

DISSOCIATION, ABSORPTION, FANTASY PRONENESS AND SENSATION-SEEKING IN PSYCHIC CLAIMANTS

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ABSTRACT

Building on evidence to suggest that strong believers in and experiencers of paranormal phenomena tend to be fantasy-prone individuals, we hypothesized that individuals who claimed paranormal/anomalous abilities would also score higher on dissociation, absorption and sensation-seeking than individuals who did not claim paranormal/anomalous experiences. One hundred and thirty-two participants were recruited by media advertisements and a mailing list. The participants completed questionnaires and interviews during two-hour workshops, organized free of charge at the Institute of Paranormal Psychology (IPP) in Buenos Aires. When comparing persons who claimed to be psychics and those who did not, the 'psychic' group ($N = 40$) had significantly higher scores on Dissociation, Absorption and Fantasy Proneness than did the 'non-psychic' group ($N = 40$). The hypotheses were supported in that the psychic group did have significantly higher scores on the Dissociation ($t[78] = 21.12, p = 0.01, d = 0.65$), Absorption ($t[78] = 17.81, p < 0.001, d = 1.09$) and Fantasy Proneness ($t[78] = 12.77, p = 0.01, d = 0.72$) scales than did the non-psychics. However, scores on the Sensation-Seeking scale were not significantly different; indeed, the non-psychic group scored slightly higher, contrary to prediction. We also found some gender differences, with male psychics having significantly higher mean scores than female psychics on measures of Dissociation and Fantasy Proneness, and suggestively higher scores on Absorption and Sensation-Seeking. We suggest that these variables are taken into account when recruiting and screening participants for future studies of ESP.

INTRODUCTION

Claims of psychic phenomena have long been associated with dissociative phenomena and other alterations of consciousness. Dissociation is considered to be a process by which memories, perceptions and sensations are separated from conscious awareness. The relevant literature includes Richet's (1889) ESP studies, with hypnosis and a secondary personality as subjects, and a variety of studies on such aspects of mental mediumship as trance, spirit communicators and the content of the communications (e.g. Flournoy, 1899/1900; Hodgson, 1892; Morselli, 1908). Richards (1991) correlated claims of psi experiences to scores on the Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986). Richards's participants, attending a conference on psi-related issues, claimed a higher incidence of psi experiences than the general population. Richards reported significant positive correlations between a variety of experiences (e.g. clairvoyance, precognition, OBEs, apparitions and psi dreams) and DES scores. An incidence index of psi experiences also correlated positively with DES scores. In a study by Alvarado, Zingrone and Dalton (1998–1999), the OBEs had a higher mean index of parapsychological experiences, with a significantly higher frequency of spontaneous experiences of losing awareness of their surroundings and of losing a sense of time than the non-OBEs group.

Fantasy proneness is also emerging as a strong discriminator of anomalous

experience. This construct was introduced by Lynn and Rhue (1988) and refers to "a unique constellation of personality traits and experiences coalesced around a deep, profound and long-standing involvement in fantasy and imagination" (p.35). High scorers seem to be highly inclined to fantasize (Cameron & Roll, 1983; Myers et al., 1983; Wilson & Barber, 1983), and subsequent studies (Council & Huff, 1990; Lynn, et al., 1996; Lynn & Rhue, 1988; Rhue & Lynn, 1987) report strong association between fantasy proneness and hypnotisability, creativity and imaginative abilities.

There also is evidence to support the hypothesis that strong believers in and experiencers of paranormal phenomena tend to be fantasy-prone individuals. Following up findings from a previous study (Irwin, 1990), Irwin (1991) administered a questionnaire survey to 122 Australian university students to investigate interrelationships between paranormal belief, psychological adjustment and fantasy proneness. He reported that paranormal belief correlated positively with fantasy proneness. Krishna Rao (1992) also found a significant positive correlation between Inventory of Childhood Memories and Imaginings (ICMI) scores and incidence of paranormal experience as measured by the Subjective Paranormal Experience Questionnaire (SPEQ). Using covariance structure modelling of data from eighty-two students, Lawrence et al. (1995) found a direct (but small) link from childhood fantasy to paranormal belief and experience, and a direct link between childhood trauma and paranormal experience.

