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FANTASY PRONENESS, PARANORMAL BELIEFS AND PERSONALITY FEATURES IN OUT-OF-BODY EXPERIENCES

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Abstract

This study investigated the relationship between reported out-of-body experiences, certain psychological variables and personality characteristics. One hundred and sixty-seven participants completed a series of questionnaires to investigate differences amongst those participants reporting out-of-body experiences and those who were classified as believers or non-believers on: fantasy proneness, paranormal beliefs, psychological absorption, psychological association, somatoform dissociation, certain personality characteristics and OBE experience sensations. The findings revealed that experients were more fantasy prone, higher in their belief in the paranormal and displayed greater somatoform dissociation. Psychological absorption and dissociation were higher for believers than for either experients or non-believers and in relation to experients, fantasy proneness, paranormal beliefs and the personality dimensions of institution and feeling were significantly related, as were psychological absorption, psychological dissociation and somatoform dissociation.

Key words: absorption, fantasy proneness, OBEs, paranormal beliefs, somatoform dissociation

Introduction

Out-of-body experiences (OBEs) have been noted throughout history. Remote evidences appear in Ancient Egypt, ancient Greece and the Bible (Alegretti and Trivellato, 1998). Current out-of-body experience studies appear to have commenced in earnest in the late 1970s. Whilst many studies have been conducted on the personality variables of those individuals experiencing OBEs, no consistent patterns between personality variables and the experients of an OBE have been found (Alvarado, 2000). This study investigates the significance of the variables of fantasy proneness, paranormal beliefs, and the personality dimensions of 'feeling', 'intuition' and 'perceiving', as well as absorption and dissociation, with respect to the OBE population.

Variables of interest in this study

Fantasy proneness

Although there are many variables and a variety of theoretical assumptions suggested to be related to OBEs, Stanford's (1987) developmental perspective on fantasy proneness

indicated that playing with imaginary playmates, and reading or being read to as a child were shown to be related to OBEs. The underlying assumption here is that, from a cognitive developmental perspective (prior to age 12) reading is more likely to evoke imaginative involvement and emotional absorption, therefore, the more likely the individual would be to have the capacity for the imagination and absorption required for an OBE (Stanford, 1987). Irwin (1992, 1996), in contrast, found that traumatic experiences such as sexual abuse, assault and isolation were significantly related to OBEs.

Prior to their construction of the Inventory of Childhood Memories and Imaginings (Wilson and Barber, 1983a), Barber and Wilson noted that, as children, fantasy prone adults lived in an isolated make-believe world more of the time, and that a solution to the loneliness was through imaginal social contacts such as imaginary playmates. They concluded that the fantasy prone personality exhibited a distinctive collection of personality traits and experiences, for instance, a vast and intense involvement in fantasy originating in childhood, psychic and out-of-body experiences, and the ability to vividly hallucinate and fully experience objects, hypnotic susceptibility, seeing apparitions and psychic healing.

Paranormal beliefs

In 1983, Tobacyk and Milford designed the Paranormal Belief Scale (PBS), incorporating the seven subscales of traditional religious beliefs, spiritualism, superstition, witchcraft, psi, precognition, and extraordinary life forms. A study of Tobacyk and Mitchell (1987) on the OBE demonstrated that people who reported experiencing an OBE showed greater belief in spiritualism, psi, witchcraft and precognition, than those who reported being non-experients, with the greatest preference for out-of-body experients being spiritualism.

Furthermore, Thalbourne and Delin (1994) showed that paranormal belief is related to measures of mystical experience, which is characterized by a profound sense of peace, often a characteristic also reported by many out-of-body experients. To some degree mystical experience, and therefore fantasy proneness, is suggested by Tellegen and Atkinson (1974) to be related to absorption. In McCreery and Claridge's (2002) study, OBE experiences evidenced aberrant perceptions and beliefs.

Absorption

The Tellegen Absorption Scale (TAS) was primarily designed as a measure of hypnotic susceptibility on personality dimensions. Tellegen and Atkinson (1974) defined psychological absorption as 'a "total" attention, involving a full commitment of available perceptual, motoric, imaginative and ideational resources to a unified representation of the attentional object' (p. 274). This type of attentional process is suggested to be inherent of a heightened sense of the reality of the attentional object (i.e. even when the object is constructed from memory it is experienced as real), resistant to normally distracting events (i.e. the individual is oblivious to external events that would normally attract their attention), and to have an altered sense of reality in general, and of the self in particular (i.e. attention is highly 'centered'; Tellegen and Atkinson, 1974).

Studies by Irwin (1980, 1981a, 1981b, 1985, 2000) demonstrated that out-of-body experients have a greater capacity of absorption than non-experients. He also suggests that experients with a high capacity of absorption are more inclined to report somatosensory sensations in relation to OBE.

