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ORIGINAL ARTICLE

On the Edge of the Anomalous Experience: out of Body Experiences, Transliminality and "Thin" Boundaries

Alejandro Parra, PhD

Alejandro Parra, Instituto de Psicología Paranormal, Buenos Aires, Argentina.
Correspondence to: Alejandro Parra, Instituto de Psicología Paranormal, Buenos Aires, Argentina.
Email: rapp@fibertel.com.ar
Telephone: +54-11-43056724
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ABSTRACT

An out-of-body experience (OBE) is an experience in which the "self", or center of awareness, seems to the person having the OBE to temporarily occupy a position spatially remote from the body. Another drawback of assessing perceptual anomalies by extrapolating exclusively from the context of clinical psychiatry is the overreliance on hallucinatory phenomena. Transliminality hypothesis suggests that the immediate source of our perceptions is not our eyes or our ears, but rather the subliminal consciousness: percepts are first processed at an unconscious level and then, usually speedily, they are presented across the threshold to consciousness. The boundary construct is highly valuable in terms of understanding the factors which underpin the varieties of exceptional experiences, such as out of body experiences. Three specific hypotheses are tested here: People who report OBEs (experients) have a higher capacity for cognitive anomalous experiences (2) higher transliminality, (3) and thinner boundaries who score differently than control (non-experients). Participants who experienced OBEs (n=100, 47%) were matched with participants who do not report OBEs (non experient, n=111, 53%), ages ranged from 18 to 83 years old (M=44.92; SD=13.29). OBErs scored higher on anomalous experiences, higher on "thin" boundaries, high transliminality than for non OBErs, which supported the three hypothesis. People who scored thinner boundaries also tended to score higher on spirituality, Emotional impact, transliminality, and anomalous experiences. The paper discuss OBE phenomena as an experient's sensitivity due to permeable ego boundaries. This sensitivity, may be related to some physiological differences in perceptual processing may also underly it.

Key words: Out-of-body experience; Perceptual anomalies; Hallucination; Transliminality; Thinner boundaries

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INTRODUCTION

Irwin (1985) has defined This topic has received a great deal of attention in recent years[1-4]. A surprisingly large percentage of the population appears to have experienced at least one OBE: several surveys have yielded positive response rates in the neighborhood of 15%[4-6], and the corresponding ate in student samples is 25%[3,7] Some studies have shown a strong relationship between the incidence of OBEs and psychological variables[3], especially schizotypy[8], self-efficacy, self-control[9], the personality dimensions of the five-factor model (such as NEO-PI-R)[10], absorption[11,12], and dissociative experiences[13,14].

Some experients report that the exteriorized self has a definite form, called the parasomatic body or the "astral body". Estimates of the incidence of the parasomatic body vary widely, from 15 to 84% of OBEs[3]. Over 90% of OBEs are visual[15, pp. 67-68], often exclusively so. Some experients claim that they can control the content of their OBEs. In one survey, Irwin[3] found that nearly half of the experients reported this effect. Such control seems strictly cognitive; that is, the OBE content can be manipulated by directing attention to the desired outcome. There has been some research into the vividness of OBEers' visual imagery, but the issue is by no means resolved. It might be expected that if the OBE were simply an imaginal experience, some dexterity in imagery processes would be required in order to

conjure up a vivid image of one's own body and of the immediate surroundings as they would appear if observed from a point near the ceiling.

Irwin[16] has also studied the OBE in relation to Tellegen's concept of absorption, which is described as a capacity for episodes of absorbed and "self-altering" attention that are sustained by imaginative representations[17]. During such episodes, individuals become totally absorbed in their experience, with "a full commitment of available perceptual, motoric, imaginative, and ideational resources to a unified representation of the attentional object"[17, p. 269]. Irwin[16] has claimed support for his hypothesis that individuals reporting out-of-body experiences would score high on absorption[17], that is, persons with high absorption scores were more susceptible to an experimental OBE induction technique than those with low scores. The positive relationship consistently found between OBEs and absorption experiences is the first formal link to be established between OBEs and dissociation[2,3]. Absorption is generally considered to be the most common of all dissociative experiences[17].

