

Out-of-Body Experiences and Physical Body Activity and Posture Responses From a Survey Conducted in Scotland

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Abstract: Although there have been studies of some factors related to the features of out-of-body experiences (OBEs), the effect of physical body posture and activity has not been systematically explored. Over the years research has suggested that OBEs are more frequent in states of low physical activity and when the body is supine, in agreement with other findings related to alterations in consciousness. Thus, we predicted that OBEs would be associated with lying down and little or no physical activity, and that these factors would show a higher number of OBE features than OBEs in which the person was physically active and/or standing. OBE cases were collected through appeals in published sources. Respondents provided a description of their only or most recent OBE and filled out a questionnaire about OBE features. The findings indicate that OBEs were associated with low physical activity and being in a supine position. Those who had experiences under these conditions also obtained a higher number of OBE features than those who were active and standing at the time of the OBE.

Key Words: Out of body experiences, physical movement, body posture, altered states of consciousness.

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During the last decades there has been increasing discussion and research about out-of-body experiences (OBEs, Alvarado, 2000; Bünning and Blanke, 2005; Gabbard and Twemlow, 1984; Murray, in press). Although most research has centered on the personality and cognitive correlates of the experiences (e.g., Alvarado et al., 1998–99; Irwin, 1981; McCreery and Claridge, 2002; Murray and Fox, 2005), there has been little attention to the study of correlates of OBE features, or the visual, auditory, affective, and kinesthetic characteristics of the experience such as seeing the physical body, hearing sounds or voices, having feelings of elation, and having the sensation of movement (e.g., Alvarado and Zingrone, 1999; Blackmore, 1984a; Gabbard and Twemlow, 1984; Green, 1968; for a discussion see Alvarado, 1997). Some researchers have explored the relationship of specific variables to the content of the OBE so as to determine whether the presence of particular features is associated with these variables. This includes the experiencer's belief that he or she was close to death during the OBE (Gabbard et al., 1981), and dreaming and parapsychological experiences (Alvarado and Zingrone, 1999).

A neglected variable deserving exploration is the activity and posture of the physical body during the OBE. Although there are OBEs that take place when the physical body is active (e.g.,

Alvarado, 2000, p. 183–184; Green, 1968, p. 63–66)—Morgan (1993) also mentions that athletes have reported OBEs while engaged in physical exertion—most of them are reported to take place during states of physical inactivity. This was noticed by a nineteenth-century writer who said that these cases took place when the experiencer was “employed in some occupation compatible with quietness and passivity, e.g., reading, meditating, or quiet conversation . . .” (Moses, 1876, p. 102).

Years later, Bozzano (1934/1937) noticed that most experiences took place “during absolute rest of the body” (p. 41).

More recent researchers have presented data relevant to these issues. For example, Green (1968) found that of the 176 persons who have had 1 OBE, 73.3% were lying down, while the rest were sitting (17.6%), standing still (2.3%), walking (4.5%), and indeterminate (2.3%). The predominance of inactive states is evident in other studies as well (e.g., Blackmore, 1984a; Gabbard and Twemlow, 1984; Giovetti, 1983). Could it be that the features of OBEs taking place during physical inactivity and a supine position are different from those taking place in active states and while the person is standing? Such an idea makes sense if we consider that there is evidence that posture and activity affect cognitive activity in general and states of consciousness in particular. Unfortunately, most of the literature we will now review has failed to distinguish between the effects of a supine posture and lack of physical activity. A growing body of evidence shows that indeed such bodily aspects as posture and motion can affect cognition (Niedenthal, 2007) and emotions (Duclos et al, 1989; Cardeña and Cousins, in press).

In a cross-cultural study of altered states of consciousness (Winkelman, 1992) using cluster analysis, it was found that immobility, a sense of floating out of one's body, and imagery were interrelated, whereas rhythmic drumming/dancing were associated with amnesia. This proposal has been generally supported by a number of psychological studies. For instance Pope (1978) found that his and others' data showed that reclining or lying down were more strongly associated with imagery and reduced awareness of the surroundings than sitting down or walking, which were more likely to produce a more typical discursive stream of consciousness. Fellows and Richardson (1993) found that in a hypnotic context being supine and motionless was related to reports of “deeper” hypnosis as compared with a more active form of hypnosis. Cardeña (2005) corroborated their findings and clarified that the sense of depth is probably mediated by alterations in body image and sensations. Of particular relevance to this paper is that every single person in his sample of very highly hypnotizable individuals reported spontaneously, without suggestions, floating and disembodied sensation during a condition in which they were asked to go into a deeper, undefined, state of hypnosis. He also found support for Winkelman's (1992) proposal in that in a motionless, supine condition individuals reported greater body image alterations and more self-awareness than in a condition in which a motor was pedaling a stationary bike at an unvarying speed.

Finally, some mention should be made of the proposal by anthropologist Felicitas Goodman (e.g., 1990) that specific bodily postures, derived from human artistic depictions in older cultures represent forms to induce various altered states of consciousness

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(trance postures). Besides the questionable archeological evidence she proffers, 2 studies have failed to replicate her proposal (Kremer and Krippner, 1994; Woodside et al., 1997; see also Cardeña, 1997).

Considering previous research on related areas, we predicted that OBEs would occur more often when the person was lying down and had reduced physical activity, and that OBEs with these 2 characteristics would have more features than OBEs occurring in other circumstances. In addition, we expected to find more OBE features in cases that occurred in passive conditions (e.g., lying down, during prayer or meditation) than in cases in which the physical body was active (moving around, talking, running).

