for activating personal resources (Richter & Richter, 2005; Rittner, 2004). Although they reported the experiences of these psychosomatic clients in RBPs, emphasizing their intense body-mind experiences and their ability to feel body and mind as a whole in their daily lives, both case studies fail to recognize social interactions and neglect the effects that ASC experiences in RBPs exert on daily life.

AIM

To date, most of the research on RBPs has concentrated on their potential for content-related ASC experiences and include neurophysiological and neurochemical studies. Although psychological studies have found RBPs conducive to a better understanding of oneself and one’s relationship to other living beings, these findings are limited to experiences during RBPs. They do not question the impact of these experiences on people’s daily lives in nonaltered states of consciousness, nor do they differentiate between the effects of RBPs on more and less experienced persons. Therefore—and for the first time ever—this study explicitly examines whether the experience of ASCs in RBPs helps or hinders people in dealing with daily life when

in nonaltered states of consciousness. And, to overcome the inconsistencies of previous studies, we further investigate the specificity of ASC experiences in RBPs.

DESIGN, MATERIALS AND METHODS

The design is naturalistic, exploratory with regard to the quantitative data, and descriptive with regard to the qualitative data. The investigation was conducted during a 10-month period in 10 group settings. Because the intention was to use RBPs in counseling settings, we needed to recruit our participants from the general adult population. The group was announced in the program of the Institute for Medical Psychology, Heidelberg University. People who were interested in the practice of RBPs and did not show any contraindication (Rittner, 2004) were included. Contraindications included Cluster A personality disorders, borderline personality disorder, schizophrenia and psychotic disorders, acute suicidal tendencies, acute psychotic status or acute intoxication, as well as complaints with regard to hyper-stimulation of the nervous system (e.g., high blood pressure, cardio-vascular disorders, epilepsy). The study was approved by the ethics committee of the Medical Faculty, Heidelberg University.

Selected RBPs

The following RBPs were practiced: (a) Bear Posture, (b) Olmecic Prince, (c) Saami Shaman, and (d) South Moravian Woman (Figure 2). The healing RBPs include the Bear Posture and the South Moravian Woman (Goodman & Nauwald, 2003). They are related to personal aims, aims including others, the environment (e.g., animals), or archetypes (e.g., mother Earth) (Gore, 1995). The overall goal is the restoration of the body-psycho-social-spiritual balance (Goodman & Nauwald, 2003; Gore, 1995). The Bear Posture has its origin in a wooden carving made by Native Americans on the northwest coast of present-day Canada some 7,000 years ago (Goodman, 1999). The South Moravian Woman is an example of the younger and yet less-studied RBPs; it originates from South Moravia, dated approximately 3500 B.C.E. (Gore, 1995). The Olmecic Prince is associated with metamorphosis (Goodman & Nauwald, 2003). The overall goal is the practice of an alternative view, a changed perspective to gain new insights (Gore, 1995). The Olmecic Prince was thusly named because of his richly adorned headdress. It was found in Tabasco, Mexico, and dates from approximately 1100–600 B.C.E. (Goodman & Nauwald, 2003). One of the RBPs related to soul journeys (Goodman & Nauwald, 2003), the Saami Shaman was named after a drawing found in a German travel diary in 1673 (Goodman, 1990). The Saami people live in northern Europe; 17th-century missionaries prohibited the practice of their rituals. The overall goal of this RBP is to bring back parts of the soul that are perceived as being detached from the physical world, e.g., due to traumatic experiences (Goodman & Nauwald, 2003; Gore, 1995).

Ritual Practice of RBPs

As far as we are aware, no written manual exists that describes in detail the traditional ritual practice of RBPs in different cultures. We thus conducted the RBPs in our study in accordance with their ritual practice as taught by the Cuyamungue Institute in the United States and Germany. This manual included the following obligatory procedures: (a) purification phase,

i.e., the cleansing of one participant for the other by outlining the contour of the body with smoke from salvia leaves; (b) concentration phase, i.e., the raising of awareness for one's goal related to the RBP; (c) a phase of inviting the spirits by the ritual leader²; (d) exercise phase, i.e., the participants practice the details of the body posture and the ritual leader supervises them while making practical corrections where necessary; (e) enacting phase, i.e., the practice of the RBP including the exact body posture as well as rhythmic auditory stimulation over a period of 15 min; (f) a phase of nonverbal expression by drawing a picture; (g) verbal expression phase, i.e., the sharing of experiences during the ASC with other participants; (h) debriefing phase, i.e., the discussion of the anthropological background of the RBP (see Goodman & Nauwald, 2003).