Furthermore, there is evidence that persons who have reported spontaneous OBEs tend to have a higher level of imaginative/fantasy activity, or fantasy proneness than non-OBEers, which is consistent with Wilson and Barber's[18] characterization of the fantasy-prone personality and may support suggestions by Blackmore[5] and by Siegel[19] that OBEs could be hallucinatory fantasies, which would be especially easy for fantasy-prone persons to produce. It is also consistent with the finding that people who are more attentive to their mental processes may be more open to experiencing OBEs[16] and also to recalling childhood fantasies.

Compared to non-OBEers, OBEers have been found to be substantially superior in their capacity for absorbed mentation[11,20,7]. Further, there are indications that OBEers with high absorption capacity are more likely to report a parasomatic form of OBE, as well as sensations at its termination[3]. The association with absorption capacity is compatible with observations that OBEers tend to practice meditation[4], and have lucid dreams[3]. In addition to their high absorption capacity, OBEers also show a substantial need for absorbing experiences. In a clinical sense, clients who are fantasy prone, become deeply absorbed in events, and have an internalized, curious, intellectual, and stable personality are the most likely to report OBEs[3].

Fantasy proneness appears to be higher among OBEers than non-OBEers[7,21]. Stanford[22] has suggested that certain types of fantasy during childhood may correlate differentially with the circumstances of an OBE's occurrence. Alvarado and Zingrone[23] found marginally significant evidence for a positive association between the OBE and scores on the Dissociative Experiences Scale (DES), a widely used measure of dissociation in daily life. Using the same scale, Richards[24] found significant positive correlations between dissociative experiences and both spontaneous and volitional OBEs. One of the items of the DES asks about the experience of standing next to yourself or watching yourself as if you were standing next to your body.

Another drawback of assessing perceptual anomalies by extrapolating exclusively from the context of clinical psychiatry is the overreliance on hallucinatory phenomena. Likewise, alterations in sensory intensity, rather than the experience of discrete perceptual phenomena, are not normally covered by existing scales. Another legacy of clinical psychiatry is the lack of coverage of perceptual anomalies associated with temporal lobe disturbance, to paranormal beliefs and experiences, as well as to anomalous perceptual phenomena in nonclinical participants[25]. Thus, there is a need for a comprehensive scale capable of measuring a range of sensory experience, covering both clinical and nonclinical populations.

Bell, Halligan and Ellis[26] designed the *Cardiff Anomalous Perceptions Scale* (CAPS) to measure perceptual anomalies. Critically, it is not dependent on the clinical psychiatric context and considers subjective experiences from a range of different perspectives of insight awareness (including knowing that the percept is "not really there," the percept seeming strange or unusual, or the percept being a nonshared sensory experience). Moreover, CAPS includes items pertaining to distortions in perceptual intensity, to experiences in all appropriate sensory modalities, and to sensory experiences traditionally associated with temporal lobe disturbances. Following the usefulness of their inclusion in the PDI[27,28] we also included dimensional ratings to measure associated distress, intrusiveness, and frequency for each experience endorsed.

Thin boundaries refer to a relative connectedness of psychological processes, which is reflected in a thinking style of 'shades of grey'. Transliminality variable reflects "the hypothesised tendency for psychological material to cross thresholds into or out of consciousness"[29, p. 861]. The transliminality construct is comprised of absorption, fantasy proneness, magical ideation, paranormal belief, mystical experience, hyperaesthesia, (a "hypersensitivity to environmental stimulation"[30, p. 403]). Transliminality hypothesis suggests that the immediate source of our perceptions is not our eyes or our ears, but rather the subliminal consciousness: percepts are first processed at an unconscious level (and sometimes processed extensively), and then, usually speedily, they are presented 'across the threshold' to consciousness[31]. Overall scoring is higher among those who consider themselves to be psychic and those who are working as shamans or psychics[32]. Sherwood and Milner[33] also found support for the idea that "the tendency to report psychic experiences might also be a key component of boundary structure" (p. 376). The boundary construct is highly valuable in terms of understanding the factors which underpin the varieties of exceptional experiences, such as out of body experiences. With regard to anomalous experiences, Thalbourne[34] has noted that "schizotypy represents what is probably the closest conceptually and empirically to transliminality" (p. 20). Hartmann's[35] construct of psychological boundaries refers to a continuum of boundary thinness in the mind and brain.