Dissociation

According to Bernstein and Putnam (1986), 'dissociation is a lack of the normal integration of thoughts, feelings, and experiences into the stream of consciousness and

memory ... and occurs to some degree in normal individuals' (p. 727). Waller, Putnam and Carlson (1996) identified two types of dissociation, the first being pathological, the second being a continuum type non-pathological dissociation. Lynn and Rhue (1988) suggest that both constructs may be indistinguishable. Irwin (1999) would appear to agree with this view, as he suggested that there is evidence of OBEs to be correlated with pathological dissociation such as depersonalization and non-pathological dissociation such as absorption. Richards (1991) also reported significant positive correlations between the DES and the prevalence of spontaneous and voluntary OBEs. More recently, Meyerson and Gelkopf (2004) observed that OBEs tended to appear in dissociative and highly suggestible subjects.

Utilizing Waller et al.'s DES-T index of pathological dissociation, Alvarado and Zingrone (1997) found this to be a better discriminator of experients and non-experients. It has already been suggested that there is a relationship between fantasy proneness and absorption; it would now appear that there is a relationship between absorption and dissociation, and by implication, fantasy proneness.

Research was also undertaken by Nijenhius et al. (1996) on the relationship between dissociation and somatoform dissociation, and the findings suggested that somatoform dissociation correlated more strongly with pathological dissociation than with non-pathological absorption (e.g. absorption).

The results of a study by Irwin (2000) using the DES and SDQ-20 to assess the relation between dissociative tendencies and OBEs, demonstrated that after splitting the DES into its pathological and non-pathological components, somatoform dissociation was shown to be the only significant predictor of OBEs.

Personality features

Several studies have investigated personality variables of those claiming to have experienced an OBE. Irwin (1981a), for example, used the Edwards Personal Preference Scale in obtaining the result that out-of-body experients were high on intraception, suggesting that OBEers are more inclined to be concerned with their mental processes and therefore more open to OBEs, and that they regard personal achievement, recognition, and success as relatively unimportant. Myers, Austrin, Grisso and Nickeson (1983) used a compendium of scales to assess relationships personality variables for OBE and non-OBE participants: The Jackson Personality Inventory produced results indicating that OBEers have a broader range of interests than non-experients, while the TAS showed that experients had a greater capacity for absorption, and the ICMI correlated significantly with those reporting to have experienced an OBE. Irwin (1985) found the Eysenck Personal Inventory scales of extraversion and neuroticism did not differentiate experients from non-experients. Studies by Gow and colleagues (Robertson and Gow, 1999; Gow, Lurie, Choppin, Popper, Powell and Basterfield, 2001) found that the MBTI personality features of 'intuition' and 'feeling' are positively associated with anomalous experiences such as UFO experiences and past-life experiences. Both intuition and feeling were shown to have a relationship with fantasy proneness and paranormal beliefs, with the most significant correlation being between the 'feeling' feature and PBS subscales of psi, spiritualism, witchcraft, and precognition in the 2001 study. However, this was not matched in their near-death experiences investigation (Gow, Lane and Chant, 2003).

Myers and McCaulley (1985) assert that intuitive types seek the farthest reaches of the possible and imaginative, are future orientated, and believe in their inspirational convictions more than sensing types, who seek the fullest possible experience of what is immediate and real.

Hypotheses

Based on the previous research on personality variables and dissociation, it is hypothesized that:

1 Based on the studies on anomalous experiences, (Irwin, 1990; Roberston and Gow, 1999; Gow et al., 2001, 2003), out-of-body experients will be significantly more fantasy prone than believers and non-believers, and score higher on paranormal beliefs.
2 Based on findings by Irwin (1981b), out-of-body experients will score higher than believers or non-believers on absorption.
3 Based on Irwin's (1993, 2000) research, out-of-body experients will score higher on psychological dissociation and somatoform dissociation than those who have not experienced an OBE.
4 Based on Gow et al.'s (2001, 2003) findings, out-of-body experients will score higher on the Myers-Briggs Type Indicator personality dimensions of intuition (N) and feeling (F).
5 Based on prior research for OBEs there will be high correlations between fantasy proneness, paranormal, intuition (N), feeling (F) (see Irwin 1990; Roberston and Gow, 1999; Gow et al., 2001) and between absorption, dissociation, and fantasy proneness (see Irwin 1981a, 1981b, 1993, 2000).

Method

Design
This study utilized a between-groups design. Participants were assigned to three groups based on the self-report responses to OBE belief/experience questions. The three groups: non-believers (controls); believers; and experients, were assessed on seven variables, including two personality types: fantasy proneness, paranormal beliefs, psychological absorption, psychological dissociation, somatosensory dissociation, intuition and feeling (the two personality types).

Participants
A total of 167 participants, 56 males, and 109 females (2 unspecified) were obtained from first year psychology students (50) and the general population (117).

Materials
The survey booklet was divided into two sections. Section one contained the consent form and information. The second section consisted of an instruction sheet, biographical data, OBE belief/experience questionnaire, Features of Out-of-Body Experiences sheet, Inventory of Childhood Memories and Imaginings (ICMI; Wilson and Barber, 1983a, 1983b), Paranormal Beliefs Scale (PBS; Tobacyk and Milford, 1983), Tellegen Absorption Scale (TAS; Tellegen and Atkinson, 1974), Dissociation Experiences Scale (DES; Bernstein and Putnam, 1986), Somatoform Dissociation Questionnaire (SQD-20; Nijenhuis et al., 1996) and Myers-Briggs Type Indicator (MBTI; Myers, 1962). The OBE belief/experience questionnaire and the list of 'Features of Out-of-Body Experiences' (Irwin, 1990) were presented first in all survey booklets. Questionnaires were then compiled using a quasi Latin Square design to help control for sequencing effects.