A third variable of interest in this context is Absorption, which is the capacity to focus attention exclusively on some object (including mental imagery) to the exclusion of distracting events; it refers to a state of heightened imaginative involvement in which an individual's attentional capacities are focused in one behavioural domain, often to the exclusion of explicit information processing in other domains (Tellegen & Atkinson, 1974). In two studies (Council & Huff, 1990; Myers & Austrin, 1985), a strong correlation was found between fantasy proneness and absorption, with both correlating significantly with a measure of psychic experience. High absorption indicates the ability to momentarily inhibit reality monitoring. Persons scoring high on absorption also report a high incidence of subjective paranormal experiences, such as apparitions (Parra, 2006) and aura vision (Parra, 2010).

As measured by the Tellegen Absorption Scale (TAS: Tellegen & Atkinson, 1974), absorption has been linked to hypnotic susceptibility, heightened creativity and imagistic processing, dissociation, decreased self-involvement, and intensive involvement in imagination-based activities with concomitant alterations in consciousness as well as a heightened openness to experience (Pekala, Wenger & Levine, 1985). Moreover, several other studies have related ESP and other parapsychological experiences to absorption (Alvarado & Zingrone, 1997; Glicksohn, 1990; Kennedy, Kanthamani & Palmer, 1994; Nadon & Khilstrom, 1987).

A personality factor that would seem relevant in this regard is Sensation-Seeking, which was defined by Zuckerman (1979, 1994) as a trait encompassing tendencies to seek out varied, novel, intense and/or complex sensations and experiences and to be willing to take risks for the sake of such experiences. The sensation-seeking construct developed out of Zuckerman's early sensory-

deprivation research. Zuckerman (1994) reports that high sensation-seekers tend to be nonconformist in their thinking, which can be seen in their beliefs concerning the paranormal. Sensation-seeking's similarity to other psi-conducive personality traits (e.g. openness to experience), as well as a general openness to and higher reported frequency of paranormal beliefs and experiences, suggest that this trait may be psi-conducive. Kumar, Pekala & Kumar (1993) found that high scorers on sensation-seeking report significantly more frequent paranormal experiences (e.g. having an out-of-body experience, experiencing trance channelling, etc.) than do low scorers. This last result is consistent with other research demonstrating that paranormal believers are highly interested in the internal world of their own subjective experience (Glicksohn, 1990), and also with the results of a study by Kuley and Jacobs (1988), in which it was observed that high sensation-seekers may be more prone to dissociative-like episodes than are lows. In a study involving transcendental meditation (TM) training, for example, Myers and Eisner (1974) found that, while sensation-seekers tended to volunteer for the training, they were also more inclined to quit it abruptly or to practise it infrequently.

The data used in this paper were originally collected as part of a project that investigated the so-called 'token-object effect' (Parra & Argibay, 2007a, 2007b, 2008) and consisted of a series of sessions with a group of psychics and non-psychics, in which the participants conveyed their impressions about persons unknown to them. The experimental results showed that the psychic group were better at distinguishing between photographs of people who had died and people who were still living than were the non-psychic group, who scored at the level of mean chance expectation (Parra & Argibay, 2008).

We decided to perform further analyses that would explore possible relationships in our sample between the reported experiences of psychics, and non-psychics who believe in paranormal events but seldom if ever report psi experiences, and measures of dissociation, absorption, fantasy proneness and sensation-seeking. For the purpose of analysing people who claim psychic abilities, we used data from the Anomalous Experiences Inventory (AEI). We hypothesized that individuals who claimed paranormal/anomalous abilities (subscale A of the AEI) would also report a higher number of dissociative, absorption, fantasy-prone and sensation-seeking experiences on the DES, TAS, CEQ and SSS, respectively. We also expected to find a positive correlation among dissociative, absorption, fantasy-prone and sensation-seeking experiences in individuals who claimed particular psychometry-related experiences (e.g. thoughts or feelings at a distance, or ESP 'feelings' around sick people, past-place events, token objects, unknown people and token photographs).

METHOD

Participants

One hundred and thirty-two participants were recruited by media advertisements and a mailing list. An advertisement was also uploaded onto the internet (www.alipsi.com.ar). The advertisements contained a brief explanation of the psi test procedure and encouraged presumptive participants to contact us for an interview in order to obtain more information. Eighty (60%) of those who did so remained for the categorization procedure (see below).