Ritual Leader

The ritual leader in our study was one of the main representatives of the Felicitas Goodman Institute in Germany with over 20 years of experience in RBPs. She is a music therapist and licensed psychotherapist. Because there was only one ritual leader, the conclusion that she had no effect on the study results is tentative. The investigation of potential ritual leader effects, however, was not the objective of this study.

Data Collection

We considered a qualitative design as the most suitable research strategy due to the aforementioned inability of psychological instruments to reliably capture changes after ASC experiences in RBPs (see Schirmbrand, 1991). The first author's *observing participation* (Bernard, 2006) in each of the 10 group settings helped her to understand the practice, experience her own ASCs in RBPs, and get to know the study participants. The *open-ended interviews* (Lamnek, 2005) were conducted in phase G) of the ritual practice of RBPs. They served the examination of the first and third objectives. The second objective was investigated retrospectively in *experience-focused interviews* in the month after the 10th group session (see Table 2 for the semistructured interview guideline). We chose to interview only the most inexperienced (*novices*) and the most experienced (*experts*) participants, assuming that comparing the two groups would provide the greatest discriminatory power. Therefore, we did not analyze data from participants with some previous experience with RBPs (*initiates*). We selected four novices and four experts in order to have equal numbers in both groups.

We considered a quantitative design as the most suitable research strategy for learning the total number of practiced RBPs ("Have you already experienced RBPs? If yes, how often?") and other ASC techniques ("Have you already experienced other ASC techniques? If yes, how often?"). A rating scale (1 = *low*; 6 = *high*) assessed the subjectively perceived level of knowledge about RBPs ("How do you rate your level of knowledge about RBPs?") and other ASC techniques ("How do you rate your level of knowledge about other ASC techniques?").

Data Analysis

Qualitative data were analyzed using qualitative content analysis (Mayring, 2000) with Atlas.ti (Hwang, 2008; Muhr, 2004). The classification of novices, initiates, and experts was

²The invitation of the spirits practiced in our study can be obtained from the first author.

calculated by combining the frequency of previously practiced RBPs with the degree of knowledge about RBPs and other ASC techniques, and whether or not the participant had previous experiences with other ASC techniques. Quantitative data were calculated using the IBM SPSS statistical package (Version 19.0; IBM, New York, USA). We used the H-Test by Kruskal and Wallis, a nonparametric method, to test whether our three study groups (novices, initiates, and experts) significantly differed by ranks. Its parametric equivalent is the one-way analysis of variance (ANOVA). The H-Test, however, does not assume a normal distribution of residuals (Agresti & Finlay, 1997).

RESULTS

Characteristics of the Participants

Of the 19 participants, 14 were women ($M = 48$ years, $SD = 9$). The group comprised six experts (60–124 RBPs), six initiates (10–23 RBPs) and seven novices (0 RBP). According to the H-Test, the groups significantly differed in their levels of practice ($p < .01$) and knowledge ($p < .05$) regarding RBPs but not with respect to other ASC experiences. The novices Kai, Chris, Alban, and Birre and the experts Leena, Maïke, Lisa, and Paul participated in the experience-focused interviews. All names are pseudonyms.

Observing Participation

All RBPs followed their ritual practice as taught by the Felicitas Goodman Institute. Because only the first author checked for adherence to this manual, no interrater reliability was calculated.