Biographical data

Participants were asked to complete the background details sheet comprising: sex, age, highest education level completed, occupation, country of origin, country of nationality, current religious/psychological beliefs, religious/philosophical beliefs, and religious/philosophical affiliation they were raised in.

OBE group assignment

To assist with group assignment, based on the provided definition of an OBE, participants were asked to indicate their positive or negative preference to questions.

OBE descriptives

Participants who answered positive to having experienced an OBE were invited to describe what pre-empted the experience and whether the OBE was experienced under a threatening or non-threatening situation.

Sensations checklist

Experients were also encouraged to complete a sensations checklist which tapped their sense of being awake, sense of dreaming, sense of body separation, seeing their physical body and/or surroundings from above, feelings of anxiety and feelings of peace.

OBE features checklist

This is a questionnaire designed by Irwin (1985) that consisted of 14 self-report items designed to measure frequency of OBEs and other sensations associated with OBEs.

Fantasy proneness

The 52-item, true-false self-report measure of the Inventory of Childhood Memories and Imaginings (ICMI; Wilson and Barber, 1983a) was utilized to measure participants' proneness to fantasy. The ICMI is designed to test the extent to which adult functioning is affected by childhood imaginational experiences.

Paranormal beliefs

Scores on the 25-item self-report Paranormal Beliefs Scale (PBS; Tobacyk and Milford, 1983) reflected beliefs in the paranormal. Items encompass the seven subscales: traditional religious beliefs, psi belief, witchcraft, superstition, spiritualism, extraordinary life forms and precognition.

Absorption

Absorption is attentional functioning that 'results in a heightened sense of the reality of the attentional object, imperviousness to distracting events, and an altered sense of reality in general, including empathetically altered sense of self' (Tellegen and Atkinson, 1974: 268). The Tellegen Absorption Scale (TAS; Tellegen and Atkinson, 1974) was employed as a measure of psychological absorption. The TAS is a 15-item self-report true/false trait related questionnaire that assesses openness to absorbing and self-altering experiences. It incorporates factors such as reality absorption, fantasy absorption and dissociation as measures of absorption related to hypnotic susceptibility (Tellegen and Atkinson, 1974) which has been shown to be highly related to OBEs (Irwin, 1999; Alvarado, 2000).

Dissociation

The Dissociative Experiences Scale (DES; Bernstein and Putnam, 1986) was used as a measure of dissociation. The DES is a 28-item continuum scale self report measure. Responses to each item are rated on percentage of occurrence from 0% to 100%.

Somatoform dissociation

The Somatoform Dissociation Questionnaire (SDQ-20) is a 20-item self-respect questionnaire measuring somatoform dissociation. The items are rated on a 5-point Likert-type scale. An abbreviated scoring system of true/false was used with the SDQ-20 questions to ascertain whether somatoform dissociation is related to out-of-body experiences.

Personality type

Form G of the Myers-Briggs Type Indicator (MBTI; Myers, 1962) was used as a measure of personality dimensions. The MBTI is a self-report 32-item questionnaire assessing the independent personality dimensions of introversion/extroversion, sensation/intuition, thinking/feeling and judging/perceiving, and is based on Jung's personality types.

Procedure

Participants were recruited via door knocking. They were given a survey booklet and advised that the questionnaire would be collected in one week, or at a more convenient time. Phone numbers were supplied on the information sheet to assist with any possible queries. The undergraduate students were recruited via the university notice board. Survey booklets were distributed prior to class and returned to the psychology department in supplied envelopes within one week of distribution.

Results

Biographical data

Analysis of the biographical data showed that there were significant differences across all three groups for gender X2 = 17.84, $p < 0.0001$; age X2 = 15.7, $p < 0.05$; and current religious beliefs X2 = 33.47, $p < 0.05$. In terms of gender, 58% of non-believers, 22% of believers and 27% of the experients group were male. With respect to age, males over 45 made up 39% of the non-believers total, 18% of the believers group and 29% of the experients group. Thus the non-believers group had more males in it and this may explain some of the significant differences between this group and the other groups. However, the additional effect of the older male does not appear to be a factor that might influence the results.

Analysis of current religious beliefs reported that 64% of the cells have expected counts less than 5, therefore Chi-square may not have been a valid test in this instance. Analysis also showed that the non-believer group (control) contained all those who stated they were atheists, and that atheists were 12.24% of the total current religious beliefs for non-believers, only surpassed by Catholics (14.29%), Christians (14.29%) and those with no current religious or philosophical beliefs (40.82%). For current spiritual/mystical religious beliefs or philosophies, non-believers recorded only 2.04%, believers 19.35%, and experients 26.53%.