The novel features of the present study are to compare OBE group to a control group on three psychological questionnaires. I think hat the study of individual differences in OBE experients is important if for no other reason than that it relates a phenomenon traditionally enshrouded in the mystery of occult traditions to more familiar forms of psychological functioning. Three specific hypotheses are tested: People who report OBEs (experients) have a higher capacity for (1) cognitive anomalous experiences (measured by Bell's *CAPS*); (2) higher transliminality; (3) and thinner boundaries (lower scores) who score differently than control (non-experients).

METHOD

Participants

The sample consisted of 211 participants (159 females 52 males), who were all well-educated and believed in psi, recruited through media our e-mailing list and interested/students of paranormal and new age topics. The ages ranged from 18 to 83 (M=44.92; SD=13.29). Participants who answered "yes" (one time, sometimes, or frequently) were grouped as "OBE experients" (n=100, 47%) and participants who answered "no" were grouped as "non-OBE experients" (n= 111, 53%).

Personal experiences suggestive of paranormal experiences were reported by the majority of the participants, such as having experienced prefeelings (58%), dream recall (50.8%), seeing aura (34.7%), and other paranormal experiences (38.3%). Participation was voluntary and the they received no pay. An announcement was also placed on a web page (www.alipsi.com.ar). The announcement provided a brief explanation of the test procedure and encouraged people to have an interview with us in order to obtain more information.

Design and Materials

The Cardiff Anomalous Perception Scale (CAPS;[26]) consists of 32 self-report items designed to assess perceptual anomalies such as changes in levels of sensory intensity, distortion of the external world, sensory flooding and hallucinations. Participants were asked to rate each item using a no (0) and yes (1) format. A higher score indicates a higher number of perceptual anomalies, scores range from 0 (low) to 32 (high). The internal reliability of the CAPS is good, with a Cronbach's alpha coefficient of 0.87. Test-retest reliability has also been found to be acceptable[26].

The *Revised Transliminality Scale* presents 29 true/false items to the participant, just 29 of which are scored in a raw-score to Rasch-score transformation[30]. Transliminality has most recently been defined as a hypersensitivity to psychological material originating in (a) the unconscious, and/or (b) the external environment. "Psychological material" is taken to cover ideation, imagery, affect and perception, and thus is a rather broad concept. High transliminality tends to imply (alleged) paranormal experience, mystical experience, creative personality, fleeting manic experience, magical ideation, high absorption, fantasy-proneness, hypersensitivity to sensory stimulation, and positive attitude towards dream interpretation[34]. The Transliminality Scale in one or other of several forms has been administered to a large number of people in a variety of contexts, so that we now have correlations some of which are weak, others moderate, and others strong. In the strong category are three distinct variables: high transliminality is strongly correlated with "thin" boundaries, as measured by Hartmann[36].

The Boundary Questionnaire (BQ) is a 138-item questionnaire including items about many different aspects of boundaries[36-39], which is divided into 12 categories: Type of boundary, Sleep/wake/dream, Unusual experiences, Thoughts-feelings-moods, Childhood-adolescent-adulthood, Interpersonal, Opinions about organizations Sensitivity, Neat-exact-precise, Edges-lines-clothing, Opinions about children and others, Opinions about people-nations-groups, and Opinions about beauty and truth. The response format for each question runs from '0' (not at all) to '4' (very much so). Approximately two thirds of the items are phrased so that full endorsement (very much so) indicates a 'thin' boundary, and the remaining items are phrased so that 'very much so' indicates a thick boundary. The BQ has good test-retest reliability over six months (*r*'s of about .77 in two samples[40,41].

