

## Exploring the Links Between Nocturnal Hallucinatory Experiences and Personality Characteristics

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### Abstract

*A number of studies have demonstrated high prevalence rates of hypnagogic and hypnopompic hallucinations in the general population, such as sensations of floating, seeing lights, hearing noises, being called, and being touched. There are a number of well documented cases of ESP and crisis apparitions that have also occurred during the hypnagogic/hypnopompic states, such as forms of ESP, telepathy, and out-of-body experiences. Other formal links between paranormal or anomalous experiences may be seen in the positive relationship consistently found between HG/HP and dissociational/absorption experiences and fantasy proneness, which correlated significantly higher on schizotypy and perceptual aberration, without suffering from the more unpleasant symptoms. Participants who have HG/HP experiences have a higher capacity for (1) schizotypy proneness and cognitive-perceptual schizotypy, and (2) dissociation, absorption, and fantasy proneness than non-experients. A total of 648 undergraduate psychology students from Argentina and 214 from Peru were tested. The results suggest that absorption and cognitive-perceptual aspects of schizotypy, in particular, are essential features of persons with HG/HP experiences. The results, which suggest that persons who experience HG/HP are likely to have a rich imaginal life, are consistent with other studies that have found measures of absorption to be successful predictors of psychic phenomena.*

## Introduction

Hypnagogic hallucinations are vivid perceptual experiences occurring at sleep onset, whereas hypnopompic hallucinations are similar experiences that occur on awakening (Sherwood, 2002). Here, the use of the term *hallucination* is appropriate because the experiences occur while one is awake and aware of one's immediate surroundings. The term *hallucination* was first used in the English language in 1572 to refer to "ghostes and spirites walking by nyght" (Sarbin & Juhasz, 1975). Hypnagogic and hypnopompic hallucinations may include experiences in many modalities, including a sensed presence, visual and auditory hallucinations, being touched, falling, flying and floating sensations, and out-of-body experiences (Cheyne, Newby-Clark, & Rueffer, 1999; Cheyne, Rueffer, & Newby-Clark, 1999).

However, studies have also demonstrated high prevalence rates of hypnagogic and hypnopompic hallucinations in the general population. For example, Ohayon et al. (1996) observed that 37% of normal subjects reported experiencing hypnagogic hallucinations and 12% reported hypnopompic hallucinations. Although in this study both types of hallucinations were more common among subjects with sleep-related disorders (insomnia, excessive daytime sleepiness), the prevalence of these hallucinations far exceeded that which can be explained merely by association with these disturbances. Similar rates were reported in a study investigating the prevalence of hallucinations in the general population in three countries (the United Kingdom, Germany, and Italy), with 24.8% of subjects reporting hypnagogic hallucinations and 13.8% reporting hypnopompic hallucinations (Ohayon, 2000).

The hypnagogic state, which is considered to be "unusually receptive" (Schacter, 1976, p. 468), shares features of the psi-conducive state such as physical relaxation, reduction in sensory distraction, and increased internal attention (Braud & Braud, 1975; Honorton, 1977; Mavromatis & Richardson, 1984). According to Mavromatis (1987), support for a relationship between psi and hypnagogia (his generic term for hypnagogic and hypnopompic imagery) comes from the

practices and literature on occultism and spiritualism, the literature on controlled psi experiments, and spontaneous cases of psi during hypnagogic practices. Some experimental studies have found that hypnagogic/hypnopompic imagery seems to be conducive to telepathy (Gertz, 1983; Schacter & Kelly, 1975), perhaps more so than dreaming (Braud, 1977).

The ganzfeld technique, which has provided some of the best evidence for ESP, is believed to induce a hypnagogic-like state (Bertini, Lewis, & Witkin, 1969). Palmer, Bogart Jones, and Tart (1977) reported a ganzfeld study that found significant correlations between ESP z performance (psi-hitting or psi-missing) and scoring on altered state of consciousness/hypnagogic imagery scales.