Questionnaires

Dissociative Experiences Scale (DES) (Bernstein & Putnam, 1986; Carlson & Putnam, 1993). This is a 28-item self-report instrument with a 0–100% response scale. We used an American version, translated into Spanish. It has very good validity and reliability and good overall psychometric properties (Carlson & Armstrong, 1994). It has construct validity, which means it is internally consistent and hangs together well. It is a good screening instrument for subjects as young as 12, although a specifically adolescent form of the DES is in development.

Tellegen Absorption Scale (TAS) (Tellegen & Atkinson, 1974). This is a 34-item self-report inventory. Each item of this scale requires a 'true' or 'false' response. Two additional questions were designed to ascertain approximately how often people engaged in the given TAS activity (*creation of opportunity for absorptive activities*) and how easy it was for the respondent to do so (*capacity for engaging in these kinds of experiences*).

Creative Experiences Questionnaire (CEQ) (Merckelbach, Horselenberg & Muris, 2001). This is a 25-item self-report measure of fantasy proneness. Each item of this scale requires a 'true' or 'false' response. Findings indicate that the CEQ demonstrates adequate test–retest stability as well as internal consistency. A Pearson product–moment correlation of 0.61 was found between STA and fantasy proneness as measured by the CEQ (Merckelbach, Horselenberg & Muris, 2001).

Sensation-Seeking Scale (SSS) (Zuckerman, 1979). This is a 13-item self-report inventory. Each item of this scale requires a 'true' or 'false' response. Sensation-Seeking can be divided into 4 traits: Thrill- and Adventure-Seeking, Experience-Seeking, Disinhibition and Boredom Susceptibility. Findings indicate that the SSS demonstrates adequate test–retest stability and internal consistency. It was developed in an attempt to provide an operational measure of the sensation-seeking trait.

Anomalous Experiences Inventory (AEI) (Gallagher, Kumar & Pekala, 1994). We used the American version, which we translated into Spanish. It is a 70-item self-report inventory that maps 5 major dimensions (or subscales) of subjective experience. The Inventory (AEI) contains items concerning anomalous/paranormal experiences and beliefs, use of drugs and alcohol, and fear of the paranormal/anomalous. The AEI subscales showed some convergent validity when correlated with selected personality measures. The AEI's experiences, beliefs and abilities subscales correlate significantly with traits that are related to experience-seeking and fantasy proneness. It may be particularly helpful in identifying different types of people for research on psi-related abilities in the laboratory.

Categorization Procedure

We used the following criteria to split the sample into Psychics and Non-Psychics: participants who scored 75% or above on the factor 'Abilities' on the *Anomalous Experiences Inventory* (AEI) were categorised as the 'Psychic' Group ($N = 40$) (e.g. "I can influence or change an event by concentrating

on that event” or “I am able to see auras surrounding people’s bodies”). Participants who scored 25% or below on the factor ‘Experiences’ (AEI) were categorised as the ‘Non-Psychic’ Group ($N = 40$); that is, people whose claims had lower scores on spontaneous psi experiences (and who had little or no ability in or control over them) (e.g. “I often seem to become aware of events before they happen” or “I often know what others are feeling or thinking without them telling me”). The *Psychic Group* consisted of 40 participants (10 male, 30 female; Mean age = 44.23 years, range = 19 to 76). Seventy-eight per cent of the participants had had some training in meditation or other techniques in practising an internal focus of attention. The *Non-Psychic Group* also consisted of 40 participants (7 male, 33 female; Mean age = 49.18 years, range = 22 to 76).

Testing Procedure

The participants met during two-hour workshops, organized free of charge at the Institute of Paranormal Psychology (IPP) in Buenos Aires. AP and JCA aimed to create an informal social atmosphere, engaging in friendly conversation with the participants before the test. Participants completed all the questionnaires in the order listed above before completing the object-reading psi test that has been described elsewhere (Parra & Argibay, 2008).