There were no significant differences between the three groups on categories of education level, occupation, country of origin, country of nationality, or previous religious beliefs or philosophies.

Differences between experients, believers and non-believers on the measures

The seven variables were assessed across the three groups: non-believers, believers and experients. A summary of the group means and standard deviations across the three groups is provided in Table 1 for the total Inventory of Childhood Memories and Imaginings scores (ICMI), total paranormal beliefs scores (PNB), total absorption scores (TAS), total dissociative experiences scores (DES), total somatoform dissociation scores (SDQ-20) and Myers-Briggs Type Indicator scores on personality characteristics of 'intuition' and 'feeling'.

Fantasy proneness

Using Tukey's HSD (honestly significantly different) test, positive responses to fantasy proneness on the ICMI showed positive significant differences ($F(2164) = 18.06$, $p < 0.0001$) between experients and non-believers, and believers and non-believers (see Table 1). These results were indicative of high fantasy proneness for experients and believers, with non-believers rating low in comparison.

Paranormal beliefs

On the PBS, there was a significant difference for paranormal beliefs across the three groups. Tukey's HSD showed that there were significant differences between experients and non-believers, and between believers and non-believers for total PBS ($F(2164) = 29.85$, $p < 0.0001$). This identified both experients and believers as scoring high on paranormal beliefs, whereas non-believers scored relatively low.

Table 1. Means and standard deviations for the three groups on seven variables and Myers-Briggs personality inventory 'intuition' and 'feeling' dimensions (N = 167)

Scale	Group 1 (non-believers)		Group 2 (believers)		Group 3 (experients)	
	M	SD	M	SD	M	SD
ICMI	17.09	7.44	25.14	8.39	26.82	10.49
PBS	62.78	16.53	81.03	13.91	82.33	13.08
TAS	6.64	2.53	8.51	2.35	7.67	2.22
DES	224.47	240.43	421.71	373.98	404.59	369.39
SDQ	1.66	2.66	2.65	3.20	3.77	3.90
MBTI(N)	33.73	12.17	40.42	10.57	41.86	14.45
MBTI(F)	36.63	12.03	44.81	10.84	45.80	12.33

Note: ICMI = Inventory of Childhood Memories and Imaginings; PBS = total paranormal belief score; TAS = total absorption score; DES = Total Dissociation Experiences; SDQ = total somatoform dissociation; MBTI (N) = Myers-Briggs 'intuition' dimension; MBTI (F) = Myers-Briggs 'feeling' dimension.

Absorption

As shown by Tukey's HSD, there was a positive significant difference ($F(2,163) = 8.78$, $p < 0.0005$) for absorption on the TAS, between believers and non-believers. The results for absorption indicated that there was no significant difference between experients and non-believers but that the difference between believers and non-believers was significantly different. In other words, believers showed a higher capacity for absorbing experiences than either experients or non-believers.

Dissociation

Responses to dissociative experiences on the DES produced positive significant differences ($F(2,164) = 4.51$, $p < 0.05$) between believers and non-believers and between experients and non-believers as shown by Tukey's HSD. These results indicated that believers scored highest on dissociation and differed significantly from non-believers. Experients and believers were shown not to differ significantly from each other on this variable.

Somatoform dissociation

Positive significant differences on Tukey's HSD were shown between experients and non-believers ($F(2,164) = 4.51$, $p < 0.01$) for somatoform responses on the SDQ-20. These results showed that experients reported significantly more somatoform dissociative features than the non-believers, but that there was no significant difference between experients and believers.

Personality characteristics

Tukey's HSD showed positive significant differences to responses on the MBTI between experients and believers on the personality characteristic of intuition ($F(2,160) = 6.26$, $p < 0.005$), and also between experients and believers on the personality characteristic of feeling ($F(2,160 = 9.35$, $p < 0.0001$). These results indicated that for both the intuition and feeling characteristics of the MBTI, experients were not significantly different from believers, but that both groups scored significantly higher than non-believers

Results for the OBE (experients) group

OBE scales

The Features of Out-of-Body checklist was designed specifically for those experiencing an OBE, so as to ascertain frequency of OBEs and other sensations associated with OBEs. Results showed that most experients had only one out-of-body experience (35.29%) but 9.8% had ten or more OBEs. Of the 51 experients, 9 reported ability to induce an OBE at will, 20 reported being unable to move their body prior to the OBE, and 16 reported somatoform sensations when leaving their body. There were 45.1% who reported seeing their physical body while being out of their body, 25.5% whose disembodied self had another form, 60.8% whose disembodied self remain in the vicinity of their physical body, and 31.4% who experienced unusual perceptual abilities such as seeing through walls. Results also showed that 20 experients were able to manipulate their environment during an OBE, only 9 found themselves in another realm of existence during the OBE, and 14 were aware of somatoform sensations when returning to their body.

Results for the two questions assessing whether the OBE occurred under life threatening or non-life threatening circumstances (and some participants indicated more than

one OBE) were as follows: the endorsement for OBEs that had occurred under life-threatening circumstances was 33.33%, whereas the endorsement for OBEs that had occurred under non-life threatening circumstances was 80.39%.