In terms of spontaneous cases, there are a number of well documented cases of ESP and crisis apparitions that have occurred during the hypnagogic/hypnopompic states. Some writers believe that hypnagogic visions might be an early form of ESP (Leaning, 1925; Mavromatis, 1987). Gifted subjects also use hypnagogic imagery (White, 1964); for example, well known psychics such as Garrett and Northage have described personal examples of telepathy and clairvoyance during the hypnagogic and hypnopompic states (Mavromatis, 1987; these include aura vision as an aspect of their psychic experiences (e.g., Garrett, 1939; Swann, 1975) and reports of a collectively perceived anomalous “glow” surrounding a human body.

Moody (with Perry, 1993) also described a number of cases of visionary encounters with departed loved ones inside a psychomanteum chamber that share characteristics of hypnagogic imagery. OBEs also tend to occur spontaneously during the hypnagogic/hypnopompic states (Mavromatis, 1987); McCreery (1993) found a positive relationship between the number of hypnagogic imagery episodes and the frequency of hypnagogic imagery. Mavromatis (1987) also listed a number of reported hypnagogic phenomena: sensations of floating, sinking, and drifting; seeing lights, images, and landscapes; hearing noises, music, and one’s name being called; and the sensation of being touched.

People who had had these HG/HP experiences were described as “happy schizotypes,” who are able to use their capacities of altering consciousness and of applying unusual styles of perceptual processing without suffering from the more unpleasant symptoms (McCreery & Claridge, 1995). Schizotypy may be conceived as a personality dimension that is continuously distributed throughout the normal population; its defining characteristic is that people at the high-scoring end of this distribution have a putatively heightened susceptibility to psychotic breakdown. The personality dimension of schizotypy may be correlated with a variety of other phenomena besides psychosis. Following these findings, there are strong arguments for a link between schizotypy and creativity (Claridge, Prior, & Watkins, 1989), on the one hand, and out-of-body experiences (McCreery & Claridge, 1995), on the other, that correlated significantly higher with schizotypy, perceptual aberration, magical ideation, and synesthesia.

Other formal links between paranormal/anomalous experiences may be seen in the positive relationship consistently found between HG/HP and dissociational/absorption experiences (see Irwin, 1985). Absorption is described as a capacity for episodes of absorbed and “self-altering” attention that are sustained by imaginative representations (Tellegen & Atkinson, 1974). During these 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” (Tellegen & Atkinson, 1974). Absorption experiences are generally considered to be the most common of all dissociative experiences.

Furthermore, subjects who reported spontaneous anomalous/paranormal experiences tended to have a higher level of imaginative/fantasy activity or fantasy-proneness. This finding is consistent with Wilson and Barber's (1982) views of the characteristics of a fantasy-prone personality and may support Blackmore (1978) and Siegel (1980) in their suggestion that the reported spontaneous anomalous/paranormal experiences could be a hallucinatory fantasy, which would be especially easy for the fantasy-prone subject 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 HG/HP.

Fantasy proneness appears to be greater among experiencers than non-experiencers HG/HP (Wilson & Barber, 1982). Stanford (1987) also suggests that various types of fantasy during childhood may correlate differentially with the circumstances of the OBEs' and HG/HP's occurrence. In a clinical sense, clients who are fantasy-prone and also get deeply absorbed in events with an internalized, curious, intellectual, and stable personality might also report having spontaneous anomalous/paranormal experiences.

In summary, it seems possible that features of the HG/HP states can facilitate possible confusion between reality and imagination in some instances. There are also a number of specific features that may facilitate anomalous interpretations. This may be more likely if a person has little knowledge of normal hypnagogic/hypnopompic features, or if a person is within a group or culture that has certain explanations for particular phenomena, or if the person already believes in anomalous phenomena. It is possible that the HG/HP states may be both conducive to, and also misinterpreted as involving, anomalous processes and agencies. In the absence of more objective information, the decision as to which interpretation is made may depend on the individual and the context in which the experiences take place.

The HG/HP experiences are phenomena worthy of study in their own right, like other aspects of human experience. Thus the focus is on the experience or phenomenon, whatever the interpretation. These experiences, like everything else in the mental life of the healthy individual, do not occur in a vacuum but are closely interwoven with many other psychological processes. For these reasons, we argue that hypnagogic/hypnopompic experiences are part of human experience and as such deserve and require study in and of themselves, with and without efforts to relate them to possible paranormal components.