Consistency of Trance Experiences

No specific themes were seen that differentiated between the RBPs. The participants' statements were heterogeneous and the frequency of recurrent themes was low. For example, although the Bear Posture owes its name to the often-reported involvement of a bear in resultant ASCs (Goodman, 1986, 1990; Goodman & Nauwald, 2003; Gore, 1995), only three of the 19 participants mentioned such experiences. The inclusion of any kind of carnivore into this category did not increase the number to more than five participants. Polar bears, however, were experienced in the Saami Shaman and other carnivores were found in other RBPs. The South Moravian Woman stands for experiences involving water (Goodman & Nauwald, 2003), but again, only three of the 19 participants mentioned such experiences in connection with the South Moravian Woman, and experiences with water also occurred in other RBPs. The Olmecic Prince stands for the experience of metamorphosis; "people commonly transform into the magnificent being of a jaguar" (Gore, 1995, p. 155). Although two participants experienced a metamorphosis, none mentioned a jaguar, and metamorphosis also occurred in other RBPs. The Saami Shaman stands for experiences of a spirit journey and "there are many images for showing you the way down—tunnels and whirlwinds and downward spirals" (Gore, 1995, p. 187); indeed, such experiences were mentioned by five of the 19 participants. But tunnels and whirlwinds also figured in other

RBPs. Consequently, we could not validate the assumption of the specificity, i.e., content-relatedness, of the ASCs in RBPs (Goodman, 1986). The character of the experienced ASCs, nevertheless, appeared to be consistent with their general descriptions (Ludwig, 1966). This was seen in the reported changes in sensations, emotional expressions, and body schema. Tactile experiences were most common, followed by visionary experiences. Other sensory experiences were of minor importance (Table 3).

Effects on the Participants' Daily Lives

Bodily Awareness

Five participants described an increased bodily awareness. Alban found himself to be a “very corporeal person” and that “many things take place in the body, in my case, and less in thinking.” Chris and Maike described a higher awareness of “body postures” when interacting with others: “It makes a difference whether I put my hands here [on the breast] or there [on the stomach].” Chris and Birre mentioned that they underwent changes in the quality of their body experiences: “that something painful can also be different, comfortable—yes, just different—that I can experience my body totally differently through them [the RBPs]”, and that “bodily weaknesses [. . . like . . .] a damaged ear” resulting from a former ailment (hearing loss) were perceived as less painful. Leena described how important it became for her to “integrate the whole body: body, voice, breathing . . .”

TABLE 3
Frequency of Descriptions of Changed Sensory Experiences During Trance in Ritual Body Postures Obtained From the Receptive Interviews

<i>Experiences</i>	<i>Examples</i>	<i>Level of Experience</i>		
		<i>N (n = 7)</i>	<i>I (n = 6)</i>	<i>E (n = 6)</i>
Visionary	Being someone/something (e.g., an animal) and feeling his/her/its emotions (e.g., aggressiveness against oneself, through others and/or against others); regeneration (e.g., molting; purifying oneself); flying (e.g., setting oneself apart from others)	4	8	14
Tactile	Arms; hands; stomach; eyes; pelvis; legs; feet; heart; head; lungs; mouth; neck; nose; ears; ribs; back; shoulders; tongue; body sensations not otherwise specified	36	25	19
Temperature	Warmth, heat, sweat	2	5	1
Nociceptive	Neck pain	7	2	1
Kinesthetic	Above, below, in front, behind	1	9	5
Auditory	Rattles; drums; sounds in general; auditory sensations not otherwise specified	7	2	4
Olfactory	Odor, malodor	1	0	1
Gustatory		0	0	0

Note. N = novices, I = initiates, E = experts. The examples were inductively obtained from the interviews.

Mental Awareness

Six participants mentioned an increased awareness of biographical aspects. Chris described the existence of a “world of her own” even in childhood, into which she “withdrew when the external [world] demanded too much from me.” The RBPs “made clear” how much she needed this space for regaining her strength. Paul described that, as a child, he was “off in trance an awful lot.” During the RBPs, he was drawn nearer “to these experiences.” Meanwhile, he is “beginning to put the biographical puzzle together.” Lisa, Alban, and Leena experienced “access” to “very concrete experiences of [their] personal history [and] biographical aspects became clearer.” Maike sensed that “causality is repealed” in trance. She recognized that the “present reality is only one possibility. In trance, I experienced that another reality works as well.” Lisa described that her thinking is “no longer so concrete [but] more intuitive.” Improved self-care was reported by seven participants in both their personal and professional lives. Kai described that just the prioritization of getting into trance and taking time for “psycho-hygiene” to counteract the constant juggling of personal and professional duties “is a strengthening activity in and of itself.” Maike has learned to “take things more calmly and easily [so that] I can now stand up for myself much better.” Chris asserted that she had not recognized how diverse her “abilities” were until the ASC experiences. They now give her “strength” and courage to claim for herself a place in life, whereas before she would seek out “somewhere that I can just squeeze myself in.” Birre learned not only how important it is to take care of herself but also that she is able to do so. Her right ear was damaged by a former ailment, resulting in hearing loss; gradually, she learned to discern when the pain threatened to become intolerable. In a second step she learned how to draw her attention away from the pain before it reached a critical point. At the time of the interview she experienced herself as actively coping with the pain instead of “defenselessly remaining at its mercy.” Lisa and Leena, both psychotherapists, said that they have learned to “intentionally withdraw from situations and internally enter another space” when they feel they are otherwise losing their “center”; both consider their profession as challenging. All the same, the trance was “often stressful.” Step-by-step they experienced how to “relax into the stress.” Alban described having developed the ability to achieve “short-term relaxation.” He explained that, now, he “can utilize even short moments to relax deeply and enter another space.”