Qualitative biographical data

Six questions of sensations often reported by experients as part of the out-of-body experience were designed to produce insight into the frequency of occurrence of these sensations. Table 2 provides the frequencies for sensations often reported by experients as part of the OBE.

Participants were given the opportunity to describe the sensations they had felt as part of their out-of-body experience. Table 3 provides both self-descriptions and frequencies of some other sensations these participants felt during their OBE.

As can be seen from Table 3, there was a broad range of sensations reported by participants in this study. While some of the sensations such as perfect peace, sense of well-being and happiness and freedom appeared pleasurable, sensations for some of the participants such as flashbacks/fear, emotional/upset, and loss of direction were upsetting. The highest endorsement was on feelings of peace.

Table 4 is provided as an insight into some of the subjective descriptions of circumstances leading to the out-of-body experience, as well as a record of the frequency (over 1%) of the reported pre-experience descriptions.

As Table 4 demonstrates, the highest endorsement of circumstances leading to an OBE was meditation. Trauma (high cortical arousal) and various forms of relaxation (low cortical arousal) account for the majority of pre-OBE circumstances.

OBE group correlations

Table 5 provides correlations between the seven variables for the OBE group. The analysis was run using total PNB, ICMI, TAS, SDQ-20, and DES scores, as well as MBTI scores on personality characteristics of 'intuition' (MBN) and 'feeling' (MBF).

Summary of measures correlations for OBE (experients) group

The results of correlations for the OBE group between the seven measures demonstrated that fantasy proneness was significantly correlated with dissociation ($r(51) = 0.72$, $p < 0.0001$) absorption ($r(51) = 0.53$, $p < 0.0001$) and intuition ($r(51) = 0.53$, $p < 0.0001$). This implied that for experients, psychological dissociation was linked with fantasy proneness, with the ability for absorbing activities and also with the personality trait of intuition. Fantasy proneness was also highly significantly correlated with paranormal beliefs ($r(51) = 0.46$, $p < 0.001$), indicating that experients' beliefs in the

Table 2. Frequencies of sensations felt as part of the out-of-body experience (n = 51)

Sensation	Frequency	Percentage
Sense of being awake	26	50.98
Sense of dreaming	20	39.22
Sense of body separation	29	56.86
See physical body from above	16	31.37
Anxiety	16	31.37
Feeling of peace	31	60.78

Table 3. Other sensations felt during out-of-body experiences (n = 32)

Sensation	Frequency	Percentage	Sensation	Frequency	Percentage
Perfect peace	3	5.88	Insight of sense of fear	1	1.96
Flying	2	3.92	Weightlessness but solid	1	1.96
Floating	2	3.92	Levitating	1	1.96
Increased somatosensory	2	3.92	Sent back	1	1.96
Felt return to body	1	1.96	Paralysed body	1	1.96
Flashbacks/fear	1	1.96	Tingling, floating	1	1.96
Weightlessness and floating	1	1.96	Surrounds larger than life	1	1.96
White light and floating	1	1.96	Reality, light, focused	1	1.96
Sense of well-being	1	1.96	Dead weight, relaxed	1	1.96
Happiness and freedom	1	1.96	Absence of pain where should have been pain	1	1.96
Emotional/upset	1	1.96	Seeing physical body from side or front	1	1.96
Able to exit if uncomfortable	1	1.96	Tingles, waves and feel too big for body	1	1.96
Loss of direction	1	1.96	Excitement	1	1.96
Being of another world	1	1.96			

Table 4. Description and frequency of circumstance leading to out-of-body experience (n = 43)

Sensation	Frequency	Percentage	Sensation	Frequency	Percentage
Perfect peace	3	5.88	Insight of sense of fear	1	1.96
Flying	2	3.92	Weightlessness but solid	1	1.96
Floating	2	3.92	Levitating	1	1.96
Increased somatosensory	2	3.92	Sent back	1	1.96
Felt return to body	1	1.96	Paralysed body	1	1.96
Flashbacks/fear	1	1.96	Tingling, floating	1	1.96
Weightlessness and floating	1	1.96	Surrounds larger than life	1	1.96
White light and floating	1	1.96	Reality, light, focused	1	1.96
Sense of well-being	1	1.96	Dead weight, relaxed	1	1.96
Happiness and freedom	1	1.96	Absence of pain where should have been pain	1	1.96
Emotional/upset	1	1.96	Seeing physical body from side or front	1	1.96
Able to exit if uncomfortable	1	1.96	Tingles, waves and feel too big for body	1	1.96
Loss of direction	1	1.96	Excitement	1	1.96
Being of another world	1	1.96			

Table 5. Pearson correlations for OBE (experients) group on total ICMI, PNB, TAS, DES, SDQ-20 Scores and MBTI 'intuition' and 'feeling' scores (n = 51)