For out of body experiences, the question was: "Have you ever had an experience in which you felt that 'you' were located 'outside of' or 'away from' your physical body; that is, the feeling that your consciousness, mind, or awareness was at a different place than your physical body? (If in doubt, please answer no)". It was inspired by the English version of the *Anomalous/Paranormal Experiences Inventory*[42], and Palmer's[4] survey of students in Charlottesville, VA. The question tapped two dimensions of experience: frequency (never, once, sometimes, or frequently) and positive or negative (emotional) impact (1-7 scale for some impact, 7 being the highest). Two additional items were gender, age and grade of spirituality (0= I am not spiritual; 5= I am very spiritual).

Procedure

The three questionnaires were given upon the pseudo-title Questionnaire of Psychological Experiences, in a counterbalanced order to encourage unbiased responding. They were given in a single envelope to each participant. Each pariticpant received information about the study and was invited to complete the scales voluntarily and anonymously.

RESULTS

First, two-sample KS tests was used for comparing experients and non-experients as it is sensitive to differences in both location and shape of the empirical cumulative distribution functions of the two samples. The Mann-Whitney *U* test was used to test the hypotheses, since the scores were not normally distributed. The resulting *U* statistic was transformed into a z-score for the purposes of assigning probability values. All comparision are one-tailed.

Hypothesis 1 was that experients would score higher on anomalous experiences (measured by Bell´s CAPS), which was supported: the mean for experients was significantly higher than for non experients (Table 2). Experients also scored higher on Sensory intensity, Nonshared sensory experience, Distorted Sensory Experience, Sensory experience from an unexplained source, Distortion of form of own body and of external world, Verbal hallucinations, Sensory flooding, and Temporal lobe subescales.

Hypothesis 2 was that experients would score higher on Boundaries, which was supported: the mean for experients was significantly lower (toward "thinner") than for non experients (Table 2). Experients also scored higher on Unusual experiences, Thoughts-feelings-moods, Childhood-adolescent-adulthood, and Paranormal experiences subscales.

Hypothesis 3 was that experients would score high transliminality, which was supported: the mean for experients was significantly higher than for non experients (Table 2).

As a final post hoc analysis, a number of correlations explored relationship between Transliminality, Anomalous experiences, Boundaries, and also Spirituality and Emotional impact to OBE. I found 8 (80%) out 10 correlations. People who scored thinner boundaries tended to score higher on spirituality (*Rho*=0.22), Emotional impact (*Rho*=0.31), Transliminality (*Rho*=0.67), and Anomalous experiences (*Rho*=0.56). People who scored Anomalous experiences tended to score higher on Transliminality (*Rho*=0.27). People who scored higher Transliminality tended to score slighly lower on Spirituality (*Rho*=0.19), and Emotional Impact (*Rho*=0.25) (Table 3).

Binary logistic regression was used to evaluate what is the best predictor for Out of body experience. Enter method was applied. For the sample of 211, the results of the best model found that the Anomalous Experiences was the best predictor for OBErs and non OBErs (β=0.056; df =1; p=0.05; R^2=0.13), but only to a weak degree. The rest of the variables contributed nothing further to the prediction. Analyses of the psychological measure frequencies for (positive) emotional impact (Mean=2.44; SD=1.47) was overall non-significant. Just if Anomalous Experiences (CAPS) is excluded out the regression, Transliminality was the best predictor (β=0.11, Wald=6.83; df =1; p=0.009) with a higher β. This suggests that Transliminality may underlie the differentiation of the two groups of subjects.

Table 1 Frequency, emotional impact and explanation of people who report obe.

		Males (*n*= 52)	Females (*n*= 159)	Total
Frequency	Never	25 (48.1%)	86 (54.1%)	111 (52.6%)
	One time	5 (9.6%)	29 (18.2%)	34 (16.1%)
	Sometimes	20 (38.5%)	42 (26.4%)	62 (29.4%)
	Multiple times	2 (3.8%)	2 (1.3%)	4 (1.9%)
Emotional Impact	Mean and SD [1]	1.77 – 2.48	1.47 – 2.11	1.54 – 2.23

[1] 0 = negative or unpleasant to 7 = positive or pleasant emotional impact.