RESULTS

Table 1 gives the mean scores for Psychic and Non-Psychic Groups on the Dissociative, Absorption, Fantasy Proneness and Sensation-Seeking Experiences Scales. We predicted that the Psychic Group would score higher on these personality dimensions. The hypotheses were supported in that the Psychic Group did have significantly higher scores on the Dissociation ($t[78] = 21.12$, $p = 0.01$, $d = 0.65$), Absorption ($t[78] = 17.81$, $p < 0.001$, $d = 1.09$) and Fantasy Proneness ($t[78] = 12.77$, $p = 0.01$, $d = 0.72$) scales than did the non-psychics. However, scores on the Sensation-Seeking scale were not significantly different; indeed, the Non-Psychic Group scored slightly higher, contrary to prediction.

Table 1

Relationship Between Psychic (N= 40) and Non-Psychic (N= 40) Groups on the Dissociative, Absorption, Fantasy Proneness and Sensation-Seeking Experiences Scales

<i>Measures</i>	<i>Mean Psychic (SD)</i>	<i>Mean Non-Psychic (SD)</i>	<i>t</i>	<i>p</i>	<i>Cohen's d</i>
<i>Dissociation</i>	21.12 (13.59)	13.69 (8.62)	2.91	0.01	0.65
<i>Absorption</i>	17.81 (4.36)	13.46 (3.56)	4.87	<0.001	1.09
<i>Fantasy Proneness</i>	12.77 (3.58)	10.56 (3.77)	2.68	0.01	0.72
<i>Sensation-Seeking</i>	7.25 (2.47)	7.33 (1.87)	0.15	0.87	0.03

When the results were broken down by sex, some gender differences were found (see Table 2). Male psychics had significantly higher mean scores than did female psychics on Dissociation ($t[38] = 2.31$, $p = 0.03$, $d = 0.81$) and

Fantasy Proneness ($t[38] = 2.62$, $p = 0.01$, $d = 0.99$), and suggestively higher scores for Absorption and Sensation-Seeking (respectively, $t[38] = 1.98$, $p = 0.06$, $d = 0.68$; $t[38] = 1.97$, $p = 0.06$, $d = 0.73$). None of the comparisons for non-psychics approached significance.

Table 2

Differences Between Psychic and Non-Psychic Groups for Males (N = 10) and Females (N = 30) on Dissociative, Absorption, Fantasy Proneness and Sensation-Seeking Experiences Scales

Group	Male Mean (SD)	Female Mean (SD)	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
<i>Dissociation</i>					
Psychic	29.28 (14.19)	18.40 (12.46)	2.31	0.03	0.81
Non-Psychic	9.71 (6.32)	14.54 (8.88)	-1.36	0.18	0.62
<i>Absorption</i>					
Psychic	20.09 (4.85)	17.05 (3.98)	1.98	0.06	0.68
Non-Psychic	13.13 (3.62)	13.53 (3.60)	-0.26	0.79	0.11
<i>Fantasy Proneness</i>					
Psychic	15.17 (2.99)	11.97 (3.44)	2.62	0.01	0.99
Non-Psychic	10.23 (4.21)	10.63 (3.74)	-0.24	0.80	0.10
<i>Sensation-Seeking</i>					
Psychic	8.30 (1.7)	7.00 (1.83)	1.97	0.06	0.73
Non-Psychic	7.71 (1.97)	7.15 (2.58)	0.54	0.59	0.24

A number of specific ESP experiences¹ correlated positively with scores on Dissociation, Absorption and Fantasy Proneness, but not with Sensation-Seeking (see Table 3). An index was calculated by counting the number of specific ESP experiences that produced the same pattern of correlations. Experience and Ability (using AEI) scores also correlated highly with ESP experiences.

DISCUSSION

It is important to keep in mind the high magnitude of the scores. It could be said that dissociation, absorption and fantasy proneness—as psychological constructs—played a small but significant role among people claiming ability in or control over psychic experiences. A number of noted investigators have invoked dissociative processes to explain the trance utterances of mental mediums such as Leonora Piper (Tanner, 1910), Hélène Smith (Flournoy, 1900) and Frederic Myers (1907) by using unconscious automatic processes to explain automatic writing and other mediumistic phenomena. According to Martínez Taboas (2001, p. 151):—

¹ e.g. thoughts or feelings at a distance, ESP 'feelings' around sick people, past-place events, token objects, unknown people and token photographs, which were scored using the response scale 0 (Never) to 3 (Frequently).