	ICMI	PBS	TAS	DES	SDQ	MBN	MBF
ICMI	1.0000						
PBS	0.46****	1.0000					
TAS	0.53*****	0.29*	1.0000				
DES	0.72*****	0.24	0.55*****	1.0000			
SDQ	0.41***	-0.03	0.39***	0.41***	1.0000		
MBN	0.53*****	0.53*****	0.22	0.29*	0.07	1.0000	
MBF	0.40***	0.40***	0.12	0.17	0.17	0.83*****	1.0000

Note: MBN = Myers-Briggs 'intuition' dimension; MBF = Myers-Briggs 'feeling' dimension; PBS = total paranormal belief score; ICMI = Inventory of Childhood Memories and Imaginings; TAS = total absorption score; SDQ = total somatoform dissociation; DES = total dissociation experiences score.
*$p < 0.05$, **$p < 0.01$, ***$p < 0.005$, ****$p < 0.001$, *****$p < 0.0001$.

paranormal were highly associated with proneness to fantasy. Moderately high correlations with somatoform dissociation ($r(51) = 0.41$, $p < 0.005$) and MB(F) feeling ($r(51) = 0.40$, $p < 0.005$) were also demonstrated. These results indicate that the feeling trait had a lesser association with fantasy proneness, and that fantasy proneness was moderately related to somatoform dissociation.

Paranormal beliefs showed a very high positive correlation with intuition ($r(51) = 0.53$, $p < 0.0001$), and a high relationship with feeling ($r(51) = 0.40$, $p < 0.001$). This result is indicative of intuition and feeling characteristics being inter-related with beliefs in the paranormal for the OBE group, with intuition having a stronger relationship than feeling. Absorption ($r(51) = 0.29$, $p < 0.05$), was also demonstrated to be related to paranormal beliefs, albeit weakly, which implied that the ability for absorbing activities for experients was not very highly associated with paranormal beliefs.

Absorption also was shown to be very significantly related to dissociation ($r(51) = 0.55$, $p < 0.0001$). This demonstrated that non-pathological and psychological dissociation were strongly related for the experients. Somatoform dissociation produced a mid-range significant positive correlation with absorption ($r(51) = 0.39$, $p < 0.005$), indicating that for experients, absorption had only a moderate association with somatoform dissociation.

For dissociation, as well as the results being previously reported as having a highly significant relationship with fantasy proneness and absorption for experients, they were also moderately significant for somatoform dissociation ($r(51) = 0.41$, $p < 0.005$). This suggested that for the experients, psychological dissociation had only a moderate relationship with somatoform dissociation.

The correlation between the personality traits of intuition and feeling was highly positively significant ($r(51) = 0.83$, $p < 0.0001$). This indicated that these traits were very highly correlated for the experients.

Discussion

The purpose of this study was to contribute to our understanding of OBEs by determining the significant differences on paranormal beliefs, personality characteristics, fantasy proneness, absorption, somatoform dissociation and dissociation amongst those participants reporting out-of-body experiences and those participants who were classified as believers or non-believers. This study confirmed that there were significant differences between the three groups on all variables of interest in this study. The OBE group had a greater tendency toward fantasy proneness and paranormal beliefs, and a greater inclination toward personality characteristics of intuition and feeling on the MBTI. Experients also demonstrated a higher propensity toward somatoform dissociation. Contrary to expectation, experients did not rate the highest on absorption or dissociation. The results also provided some evidence that among the OBE group there were associations between the variables of interest: fantasy proneness, paranormal beliefs, psychological absorption, psychological dissociation, somatoform dissociation, and the personality traits of intuition and feeling.

Findings in relation to the hypotheses

The first hypothesis, stating that experients would be significantly more fantasy prone than believers and non-believers, was partially confirmed. While results showed that experients were more highly fantasy prone than other groups, there was no significant difference between experients and believers. The second part of this hypothesis was confirmed. While experients did record higher scores on total paranormal beliefs that were significantly different from non-believers, they were higher than those of believers, but not significantly different from believers.

Hypothesis two was not substantiated. Previous studies suggested that experients would score higher than believers and non-believers on absorption. The results showed that in this study, the believers scored highest on the measures of absorption.

The third hypothesis stated that experients would score higher on somatoform dissociation and dissociative experiences. This hypothesis was partly confirmed. Experients scored higher on somatoform dissociation, but believers scored higher on dissociative experiences, although there was no significant difference between experients and believers.

Hypothesis four was confirmed to some extent, supporting previous studies, in that the results showed that experients scored higher than believers and non-believers on both MBTI characteristics of intuition and feeling. However, experients' scores were not significantly higher than those of believers.

Hypothesis five was supported. There were moderately high to very high correlations between fantasy proneness, paranormal beliefs, and the personality characteristics of intuition and feeling. The correlations between absorption, fantasy proneness, somatoform dissociation, and dissociative experiences were also moderately highly to very highly correlated.

Examination of the findings

Explanations of the findings of this study will now be discussed. This will entail a brief discussion of the quantitative and qualitative biographical data and a review of each of the variables (fantasy proneness, paranormal beliefs, absorption, somatoform dissociation and dissociative experiences, and personality traits of intuition and feeling on the MBTI).