Table 2 Comparison of transliminality, boundaries and caps scores of experients and no-experients.

	Groups (1)					
	No OBE		OBE			
Variables	**Mean**	**SD**	**Mean**	**SD**	***z***	***rs***
1. Sensory Intensity	1.68	1.53	2.18	1.42	2.53**	0.16
2. Nonshared Sensory Experience	1.50	1.32	2.27	1.29	4.12***	0.28
3. Distorted Sensory Experience	0.92	1.11	1.45	1.26	3.33***	0.21
4. Sensory experience from an unexplained source	2.21	1.52	3.17	1.55	4.50***	0.29
5. Distortion of form of own body and of external world	0.44	0.74	0.94	1.05	3.83***	0.26
6. Verbal Hallucinations	0.58	0.81	0.97	0.07	3.12**	0.32
7. Sensory Flooding	0.71	0.71	0.92	0.72	2.12*	0.14
8. Thought Echo and Hearing Thoughts Out Loud	0.38	0.59	0.36	0.50	0.10	0.01
9. Temporal Lobe	1.50	1.04	2.07	1.16	3.40*	0.25
CAPS (Total)	**9.92**	**6.79**	**14.33**	**7.16**	4.41***	0.30
1. Sleep/wake/dream	13.10	7.33	14.88	8.15	1.38	0.11
2. Unusual experiences	16.60	9.00	23.00	7.59	5.50***	0.35
3. Thoughts, feelings, moods	18.42	9.79	25.08	8.62	5.11***	0.33
4. Childhood, adolescent, adulthood	9.71	3.90	11.00	3.79	2.16**	0.16
5. Interpersonal	21.87	5.02	22.17	4.34	1.42	0.03
6. Sensitivity	13.26	3.26	13.72	3.10	0.96	0.07
7. Neat, exact, precise	17.24	4.92	17.82	5.23	062	0.05
8. Edges, lines, clothing	31.40	6.34	32.83	6.83	1.43	0.10
9. Opinions about children and others	21.98	4.59	23.13	4.75	1.90	0.12
10. Opinions about organizations	21.54	3.87	20.93	5.08	0.43	0.06
11. Opinions about people, nations, groups	27.90	6.14	28.17	6.09	0.12	0.02
12 Opinions about beauty and truth	15.46	3.62	15.01	3.50	0.37	0.06
13. Paranormal experiences	8.67	5.33	13.45	5.46	5.76***	0.40
Boundaries (Total)	**237.15**	40.06	**260.91**	**40.45**	4.33***	**0.28**
Transliminality	**13.22**	4.85	**9.83**	**4.97**	4.49***	**0.32**

[1] OBE Experients n= 100, No OBE experients n= 111. * $p < .05$; ** $p < .01$; *** $p < .001$ (adjusted p). Non parametric Mann-Whittney *U*.

Table 3 Correlations between spirituality, emotional impact, transliminality, anomalous experiences, boundaries.

	boundaries				
	1	2	3	4	5
1. Spirituality	-				
2. Emotional impact (OBE)	0.11	-			
3. Transliminality	-0.19*	-0.29***	-		
4. Anomalous experiences	0.06	0.27***	-0.59***	-	
5. Boundaries	0.22**	0.31***	-0.67***	0.56***	-

DISCUSSION

The present study examined the differences between persons who do and do not report out of body experiences on anomalous experiences, transliminality and boundaries measures. The main analyses confirmed the three hypotheses. The results showed a higher level of anomalous experiences, transliminality and "thinner" boundaries than in non-experients. Much recent research should be considered in relation to other variables in order to ascertain the way in which boundaries are thin and that moderating factors on boundary thinness should be considered in terms of better understanding their relationship with out of body experiences and other exceptional experiences.