Table 3

Correlations (with significance values) Between Psychometry-Related Experiences on the Dissociative, Absorption, Fantasy Proneness and Sensation-Seeking Experiences Scales

<i>Experiences</i>	<i>DES</i>	<i>TAS</i>	<i>CEQ</i>	<i>SSS</i>	<i>AEI-E</i>	<i>AEI-A</i>
1. Have you had the sensation of mentally picking up the thoughts or feelings of another person at a distance?	0.27 ^b	0.31 ^b	0.35 ^b	-0.01	0.53 ^d	0.47 ^d
2. Have you experienced the physical sensations of another person at a distance?	0.15	0.35 ^b	0.30 ^b	-0.06	0.57 ^c	0.52 ^c
3. Have you, when in a house or any other place, had the vivid impression of mentally picking up an event that occurred there, without having any previous knowledge or sign that would permit you to deduce anything about such event?	0.16	0.41 ^c	0.26 ^b	0.13	0.65 ^d	0.56 ^d
4. Have you, when in contact with some object, had vivid impressions about that object (or about its owner), without having previous knowledge or any indication that would permit you to deduce anything about such object?	0.20	0.37 ^c	0.30 ^b	-0.001	0.67 ^d	0.63 ^d
5. Have you, when meeting a person for the first time, had vivid impressions about that person, without having previous knowledge of that person or any sign that would permit you to deduce anything about such person?	0.27 ^a	0.27 ^a	0.25 ^a	0.08	0.54 ^d	0.48 ^c
6. Have you had the experience of seeing the photograph of a person not present at that moment, and of having vivid impressions about him or her, without previous knowledge or any sign that would permit you to deduce anything about that person?	0.24 ^a	0.40 ^c	0.25 ^a	0.08	0.64 ^d	0.51 ^d
<i>Experiences Index</i>	0.28 ^b	0.45 ^c	0.36 ^b	0.04	0.77 ^d	0.68 ^d

^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.005$; ^d $p < 0.001$

Dissociation can be considered a useful psi-conducive state. Since the very beginning of the field, psychical researchers and parapsychologists have proposed that the production of psi phenomena is facilitated by various altered states of consciousness, including dreams, somnambulism and hypnosis.

Our findings concur with this. From this perspective, the study of dissociative processes could be a rewarding one. If there is any truth in this perspective, parapsychologists could well take advantage of it by designing controlled psi research experiments in which participants are selected according to their dissociative capabilities. Researchers who operate from this perspective would not only be interested in obtaining evidence of a relationship between dissociative traits and ostensible psi phenomena, but would be more oriented towards the conceptualization of dissociative tendencies as mediating mechanisms that facilitate the production of a paranormal effect.

One of our findings was that the psychic group also had significantly higher mean scores than did non-psychics on the dissociation, absorption, fantasy proneness and sensation-seeking scales. Mental and physical mediumship, poltergeist agency, psychic healing, reincarnation, xenoglossy, psi-conducive effects of altered states, out-of-body and near-death experiences, and other "wondrous events" (McClenon, 1994, p.134) have all been linked by various authorities to dissociative processes. But is dissociation a causal, mediating, or confounding variable in psi research? Only future rigorous investigation will finally be able to provide the much needed and long awaited answer to this important question.

Tellegen and Atkinson (1974) suggested that the trait of absorption may play a part in meditative skill, creativity, capacity for peak experiences and empathy. Results suggest that absorption is associated with creative ability, the tendency to have peak experiences, a capacity for empathy, and psychotic pathology. Our research suggests that psychics seem to score higher overall on absorption, hypnotic susceptibility, creativity, the tendency to have peak experiences and empathy. Since future studies surely will examine other variables associated with thinking styles, at this point it is our hope that other laboratories will follow our lead and analyse their participant-specific data much more fully.

Our finding that psychics produce higher mean DES scores than non-psychics is conceptually consistent with Richards (1991), Alvarado and Zingrone (1994) and Ross and Joshi's (1992) studies using experients and non-experients, although the measurements in question were different. The results obtained in our comparisons of psychics with non-psychics, as well as the positive correlation between the ESP Experiences Index and the Dissociation, Absorption and Fantasy Proneness scores, are consistent with the widely discussed idea that the process underlying the creation of dissociative experiences may be also underlie the experiencing or reporting of psi claims. Ring (1992) and Ross and Joshi (1992) speculated that early trauma opens individuals to dissociative states and that this, in turn, brings out psi experiences.