The present study is exploratory. A number of specific hypotheses are tested: Argentine and Peruvian participants who have HG/HP experiences have a higher capacity than non-experiencers for (1)

schizotypy proneness and cognitive-perceptual schizotypy (Raine's schizotypy sub-factor), and (2) dissociation, absorption, and fantasy proneness. In order to evaluate differences between Argentine and Peruvian students an analysis will also be carried out.

## Method

### *Participants*

A total of 654 undergraduate psychology students at the Faculty of Psychology of the Universidad Abierta Interamericana from Argentina, of whom 494 (76%) were females and 154 (24%) were males, ranging in age from 17 to 57 years ( $M = 25.11$ ,  $SD = 7.23$ ) (Argentine group), plus a total of 214 undergraduate psychology students at the Faculty of Psychology Universidad Ricardo Palma, Facultad de Psicología, from Lima, Peru, of whom 159 (74%) were females and 55 (26%) were males, ranging in age from 17 to 47 years ( $M = 20.87$ ;  $SD = 3.51$ ) (Peruvian group) were tested.

### *Design and materials*

Participants completed seven scales: The *Hallucination Experiences Scale* (38-item self-report rated 0 = never to 5 = very often; Parra, Adróver, González, 2006), which measures hallucination proneness (the sub-factor Hypnagogic/Hypnopompic experiences is derived from the following items: "Just when falling asleep or waking..."; 12. Hear voices or conversations, music or melodies, sounds; 25. See shadows, or human or non-human figures close to my bed; 30. Have felt a cold breeze of air which blows in my face; 33. Sense of presence; and 38. Smell food or perfume); *Schizotypal Personality Questionnaire* (74 yes/no items, Cronbach's  $\alpha = .83$ ; Raine, 1991; Raine, 1992; Raine & Baker, 1992; Raine & Benishay, 1995), which measures three factors of schizotypy (the sub-factor Cognitive-Perceptual will be used); the *Dissociation Experiences Scale, DES* (28-item self-report, Likert scale 1-100) (Bernstein & Putnam, 1993), which measures dissociative experiences, many of which are normal experiences; the *Tellegen*

*Absorption Scale* (34 true/false items; Tellegen & Atkinson, 1974), which measures how frequently people engaged in absorptive activities; and the *Creative Experiences Questionnaire* (25 true/false items; Merckelbach, Horselenberg, & Muris, 2001), which measures fantasy proneness. As an addition, a *Spontaneous Paranormal Experiences Questionnaire*, an 18-item self-report inventory to collect information on paranormal experiences, was used. It was inspired by the English version of the *Anomalous/Paranormal Experiences Inventory* (Gallagher, Kumar, & Pekala, 1994), and Palmer's (1979) survey of students in Charlottesville, VA, USA.

The questionnaires were given under the pseudo-title *Questionnaire of Psychological Experiences, Forms A, B, C*, etc. in a counterbalanced order to encourage unbiased responding. The set of scales was given in a single envelope to each student during a class. Each student received vague information about the aims of the study and was invited to complete the scales voluntarily and anonymously in a single session, selected from days and times previously agreed upon with the teachers. Participation was voluntary.

## Results

Table 1: Descriptive analyses of HG/HP experiences of Argentine ( $n = 654$ ) and Peruvian students ( $n = 214$ ; figures in parentheses are percentages)

<i>HG/HP items</i>	<i>Group</i>	<i>Argentine</i>	<i>Peruvian</i>
12. Hear voices or music and sounds	Non-experients	450 (68.8)	137 (64.0)
	Experients	204 (31.2)	77 (36.0)
25. See shadows close to my bed	Non-experients	533 (81.5)	169 (79.3)
	Experients	121 (18.5)	45 (20.7)
30. Have felt a cold breeze of air	Non-experients	507 (77.6)	151 (70.9)
	Experients	147 (22.4)	63 (29.1)
33. Sense of presence	Non-experients	511 (78.1)	172 (80.4)
	Experients	143 (21.9)	42 (19.6)
38. Smell food or perfume	Non-experients	532 (81.6)	172 (80.3)
	Experients	122 (18.4)	42 (19.7)
HG/HP (Total)	Non-experients	249 (38.1)	56 (26.2)
	Experients	405 (61.9)	158 (73.8)

Participants who answered “yes” (one time, sometimes, or frequently) were grouped as “experients,” and students who answered “no” were grouped as “non-experients.” Descriptive statistics for these two groups for HG/HP experiences is shown in Table 1.