Social Awareness

Lisa was positive about herself becoming a “more tolerant” person. Maike explained that she is better able to “accept” others. Alban reported that in a professional psychotherapeutic situation he engaged more fully in conversation with a patient whom the “average Joe Blow . . . [would have classed as being] fit for the loony bin.” He could listen without directly judging and felt better able to understand. “But probably that would not have been the case had I not had the experiences with the RBPs.” Birre, Chris, and Maike described being better able to cope, especially with family situations. Birre linked her positive experience with regulating muscle tension and subsequent pain reduction to her new recognition that she does not

have to always have to put up with everything. Chris learned to “assume another stance in conflict situations.” Maïke described a “much better” relationship with her son and her “family of origin,” explaining that these changes were due to her “hearing things differently.” Lisa spoke of a changed view toward her professional life. She had the impression that the patients in her psychotherapeutic practice increasingly had the confidence to mention “other things” that they had experienced, not just those of normal daily life. Lisa explained that her more reticent patients—“due to the fear of being admitted immediately to a psychiatric clinic”—now “recognize that I am not made nervous, even by apparently crazy stories.” Alban also described a better rapport with his psychotherapy patients: he counts his improved ability to observe their body postures as a “great resource” in his practice. He thus encourages the patients to pay more attention to their own bodily perceptions, and to reflect on them both during the sessions and in daily life.

TABLE 4
Frequency of Descriptions From Discomfort Toward Comfort Experiences, and Vice Versa,
During Trance in Ritual Body Postures Obtained From the Receptive Interviews

<i>Experiences</i>	<i>Examples</i>	<i>Level of Experience</i>		
		<i>N (n = 7)</i>	<i>I (n = 6)</i>	<i>E (n = 6)</i>
Discomfort transitioning toward comfort	Yes, well, I had—above all—problems with breathing, at the beginning, did not know exactly whether I should breathe through the nose or mouth . . . and because we should keep the mouth open, I thought, well, breathe through the mouth. But this was terribly dehydrating . . . I was thinking, well, I—could not get air into it, not at all! Well, then I got the idea to try breathing in through the nose and breathing out through the mouth. . . . And while doing so I had very strange visions, well, I then saw the skeleton of a wolf’s head. . . . Yes and then—I really had pictures—actually I am the wolf, now I feel fine with the breathing and—I am the wolf that runs in the field—but very fleet-footed . . . (Birre: 336_ Bear Posture)	8	3	2
Comfort transitioning toward discomfort	The posture—I had the feeling that I was taking wing . . . there quickly emerged a picture of something white that became wings . . . and I flew over a river . . . and on the other side, I mean, where it started, it was just black colors. And then, after a short while, a black maelstrom appeared. And I was drawn into this maelstrom so that I, well . . . I stopped—interrupted—just as I said, this posture. (Daggi: 291_Olmecic Prince)	1	4	2

Note. N = novices, I = initiates, E = experts. The examples were inductively obtained from the interviews.