Additionally, discussion on the variables' interrelatedness with the OBE population will follow.

Biographical data

The Features of Out-of-Body Experience checklist showed that for spontaneous OBEs, the majority of experients had only one, but that almost 10% claim to have had ten or more OBEs. Of the 51 experients, nine reported ability to induce an OBE at will. There were 16 reports of somatoform sensations when leaving their body and 14 experients who were aware of somatoform sensations when returning to their body. Almost half of the experients reported seeing their physical body while being out of their body. These results are consistent with other findings (for example, Irwin, 2000) that state that the OBE is related to psychological dissociation, absorption and somatic sensations, and that both dissociation and somatoform dissociation have been found to be correlated with out-of-body experiences. These results also support Irwin's cross-modal and dissociational theories of OBEs.

The highest endorsement of circumstances leading to an OBE was meditation. OBEs were reported occurring under both life-threatening and non life-threatening circumstances. This is consistent with physiological theories of biological homeostasis (see for example, Honegger, 1979, cited in Irwin, 1999), and with Irwin (1985), who maintains that conditions of either extreme high or low levels of arousal in those who have the propensity for absorbing experiences may result in an OBE.

Results also showed that there was a significant difference on gender for the experiencer group due to the large proportion of females. This is consistent with Irwin's (1999) view that more females than males report experiencing OBEs.

Results of participant's subjective descriptions of the sensations felt during the OBE, showed a broad range of sensations. While some of the sensations such as perfect peace, sense of well-being and happiness and freedom appeared pleasurable, sensations for some of the participants such as flashbacks/fear, emotional/upset and loss of direction were upsetting. The reporting of the two seemingly opposing ends of a continuum may have been due to the circumstances under which the OBE occurred, for example non life-threatening or life-threatening, and thus, extreme high or low levels of arousal, suggesting that these results support Irwin (1985) and Honegger (1979, cited in Irwin, 1999).

Fantasy proneness

Fantasy proneness has been shown to be consistently and positively related to the OBE (Myers et al., 1983; Wilson and Barber, 1983b); Twemlow, 1989; Irwin, 1990). The present study demonstrated that out-of-body experients and believers are significantly more fantasy prone than non-believers. This result is consistent with results of previous studies by Gow et al. (2001) and Robertson and Gow (1999), which showed significant differences between past life non-believers, believers, and experients of anomalous experiences, indicating that experients have a greater tendency toward fantasy than the other groups.

For the OBE population, fantasy proneness was shown to have the highest correlations with dissociation, and absorption. The implications of these results, is that fantasy proneness appears to be one of several factors influencing paranormal experiences such as out-of-body experiences, and does not imply a causal relationship. This merely suggests that those who believe in, or experience, out-of-body phenomena have a greater capacity to absorb themselves in fantasy activities, and does not necessarily imply that although a person is considered fantasy prone that their experiences are imagined.

Paranormal beliefs

The results of this study were consistent with the notion that experients would score higher on paranormal beliefs than non-believers. Experients and believers, however, did not differ significantly from one another. Gender may have been a confounding element in this result. Beliefs in the paranormal have been shown to be stronger among females than among males (Irwin, 1999). Both experients and believers in this study were predominantly female (72.6% and 78.1% respectively) in comparison to non-believers that were predominantly male (58%). Educational attainment and occupation on the other hand, were shown to have no bearing on results, as experients came from all educational levels and across broad areas of occupations. Paranormal belief also correlated moderately high with fantasy proneness. One interpretation for this, suggested by Irwin (1990, p. 656), is that 'fantasy proneness may facilitate paranormal belief and paranormal belief may in turn be conducive to parapsychological experience'.

Absorption

A strong relationship between absorption, dissociation, somatoform dissociation and fantasy proneness, with a minimal relationship between absorption and paranormal beliefs, was confirmed by this study. These results are not surprising, given that fantasy proneness and absorption are both dissociative phenomena, and absorption, like dissociation, is an attentional aspect of the OBE, and viewed as an individual's disposition for experiencing episodes of absolute attention that completely engage representational resources (i.e. perceptual, enactive, imaginative and ideational) (see e.g., Tellegen and Atkinson, 1974). The nature of the OBE suggests that experients may have a high capacity for resisting distraction. Somatic sensations have also been demonstrated to be related to experients' high absorption capacity, and these results, as well as the subjective descriptions proffered by this study's participants, lend credence to this view. The results of this study also substantiate studies by Irwin (1980, 1981b, 1985) that found a considerable inclination of experients over non-experients in the capacity for having absorbing experiences.

Dissociation

A strong relationship was shown to exist between dissociation, fantasy proneness and absorption. Explanations for this have already been hinted at previously, for example, findings that consistently support the view that the OBE is related to dissociative phenomena, with fantasy proneness and absorption both being dissociative phenomena. Richards (1991) for example, reported significant positive correlations between the Dissociative Experiences Scale (DES) and prevalence of spontaneous and voluntary OBEs.

Theoretical views of the OBE are pointed toward fantasy proneness being a factor strongly related to absorption capacity, and this, combined with the DES measuring pathological and non-pathological (absorption) dissociation in this study, have produced similar results.