Comparing Argentine and Peruvian experients, the Peruvian participants scored higher on the Schizotypy proneness score than the Argentine participants (Argentine = 23.27 and Peruvian = 30.92;  $t = 9.25$ ;  $p < .001$ , one-tailed). The rest of the psychological measures did not produce significant results (see Table 2). As a consequence of this we decided to regroup the Argentine and Peruvian students into one sample for further analysis.

Table 2: Comparison of personality and perceptual scores of Argentine and Peruvian students who report HG/HP experiences.

<i>Variables</i> <sup>(b)</sup>	<i>Groups</i> <sup>(a)</sup>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>p</i>
Schizotypy proneness	Argentine	23.27	11.63	799	-8.25	< .001
	Peruvian	30.92	11.51			
Cognitive-Perceptual S.	Argentine	7.74	4.93	799	-1.83	.06
	Peruvian	8.46	4.87			
Interpersonal S.	Argentine	7.88	4.75	799	2.02	.04
	Peruvian	7.11	4.73			
Disorganized S.	Argentine	5.51	3.52	799	-1.62	n.s.
	Peruvian	5.97	3.75			
Dissociation	Argentine	23.66	11.71	800	-1.24	n.s.
	Peruvian	24.88	14.03			
Absorption	Argentine	24.61	13.34	800	-1.29	n.s.
	Peruvian	26.01	14.31			
Fantasy proneness	Argentine	33.16	15.58	800	-.08	n.s.
	Peruvian	33.27	17.26			

Note. (a) Non-experients  $n = 504$ ; Experients  $n = 83$

Hypothesis 1 was that experients would score higher on schizotypy prone (total score) and Cognitive-Perceptual schizotypy than non experients, which was supported ( $t = -9.36$ ;  $p < .001$ ); that experients would score higher on Cognitive-Perceptual schizotypy ( $t = -10.72$ ;  $p < .001$ ) than non experients, which was supported (the score for experients was significantly higher than for non experients;  $t = 4.24$ ;  $p < .001$ , one-tailed); and that experients would score higher on



Interpersonal ( $t = -4.79$ ) and Disorganized ( $t = -6.02$ ) than non-experients, which was also supported ( $p < .001$ , one-tailed) (see Table 3).

Hypothesis 2 was that experients would score higher on Dissociation than non-experients, which was supported (the score for experients was significantly higher than for non-experients;  $t = 10.74$ ;  $p < .001$ , one-tailed); that experients would score higher on Absorption than non-experients, which also supported (the score for experients was significantly higher than for non-experients ( $t = 10.81$ ;  $p < .001$ , one-tailed)); that experients would score higher on Fantasy proneness than non-experients, which was also supported (the score for experients was significantly higher than for non-experients;  $t = 10.14$ ;  $p < .001$ , one-tailed) (see Table 3).

Table 3: Comparison of personality and perceptual scores of students who report HG/HP experiences with those who do not report them ( $n = 868$ )

<i>Variable</i>	<i>Groups<sup>(a)</sup></i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Schizotypy proneness	Non-experients	19.99	11.095	-9.36	< .001
	Experients	28.02	11.67		
Cognitive-Perceptual S.	Non-experients	5.49	4.10	-10.72	< .001
	Experients	9.18	4.84		
Interpersonal S.	Non-experients	6.56	4.23	-4.79	< .001
	Experients	8.25	4.91		
Disorganized S.	Non-experients	4.58	3.26	-6.02	< .001
	Experients	6.16	3.63		
Dissociation	Non-experients	17.85	9.94	-10.74	< .001
	Experients	27.14	12.33		
Absorption	Non-experients	18.20	11.04	-10.81	< .001
	Experients	28.48	13.50		
Fantasy proneness	Non-experients	25.64	13.75	-10.14	< .001
	Experients	37.09	15.74		