Differences Between Novices and Experts

Although no differences were observed between novices and experts regarding the effects on the participants' daily lives, novices described more tactile experiences (36 out of 80 statements) and nociceptive experiences (seven out of 10 statements). The nociceptive experiences involved somatic pain in each of the RBPs (e.g., neck pain) as well as pain specific to the actual body posture (e.g., aching feet in the Saami Shaman). Additionally, existing body complaints were aggravated, such as described by Birre, whose ear was damaged by the result of an acute ailment and who reported "terrible pain" stemming from the sound of the rattles while in the Olmecic Prince. The novices, furthermore, more often reported changes in sensation transitioning from discomfort to a more comfortable state than did the experts (Table 4). However, visionary experiences were described more frequently by the experts; indeed, more than half of them reported this phenomenon (Table 3).

DISCUSSION

The RBPs investigated in this study have been shown to display a unique neurophysiological pattern called *paradoxical arousal*, which combines trophotropic and ergotropic ASC states (Guttmann, 1992; Rittner & Fachner, 2006). The general objective of this study was to contribute to the evaluation of the potential of RBPs, and thus extend beyond the unilateral concentration of investigations on trophotropic ASCs such as meditation and hypnosis. We described the background of RBPs: four RBPs in detail, and the ritual practice of RBPs as taught by the Cuyamungue Institute, USA, and the Felicitas Goodman Institute, Germany. After intensively reviewing PsycINFO, PubMed, JSTOR, AnthroSource, AnthropologyPlus and the archive of the Felicitas Goodman Institute, we found that 12 studies had been conducted within the past 25 years. The publications showed inconsistent findings regarding the specificity, i.e., content-relatedness, of the ASC experiences in RBPs. Neither the effects of these experiences on the participants' daily lives nor the differences between experts and novices were investigated in any detail. Therefore, the objectives of our study were: (a) to test the specificity of ASC experiences in RBPs, (b) to describe the effects of having experienced ASCs in RBPs on the participants' daily lives, and (c) to analyze whether experts and novices in the practice of RBPs differed regarding the aforementioned objectives. In the following, the results are discussed in relation to the study design, materials and methods, existing theoretical and empirical knowledge, and significance of the results for clinical research and practice.

Inconsistency of ASC Experiences in RBPs and Their Effects on the Participants' Daily Lives

The first objective was the testing of Goodman's (1986) assumption of the consistency of ASC experiences in RBPs. In accordance with the majority of investigations (Gesell, 2004; Kremer & Krippner, 1994; Woodside et al., 1997), our results do not support this assumption. Analyzing the deep structure (Bernard, 2006) of ASC experiences in RBPs, however, requires future interdisciplinary (psychological and anthropological) investigations. It would be worthwhile

to investigate RBPs with people who were raised in a cultural context where RBPs are part of daily life. For example, the legal position of the Norwegian Saami people has changed for the better since the 1980s: They now are recognized and protected under the international conventions of indigenous peoples and allowed to practice their traditional shamanic techniques, including the Saami Shaman RBP. It is possible that the long-term set factor of this people's cultural proclivity for performing RBPs, combined with their acquired capacity to enter a trance and experience an altered meaning, may contribute to more consistent ASC experiences while in RBPs and greater homogeneity in their narratives. Future research should also focus on other aspects of set and setting. We did not investigate personality factors or individual physiology and, therefore, cannot make any statements regarding their influence on our findings. Our study participants had a German cultural disposition and only one-third could be considered experts in RBPs, i.e., six persons who had performed between 60 and 124 RBPs before the beginning of the study. As long as such research is still outstanding, RBPs should not be used as a single intervention but as an add-on to established and more extensive interventions (e.g., professional therapy or counseling). However, they can be used to activate general resources.

The results of the second objective show that the participants had a more acute and positive awareness of body, mind, and social interactions after having experienced ASCs in RBPs. They describe RBPs as having stimulated a better understanding of themselves and their social interactions, and having changed their stance regarding themselves and others, in their day-to-day lives. They did not report that RBPs helped them deal with physiological or security-related needs (see Maslow, 1968) but rather with social and individual needs, as well with the fulfilment of tendencies toward self-actualization. As this is the first study investigating the effects of RBP-initiated ASCs on participants' daily lives, future studies are needed to assess in detail their effects on how people understand themselves and others in social interaction. It would be valuable to compare the effects of trophotropic ASCs, i.e., meditation and hypnosis, with those of the combined trophotropic and ergotropic ASCs induced by RBPs to investigate differences in self-actualization and how one interacts with important others in social relationships and social systems. An interdisciplinary psychological and anthropological investigation is needed for a better understanding of the influence of set and setting on these findings. As the concept of self-actualization is inherent to the North American and German cultures, our study participants had the cultural disposition to tie in with it; future research should investigate specifically whether participants from different cultural contexts experience other effects of RBPs on daily life.