People who reported OBE experienced higher on sensory experience from an unexplained source (e.g. strange feelings in the body, distorted sounds or unusual ways), nonshared sensory experience (e.g. see things that other people cannot), Distortion of form of own body and of external world (e.g. the sensation that your limbs might not be your own or might not be properly connected to your body), Distorted Sensory Experience (e.g. unusual burning sensations or other strange feelings in or on your body?), temporal lobe experiences (e.g. time changes, the feeling or being uplifted), verbal hallucinations (e.g. voices saying words or sentences), and sensory flooding (e.g. difficult to distinguish one sensation from another).

The results suggest that persons who report OBEs are likely to have significantly higher on schizotypy and synesthesia than non-experients[11,3]. The neuropsychology of OBE reports should also receive attention. One possibly fruitful line of research to follow is that of Persinger[25], who has explored the relationship between temporal lobe signs and claims of psychic phenomena. Sensory intensity (sounds are much louder than they normally would be), nonshared sensory experiences (e.g. hear voices, smells or odors, and see things that other people cannot) also scored higher in out of body experients.

Transliminality variable reflects the tendency for psychological material to cross thresholds into or out of consciousness[29, p. 861]. The transliminal construct is comprised of absorption, fantasy proneness, magical ideation, paranormal belief, mystical experience, hyperaesthesia, (a "hypersensitivity" to environmental stimulation[30, p. 403]). Those whose subliminal consciousness is "in ferment" are likely to experience sensory images faster and more intensely than other people. People who reported to had out of body experiences

scored higher on Unusual experiences (e.g. déjà vu experiences), Thoughts, feelings, moods (e.g. "I don't know whether I am thinking or feeling"), Childhood feelings, and other paranormal experiences. Transliminality, Anomalous experiences, Boundaries, and also Spirituality and Emotional impact also highly intercorrelated, for example, people who have thinner boundaries tend to be more spiritual, transliminal. Other studies confirmed that: Transliminality correlates positively with boundary thinness[34], schizotypy[30, 43] and temporal lobe lability[44]. In addition, Simmonds-Moore[45] found common variance between schizotypy, transliminality, Hartmann's boundary questionnaire and temporal lobe lability.

There is empirical support for the role of synesthesia in the etiology of the OBE[46], apparitional experiences[47] and the perception of auras[48]. In general, there is evidence that thinner systems are more prone toward experiencing unusual phenomena, such as OBE, and that some forms of boundary thinness are more associated with specific forms anomalous experiences. The fact of OBE experients showed higher anomalous experiences, transliminality and "thinner" boundaires is also in conceptual agreement with studies that have found that measures of fantasy-proneness seem to be successful predictors of psychic phenomena[7,21]. The regression used to discriminate between experients and non-experients showed that transliminality may underlie the differentiation of the two groups. For example, Thalbourne[31] suggested that hypnosis researchers should examine the correlation between transliminality and hypnotisability, expecting it to be positive and significant. Healy[49] discussed OBE phenomena as an experient's sensitivity due to permeable ego boundaries. This sensitivity, may be related to some physiological differences in perceptual processing may also underly it.

Some studies also suggest that OBE would be related to cognitive processes involving visual and tactile hallucination and fantasy prone[23,21,4,50]. For these reasons, I argue that OBE reports are part of human experience and as such deserve and require study in and of themselves, with and without efforts to relate the out of body experiences to possible paranormal components. Irwin[51, p. 10] says that "human experience includes a wide range of different dimensions and there are many more aspects of anomalous experiences to be studied other than ostensible paranormality." This is associated with a collection of experiences occurring internally; i.e., not perceived in a person's external reality.

I might draw from knowledge contributed from all of these (and other) approaches in further understanding the full range of human experiences. More work is needed in understanding how and why such experiences are experienced differently, for example, what factors cause the experience of another personality as opposed to another self and which factors cause the experience of another personality as present inside the body as opposed to externally, as an colour lights surrounding the body.

CONFLICT OF INTERESTS

The Author has no conflicts of interest to declare.

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Peer reviewers: Ryuichi Morishita, 2-2 Yamada-oka,Suita City, Osaka, 565-0871, Japan; Chunlei Shan, Rehabilitation Medicine Department of Jiangsu Province Hospital, Guangzhou Road 300, Nanjing, 210029, China.