Note. (a) Non-experients  $n = 306$ ; Experients  $n = 562$ ; ( $df = 799$ )

We constructed an index of psi experiences (Psi Index) for each subject based on the number of "yes" replies to questions about having had experiences of GESP in dreams, telepathy, precognition, past-life recall, out-of-body experiences, and apparitional experiences (see Alvarado, Zingrone, & Dalton, 1998-99). The Psi Index had a range from 0 (no experiences reported) to 5 (having reported all the

experiences listed). This index was correlated to the five HG/HP experiences (see Table 4) and SPQ's factors, DES, TAS, and CEQ scores (see Table 5).

Table 4: Pearson's *r* Correlations between HG/HP items with psi index (*n* = 868)

HG/HP Items	Psi index <i>r</i>	<i>p</i>	Age <i>r</i>	<i>p</i>
12. Hear voices or conversations, music or melodies, sounds.	.27	< .001	-.11	< .001
25. See shadows, or human or non-human figures close to my bed.	.24	< .001	-.04	n.s.
30. Have felt a cold breeze of air which blows in my face.	.25	< .001	-.01	n.s.
33. Sense of presence.	.24	< .001	-.03	n.s.
38. Smell food or perfume.	.18	< .001	-.06	.01
HG/HP Total	.28	< .001	-.13	.01

Table 5: Pearson's *r* Correlations between SPQ'S factors, DES, TAS and CEQ scores with psi index

Factors	Psi index <i>r</i>	<i>p</i>	Age <i>r</i>	<i>p</i>
1. Schizotypy proneness	.37	< .001	-.20	< .001
2. Cognitive-Perceptual S.	.52	< .001	-.11	.001
3. Interpersonal S.	.05	.139	-.06	.074
4. Disorganized S.	.21	< .001	-.12	.001
5. Dissociation	.36	< .001	-.15	< .001
6. Absorption	.40	< .001	-.16	< .001
7. Fantasy proneness	.38	< .001	-.09	.011
9. Age	-.06	.070	--	--

Data analysis was conducted using independent group *t* tests and Pearson correlations. We set an alpha of .05 (one-tailed) for our predicted analyses, and an alpha of .01 (two-tailed) for the rest. We are aware that we can be accused of over analyzing our data, but because our purpose was exploratory we felt that it was necessary to exhaust the comparison options that the individual psi experiences and the SPQ's factors, DES, TAS, and CEQ scores.

Which of the variables best discriminate experiencers and non-experiencers of HG/HP? A binary logistic regression was used to answer this question. Partly due to colinearity, after verifying that the

assumptions of the test were met, the forward Wald method was applied. No variables were excluded from the regression to reduce colinearity. For the sample of 868, the best model revealed (in step 2) that Absorption was the best predictor of aura experiences,  $\beta = .18$ , Wald = 11.24;  $df = 1$ ;  $p = .001$ ;  $\text{Exp}(\beta) = 1.20$ ; Nagelkerke's  $R^2 = .063$ . Cognitive-perceptual schizotypy was the second-best predictor,  $\beta = .05$ , Wald = 3.98;  $df = 1$ ;  $p < .04$ ;  $\text{Exp}(\beta) = 1.05$ ; Nagelkerke's  $R^2 = .075$ . The remaining variables contributed nothing of significance to the prediction.

### Discussion

The findings suggest that cognitive-perceptual aspects of schizotypy, in particular, are essential features of persons with HG/HP experiences; they also suggest that underlying dissociative processes such as absorption and fantasy proneness are associated with HG/HP experiences. The cognitive-perceptual aspects of schizotypy, dissociation, and absorption seem to be present in the personal predisposition for experiencing HG/HP experiences. The present study also examined the differences between persons who do and do not report HG/HP experiences on various cognitive and personality measures. The main analyses confirmed two of the five hypotheses, demonstrating a significantly higher level of cognitive-perceptual schizotypy, absorption, dissociation, and fantasy proneness between experiencers and non-experiencers. The results suggest that persons who experience HG/HP are likely to have a rich imaginal life, and they are consistent with other studies that have found measures of absorption to be successful predictors of psychic phenomena (Kohr, 1980; Palmer, 1979; Parra, 2006, 2008).