Negative effects were not described, although we explicitly asked for them in the experience-focused interviews. We expected them, above all, in the group of the novices. Their nonemergence may be explained by time effects: The experience-focused interviews were conducted after the participants had practiced 10 RBPs during a 10-month study period. Possible negative effects from ASCs in RBPs at the beginning may have been confounded by positive effects experienced at the end of our study. Nevertheless, the increase in positive awareness pertains to resource activation, a main mechanism of change in counseling and psychotherapy (Caspar & Grosse Holtforth, 2010; Gassmann & Grawe, 2006). At the same time, practicing RBPs culminates in a stronger sense of meaning in life due to a better understanding of one's own biography, increased self-care and self-assertion, and higher levels of tolerance and acceptance; all of these are central aspects of positive psychology and clinical practice (Duckworth et al., 2005).

Differences Between Novices and Experts

No differences were seen between novices and experts regarding the effects of ASC experiences in RBPs on daily life. The investigations on the third objective, however, showed a variation in the acquired capacity to experience ASCs in RBPs, a long-term factor of the set of our study participants. Many of the novices' tactile and nociceptive experiences are an expression of their difficulties with entering ASCs. This result is in keeping with the need for a higher pain threshold as characteristic of ASCs induced by techniques similar to the RBPs (Vaitl et al., 2005). Additionally, people with existing bodily complaints appeared most vulnerable for aggravation of these complaints while practicing RBPs. Likewise in the MBSR, where correct breathing supports the elimination of pain (Kabat-Zinn, 1990), one main mechanism for getting into ASCs induced by RBPs is relaxing into the stress to allow alterations in brain and immune system functions. Previous ASC experiences may facilitate such relaxation so that previously uncomfortable body experiences may be transformed into visionary experiences, which may diminish the bodily discomfort.

The novices' difficulties in entering into ASCs while in RBPs can be explained in terms of their lacking an appropriate ASC set—or, in cognitive psychology, ASC schema (Anderson, 2000)—specific to RBPs. Although they were just as experienced in other ASCs as the experts, they nevertheless lacked the ASC experience in RBPs. The experts, in contrast, knew better how to cope with the stress experienced during the ASCs, as shown by Maïke's example, because they had a better capacity for shamanic-type visionary experiences as described by Clottes and Lewis-Williams (1997):

So, at the beginning, as the rattles started up, I had the feeling that one of them was aggressive and the other was—softer, rounder . . . and that one was in the background. And then the whole thing turned into a huge shell mountain, as if it encompassed the entire world . . . and then I was in a canyon, and there was a little trickle or a small stream flowing down from above, and it was constantly changing, like into brightly colored ribbons or now a snake, or it would start gushing and spattering and it purified me, that is, it went right through my body. (Maïke, Bear Posture)

Every human being has the potential for such shamanic-type experiences because of our shared neurophysiological set. The attributed meaning, however, fundamentally depends on each individual's enculturation (Kremer, 2003).

Strengths and Limitations of the Study Design, Materials and Methods

This study has a number of strengths. (a) It is the first study to conduct a short-term investigation into the specificity of RBPs and a long-term examination of the effects of having experienced ASCs in RBPs on the participants' daily lives. (b) It also is the first study to review the state of research on RBPs over the past 25 years, including neurophysiological, neurochemical, psychological, and psychotherapeutic investigations. (c) Good external validity is provided by the study's naturalistic, exploratory, and descriptive design involving a nonclinical population, which mimics the contexts in which RBPs are usually conducted at the Cuyamungue Institute, USA, and the Felicitas Goodman Institute, Germany. (d) The attrition rate was zero; no participants dropped out before the completion of the study period. (e) Qualitative methods were used

in the absence of established psychological measures to detect changes in subtle moods and effects such as experienced in RBP-induced ASCs. (f) The use of different qualitative methods served the sensitive examination of the study objectives: Open-ended interviews were conducted with respect to the first and third objectives; experience-focused interviews were applied with respect to the second objective; participant observation was used to become familiar with the RBPs and to get to know the study participants, as well as to ensure that the ritual practice of the RBPs in this study followed the ritual phases as taught by the Cuyamungue Institute. (g) The study also assessed the type and frequency of participants' previous experiences with RBPs and ASCs in general.