Somatoform dissociation

The result of this study was consistent with the view that investigation of the relation between the OBE and dissociative tendencies should take account of somatoform dissociation in addition to both pathological dissociation (DES) and non-pathological dissociation (TAS) (Irwin, 2000). As expected, for the experients, somatoform dissociation displayed a moderate positive relationship with both absorption and dissociation.

This is pertinent, as the origins of OBEs are hypothesized to lie in a confluence of dissociative factors. A suggestion for the moderate relationship of somatoform dissociation and absorption and dissociation (0.39 and 0.41 respectively at 0.005 level), as opposed to the stronger relationship between absorption and dissociation (0.55 at 0.0001 level), may be understood in the context of both absorption (non-pathological) and dissociation (pathological) being opposing ends of the same continuum – pathological dissociation, whereas somatoform dissociation may not belong to the same continuum. This result contributes confirmation to Irwin's (1985) synesthetic theory of OBE that combines features of somatoform dissociation and psychological absorption and confirms the findings of Nijenhius et al. (1996) that somatoform dissociation is more highly correlated with pathological dissociation than non-pathological dissociation.

Another suggestion for the weaker relationship of somatoform dissociation with absorption and dissociation may be confounding due to the abbreviated form of the questionnaire that was utilized. The SDQ-20 was designed as a 5-point scale (1 = *not at all* to 5 = *extremely*) for applicability of each of the items. For this study, however, a true/false response was required, and this may have been more limiting, not allowing those participants who may have had a more positive answer than false, the opportunity for greater latitude in answering.

Personality features

Both of the MBTI personality features of intuition and feeling were shown to have a relationship with fantasy proneness and paranormal beliefs, with intuition producing stronger correlations. This result supports the findings by Gow et al. (2001) and Robertson and Gow (1999) that the personality features of intuition and feeling have a strong relationship with anomalous experiences such as UFO and past-life experiences and, in this case, OBEs.

The results are indicative of the claims of Myers and McCaulley (1985) who assert that the intuitive types seek the farthest reaches of the possible and imaginative, are future oriented and believe in their inspirational convictions more than sensing types, who seek the fullest possible experience of what is immediate and real. It is plausible then, that those who showed a preference for intuition would be more likely to profess to having had an OBE. A suggested reason for the weaker relationship of the feeling feature may as Gow (2000) suggests, that feeling orientated individuals have a tendency to be 'associative' rather than 'dissociative'.

Limitations and strengths of the present study

Several limitations were identified with this study that could be addressed in future research. First, sample selection via door knocking, only during certain hours on particular days, may have resulted in obtaining gender and aged biased population for this study. The second limitation was the fact that the nature of the study was explained to potential participants before they consented may have created sample bias in favour of those who have an interest in paranormal phenomena. Third, it has often been suggested that with the use of the questionnaire format there is no certainty that all positive replies tap the same basic experience, as most rely on yes/no answers without any written description of the experience. Finally, the utilization of an abbreviated response version of the SDQ-20 may not have done justice to the overall findings, particularly in relation to the impact of somatoform dissociation of the OBE group results.

This study was advantageous as it identified strong consistent patterns between the personality variables of fantasy proneness, paranormal beliefs and the personality traits of intuition and feeling. Further to this, this study also demonstrated strong consistent patterns between absorption, psychological dissociation and fantasy proneness. Furthermore, this study obtained informative responses by requesting written explanations rather than yes/no responses and by providing information pertaining to OBE. Finally, and most importantly, previous studies have generally tested only one or two of the variables. This study, however, combined the known influential variables (fantasy proneness, paranormal beliefs and 'the dissociations') as well as supplementing these with the personality features of intuition and feeling in an attempt to better clarify understanding of the relationship of variables influencing OBE phenomena.

Future research would benefit from replicating the present study employing a larger sample size. Furthermore, continued research into OBE phenomena should consider the use of an empirically constructed OBE scale. Whilst the 'Features of Out-of-Body Experience' checklist designed by Irwin, and utilized in this study, assists to ascertain the frequency with which certain sensations occur during the OBE, it does not address the variables that are consistently being demonstrated to be related to the OBE.

Conclusion

This study endeavoured to expand the current knowledge of out-of-body occurrences by clarifying the relationship of certain personality variables of out-of-body experients on OBE phenomena. The present study also focussed on those who stated they had experienced an OBE. Experients were compared with those who believe in the possibility of OBEs and those who do not, by employing measures known to be associated with OBEs, namely the variables of fantasy proneness, paranormal beliefs, absorption, somatoform dissociation and psychological dissociation. These variables were combined with the personality features of intuition and feeling.

The results obtained in this study substantiated previous research that had utilized the measures known to be correlated with OBEs. Whereas previous studies have generally tested only one or two of the variables, this study, however, included other known associated variables, as well as supplementing these with the personality features of intuition and feeling. These variables are predominantly cognitive by nature, and thus, further research in this area has the potential for contributing to expansion of knowledge on consciousness and how this is operationalized during OBEs.

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