To a great extent, our understanding of the psi dissociation and other relationships depends on our understanding of dissociation itself. In this regard, we should pay attention to the interaction among a variety of such cognitive variables as hypnotic susceptibility, absorption, openness of

experience, boundary thinness, fantasy proneness, and other constructs such as perceptual defensiveness, in psychic claimants. The nature of the relationship of dissociation to these other processes is unclear at present.

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REFERENCES

- Alvarado, C. S. and Zingrone, N. L. (1994) Individual differences in aura vision: relationships to visual imagery and imaginative-fantasy experiences. *EJP* 10, 1–30.
- Alvarado, C., Zingrone, N. L. and Dalton, K. (1998–1999) Out-of-body experiences: alterations of consciousness and the five-factor model of personality. *Personality Imagination, Cognition and Personality* 18, 297–317.
- Bernstein, E. M. and Putnam, F. W. (1986) Development, reliability, and validity of a dissociation scale. *Journal of Nervous and Mental Disease* 174, 727–735.
- Cameron, T. and Roll, W. G. (1983) An investigation of apparitional experiences. *Theta* 11, 74–78.
- Carlson, E. B. and Armstrong, J. (1994) The diagnosis and assessment of dissociative disorders. In Lynn, S. J. and Rhue, J. W. (eds.) *Dissociation: Clinical and Theoretical Perspectives*, 159–174. New York: Guilford.
- Carlson, E. B. and Putnam, F. W. (1993) An update on the Dissociative Experience Scale. *Dissociation* 6, 16–27.
- Council, J. R. and Huff, K. (1990) Hypnosis, fantasy activity and reports of paranormal experiences in high, medium and low fantasizers. *British Journal of Experimental and Clinical Hypnosis* 7, 9–15.
- Flournoy, T. (1900) *From India to the Planet Mars*. New York: Harper & Brothers. [First published in French in 1899]
- Gallagher, C., Kumar, V. K. and Pekala, R. J. (1994) The Anomalous Experiences Inventory: reliability and validity. *JP* 58, 402–428.
- Glicksohn, J. (1990) Belief in the paranormal and subjective paranormal experience. *Personality and Individual Differences* 11, 675–683.
- Hodgson, R. (1892) A record of observations of certain phenomena of trance. *ProcSPR* 8, 1–167.
- Hough, M. (1991) Cognition and the apparitional experience. *Australian Parapsychological Review* 17, 8–16.
- Irwin, H. J. (1985) Parapsychological phenomena and the absorption domain. *JASPR* 79, 1–11.
- Irwin, H. J. (1989) Extrasensory experiences and the need for absorption. *Parapsychology Review* 20 (6), 9–10.
- Irwin, H. J. (1990) Fantasy proneness and paranormal beliefs. *Psychological Reports* 66, 655–658.
- Irwin, H. J. (1991) A study of paranormal belief, psychological adjustment, and fantasy proneness. *JASPR* 85, 317–331.
- Kennedy, J. E., Kanthamani, H. and Palmer, J. (1994) Psychic and spiritual experiences, health, well-being, and meaning in life. *JP* 58, 353–383.
- Krishna Rao, P. (1992) Fantasy-proneness, reports of paranormal experiences and ESP test performance. *Journal of Indian Psychology* 10 (1/2), 27–34.