Some limitations are worth noting. (a) The long-term examination of the effects of having experienced ASCs in RBPs refers to retrospective information collected after having practiced RBPs over the 10-month study period. This may have contributed to distorted information. The interviewer's explicit and continuous reference to the ASC experiences in RBPs, however, reduced the chances that the participants were referring to effects other than those caused by the RBPs. (b) No controls were included, which points to the characteristic of this study as exploratory and descriptive. The inclusion of a waitlist control group did not appear as practicable due to the 10-month study period. The inclusion of an alternative treatment, e.g., meditation and/or hypnosis, was limited by financial and staffing resources. Additionally, we expected the distortion of the phenomena we studied when we divorced the posture and drumming from their original context (see Woodside et al., 1997). We emphasize the need for investigations that study long-term and proximate factors of set and setting. Personality-related and physiological factors should be included to see, for example, whether they explain additional and/or incremental variance in the capacity to enter into an ASC. Also not part of our study were positive and negative associations with RBPs, the participant's mood before practicing RBPs, or the motivation behind participating in RBPs. The participant-leader relationship should especially be examined: Psychotherapeutic research has shown that the patient-therapist relationship has a strong influence on therapy outcome. (c) The sample must be regarded as self-selected (selection bias). Although the distribution of novices, initiates, and experts was not planned, it was similar to RBP groups at the Cuyamungue Institute as observed by the second author, who is one of the Institute's main representatives in Germany. However, the bio-psycho-spiritual-social-cultural state of the participants was not investigated in detail, therefore this study can make no clear contribution to the investigation of how it influences the ASC experience in RBPs. (d) Because there was only one ritual leader, the conclusion that she had no effect on the study results is tentative (reporting bias). The ritual leader and the participants enjoyed mutual appreciation. Participants attributed high status to the ritual leader, which they based on her authenticity and tolerance, as well as her deep experience in conducting RBPs. Although not investigated in detail, these positive inclinations may have contributed to the trustful climate, which, in turn, may have affected positive ASC experiences. However, RBP leaders do not use verbal suggestions and, thus, provide fewer external inputs than, e.g., with hypnosis. Future studies should pay explicit attention to ritual leader effects in the context of RBPs; although investigating these effects was not the objective of this study, this is an important aspect of conducting research on ASCs in general. (e) Due to the use of only four RBPs (Goodman & Nauwald, 2003; Gore, 1995), the generalization of the results to other RBPs is limited.

Further studies should conduct replications and extensions, as this is the first study on the efficacy of RBPs on participants' daily lives. They should also examine the short-term effects of having experienced ASCs in RBPs. Special attention should be paid to negative effects caused

by ASC experiences in RBPs, as their non-appearance in our study may have been caused by time effects. It would be worthwhile to include controls, and—despite our non-clinical population—participants from more varied and clinical groups. Such research could pursue the investigation of the potential of RBPs for psychotherapy and counseling that exceeds the explanatory power of existing case reports (Richter & Richter, 2005; Rittner, 2004). The inclusion of several ritual leaders would contribute to the assessment of ritual leader effects. The examination of additional RBPs could show to which extent our findings can be generalized to other RBPs.

CONCLUSION

According to Vaitl et al. (2005), more and more scientists are interested in the empirical investigation of traditional techniques for the induction of ASCs. Future research might include RBPs, as they produce a neurophysiologically unique ASC and activate resources central to counseling and psychotherapy. This study did not show the specificity of the ASC experiences in RBPs. Nevertheless, it showed that they had an effect on the participants' daily lives in terms of more acute awareness of their bodies, minds, and social interactions; a better understanding of their own biographies; increased self-care (physically, psychologically) and self-assertion; and higher levels of tolerance and acceptance. No differences emerged between novices and experts in regard to these effects.

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DISCLOSURE STATEMENT

We declare that no competing financial interests exist.

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