METHOD

Participants

Eighty-eight individuals replied to our call for OBE cases. They had a mean age of 51.76 ($N = 86$, range: 20–80, $SD = 14.67$). Most of them were female (62%), married (51%), and stated that they were British (88%).

Questionnaire

The second author developed a questionnaire of OBE features based on his reading of hundreds of published OBE cases in the autobiographical OBE literature (e.g., Fox, 1939; Muldoon and Canington, 1929), case collections (e.g., Crookall, 1961; Muldoon and Carrington, 1951), and studies of the features of the experience (e.g., Alvarado, 1984; Gabbard and Twemlow, 1984; Green, 1968), including the near-death experience literature (e.g., Greyson, 1983; Ring, 1980). The questionnaire included a variety of items about visual, auditory, affective, and kinesthetic features of the OBE. Most of the items were answered dichotomously, whereas a smaller number had a continuous scale (e.g., length of the experience). The true and false questions were used to form an OBE Feature Index, which is a count of affirmative responses. Although this questionnaire has been used in other research (Alvarado, 2001; Alvarado and Zingrone, 2003) obtaining results consistent with those of other investigators (e.g., Gabbard et al., 1981), no psychometric study has as yet been done to establish either its validity or reliability. However, an interitem correlation of the responses this sample made to the 45 yes/no items yielded a Cronbach Alpha of 0.89.

Procedure

Cases were collected through letters sent by the second author (C.S.A.) to newspapers and parapsychology-related publications and websites, most of which were in Scotland. Those who wrote reporting OBEs were asked to fill out the questionnaire of OBE features. They were instructed to answer the questionnaire in terms of their only OBE or, if they had experienced more than one, in terms of their most recent OBE.

Analyses

We analyzed the data using nonparametric statistics available on StatPac IV, namely Spearman correlations, the Mann-Whitney U to compare number of features, and the chi-square to evaluate the observed endorsement frequencies against expected frequency. We also included Rosenthal's (1991) r (p. 19, formula 2.18) where relevant. The significance level was set at 0.05 2-tailed for all analyses.

RESULTS

We ended with 88 usable questionnaires. Most of the experiencers were lying down at the time of the experience (59%, $N = 80$). Others were sitting up (14%), standing (9%), or did not notice or did not remember (1%). The rest checked an "other" option (11%) or reported that their position changed during the experience (6%).

TABLE 1. Means of OBE Feature Index in Relation to Body Position and Activity

Feature	N	Mean Rank	Mann-Whitney U	Z	P	r
Body position						
Lying down	47	10.23				
Standing	7	3.71	305.00	3.62	0.0003	0.49
Body activity						
Passive	32	8.50				
Active	11	5.73	261.50	2.38	0.02	0.36

Setting aside the residual endorsements of "other" and the category "did not remember," the resulting distribution of body positions in which lying down was more frequently endorsed differed significantly from expectation ($\chi^2[df = 3] = 67.37$, $P = 0.00002$). Of 55 respondents, 58% described their physical body as passive (e.g., unconscious), while 22% described it as semi-passive, and 20% as active (e.g., talking or moving), a distribution that significantly favored body passivity over the other options, ($\chi^2[df = 3] = 15.31$, $P = 0.01$). Conservatively leaving aside the category of "semi-passive," which could be categorized as more passive than active, it can be asserted that perceived unconsciousness was more closely related to OBEs than activity (Fisher exact test $P = 0.01$).

The mean index of OBE features for the 88 participants was 8.31 (range: 0–25, $SD = 5.08$). Table 1 shows that, as predicted, those participants who were lying down at the time of the OBE obtained a significantly higher OBE Feature Index mean rank than did the participants who were standing. Similarly, the prediction that individuals whose physical body was passive would also obtain a significantly higher feature index than those who were active was confirmed.

DISCUSSION

As with many surveys, our study is limited by the uncertain representativeness of a volunteer sample and the limitations of introspective reports after an undetermined amount of time (Cardeña, 2004). Nonetheless, our results clearly support the idea that the incidence and number of features of OBEs occur more often when individuals are supine and have little or no activity. They are consistent with 2 major explanatory models of OBEs (Blackmore, 1984b; Irwin, 1985; Cardeña and Terhune, in press) that posit that scant (or extreme) afferent stimulation may make OBEs more likely. Tart (1975) suggested that maintaining a state of consciousness requires ongoing stabilizing feedback, which in the case of the body can arise from the activity of the body within the environment, or the ecological self in Neisser's (1988) terms. The lack of sensory stimulation coupled with a reflective focus on experience may make it more likely that alternate body images (for instance, the neurological homunculus) become manifest (cf. Pontius, 1984), first as a change in body dimensions and image, and then as disembodied experiences (Cardeña, 2005).

Of course, there may be additional factors related to OBEs such as changes of afferent stimulation through the habituation that occurs in repetitive motions (e.g., in marathon running) and perhaps the need for the individual to maintain a prolonged focus on inner experience rather than on, for instance, perceptual changes. Additional research projects could evaluate other possible mediating factors on the incidence and characteristics of OBEs. For example, it would be valuable to know whether the results apply equally to induced as to spontaneous OBEs, and to assess the effect of benign (e.g., Cardeña, 2005; Holroyd, 2003) versus traumatic contexts (e.g., Cardeña and Spiegel, 1993; Gabbard

and Twemlow, 1984). Some of these questions may be explored by the systematic use of hypnotic (Terhune and Cardeña, in press) and neurophysiological (e.g., Bünning and Blanke, 2005) techniques, and the evaluation of cognitive and personality traits that may facilitate OBEs. Rather than arguing that the OBE can be reduced to the previously-mentioned factors, however, it should be understood that we are proposing the further exploration of the interaction of such variables including body activity and posture.

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