- Kuley, N. B. and Jacobs, D. F. (1988) The relationship between dissociative-like experiences and sensation-seeking among social and problem gamblers. *Journal of Gambling Behavior* 4, 197–207.
- Kumar, V. K., Pekala, R. J. and Cummings, J. (1993) Sensation-seeking, drug use, and reported paranormal beliefs and experiences. *Personality and Individual Differences* 14, 685–691.
- Lawrence, T., Edwards, C., Barraclough, N., Church, S. and Hetherington, F. (1995) Modelling childhood causes of paranormal belief and experience: childhood trauma and childhood fantasy. *Personality and Individual Differences* 19 (2), 209–215.
- Lynn, S. J., Neufeld, V., Green, J. P., Sandberg, D. and Rhue, J. W. (1996) Daydreaming, fantasy styles, and psychopathology. In Kunzendorf, B., Spanos N. P. and Wallace, B. (eds.) *Hypnosis and Imagination*, 67–98. Amityville, NY: Baywood.
- Lynn, S. and Rhue, J. (1988) Fantasy proneness: hypnosis, developmental antecedents, and psychopathology. *American Psychologist* 43, 35–44.
- Martínez-Taboas, A. (2001) Dissociative experiences and disorders: a review. *IJP* 12, 131–162.
- McClenon, J. (1994) *Wondrous Events: Foundations of Religious Belief*. Philadelphia, PA: The University of Pennsylvania Press.
- Merckelbach, H., Horselenberg, R. and Muris, P. (2001) The Creative Experiences Questionnaire (CEQ): a brief self-report measure of fantasy proneness. *Personality and Individual Differences* 31, 987–995.
- Morselli, E. (1908) *Psicología e 'spiritismo' (2 volumes)*. Torino: Fratelli Bocca.
- Myers, F. W. H. (1907) *Human Personality and its Survival of Bodily Death*. New York: Longmans, Green.
- Myers, S. A., Austrin, H. R., Grisso, J. T. and Nickelson, R. C. (1983) Personality characteristics as related to the out-of-body experience. *JP* 47, 131–144.
- Myers, S. and Austrin, H. (1985) Distal eidetic technology. *Journal of Mental Imagery* 9, 57–66.
- Myers, T. I. and Eisner, E. J. (1974) *An Experimental Evaluation of the Effects of Karate and Meditation (Report No. 42800/P-391x-1-29)*. Washington, DC: American Institutes for Research.
- Nadon, R. and Kihlstrom, J. F. (1987) Hypnosis, psi, and the psychology of anomalous experience. *Behavioral and Brain Sciences* 10, 597–599.
- Parra, A. (2006) 'Seeing and feeling ghosts': absorption, fantasy proneness, and healthy schizotypy as predictors of crisis apparition experiences. *JP* 70, 357–372.
- Parra, A. and Argibay, J. C. (2007a) Comparing psychics and non-psychics through a 'token-object' forced-choice ESP test. *JSPR* 71, 80–90.
- Parra, A. and Argibay, J. C. (2007b) Comparing a free-response psychometry test with a free-response visual imagery test for a non-psychic sample. *JSPR* 71, 91–99.
- Parra, A. and Argibay, J. C. (2008) Reading faces: an experimental exploration of psychometry using photographs and names. *Australian Journal of Parapsychology* 8, 47–57.
- Parra, A. (2010) Aura vision as a hallucinatory experience: its relation to fantasy proneness, absorption, and other perceptual maladjustments. *Journal of Mental Imagery* 34, 49–64.
- Pekula, R., Wenger, C. and Levine, R. (1985) Individual differences in phenomenological experience: states of consciousness as a function of absorption. *Journal of Personality and Social Psychology* 48, 125–132.
- Rhue, J. W. and Lynn, S. J. (1987) Fantasy proneness: developmental antecedents. *Journal of Personality* 55, 121–137.
- Richards, D. G. (1991) A study of the correlations between subjective psychic experiences and dissociative experiences. *Dissociation* 4, 83–91.

- Richet, C. (1889) Further experiments in hypnotic lucidity or clairvoyance. *Proc.SPR* 6, 66–83.
- Ring, K. (1992) *The Omega Project: Near-Death Experiences, UFO Encounters, and Mind at Large*. New York: William Morrow.
- Ross, C. A. and Joshi, S. (1992) Paranormal experiences in the general population. *Journal of Nervous and Mental Diseases* 180, 357–361.
- Tanner, A. E. (1910) *Studies in Spiritism*. New York: Appleton.
- Tellegen, A. and Atkinson, G. (1974) Openness to absorbing and self-altering experiences ('absorption'), a trait related to hypnotic susceptibility. *Journal of Abnormal Psychology* 83, 268–277.
- Wilson, S. C. and Barber, T. X. (1983) The fantasy-prone personality: implications for understanding imagery, hypnosis, and parapsychological phenomena. In Sheik, A. A. (ed.) *Imagery: Current Theory, Research, and Applications*, 340–387. New York: Wiley.
- Zuckerman, M. (1979) *Sensation-Seeking: Beyond the Optimal Level of Arousal*. New York: Cambridge University Press.
- Zuckerman, M. (1994) *Behavioral Expressions and Biosocial Bases of Sensation-Seeking*. New York: Cambridge University Press.