A possible theoretical model that seems to emerge from the present results is that of a "happy schizotype," (McCreery & Claridge, 1995) who is functional despite, or perhaps even in part because of, his or her anomalous experiences. Positive schizotypy, reflecting hallucinations and altered perceptual experiences, has been related to subjective anomalous and paranormal experiences and

beliefs (e.g., Simmonds & Roe, 2000; Wolfradt, Ouibaid, Starube, Bischoff, & Mischo, 1999). This variable also relates to heightened psi performance. Such data are consistent with the distinction made by Claridge (1985) between schizotypy as a long-term personality trait, or set of traits, and schizophrenia as a distinct breakdown process to which high schizotypy is only one predisposing factor. Claridge (1985) has in fact stressed the positive side of schizotypy, if not of schizophrenia itself, suggesting that a moderate degree of schizotypy may even be of adaptive value; hence the survival of whatever genetic determinant may give rise to it, despite the low fertility of diagnosed schizophrenics. The happy schizotype model may explain the pattern of the present results.

Another possible predisposition to extrasensory experiences may be the experient's dissociative tendencies. Surveys show that experients tend to score high on measures of dissociation and closely related constructs. According to Pekala, Kumar, and Marcano (1995), both dissociation (a mental state characterized by detachment from aspects of the self or the environment) and susceptibility to hypnosis are correlates of ESP experiences, sense of presence, and apparitional experiences (see Espinoza, 2004). People who are highly hypnotizable and fantasy prone report a high frequency of such experiences (Wilson & Barber, 1983). This is also in conceptual agreement with studies which have found that measures of fantasy-proneness seem to be successful predictors of psychic phenomena other than paranormal experiences (Wilson & Barber, 1983). Such findings suggest that visions of paranormal experiences may be related to cognitive processes involving fantasy proneness and cognitive-perceptual schizotypy proneness, and that these factors are correlated.

Collectively, these findings might be interpreted as suggesting that a capacity to enter altered states of consciousness is a factor in the predisposition to ESP experiences. Certainly a state of high absorption and dissociation is a common context for experiences; in fact, the score for experients was significantly higher on Dissociation (Argentine and Peruvian groups,  $p < .001$ , one-tailed), Absorption (Argentine and Peruvian groups,  $p < .001$ , one-tailed), and Fantasy proneness

(Argentine and Peruvian groups,  $p < .001$ , one-tailed). At the same time, there also seems to be a motivational component to this association.

It is tentatively concluded that the constellation of interrelated factors that make up the construct of the "fantasy-prone personality" provide a psychological predisposition for the extrasensory experiences. It also supports the view that extrasensory experiences of the type described here may have important clinical applications.

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### References

- Alvarado, C. S., and Zingrone, N. (1997). Out-of-body experiences and dissociation. Paper presented at the 40<sup>th</sup> Annual Convention of the PA. In R. Wiseman (Ed.), *Proceedings of Presented Papers* (pp. 11-25).
- Alvarado, C. S., Zingrone, N., and Dalton, K. (1998-99). Psi experiences and the "Big Five": Relating the NEO-PI-R to the experience claims of experimental subjects. *European Journal of Parapsychology*, 14, 31-51.
- Bernstein, E., and Putnam, F. (1986). Development, reliability, and validity of a dissociation scale. *Journal of Nervous and Mental Disease*, 174, 727-735.
- Bertini, C. L., and Lewis, H. B. (1969). Some preliminary observations with an experimental procedure for the study of hypnagogic and related phenomena. In C. T. Tart (Ed.), *Altered states of consciousness* (pp. 93-111). New York: Wiley.
- Blackmore, S. (1978). *Parapsychology and out-of-the-body experiences*. London: Transpersonal Books / Society for Psychical Research.
- Blackmore, S., and Rossner, N. (August/September 1996). Experiences on the borderline between reality and imagination. *Proceedings of Presented Papers: The 20<sup>th</sup> International Conference of the Society for Psychical Research, The Royal Agricultural College, Cirencester, England*.
- Braud, W. (1977). Long-distance dream and presleep telepathy [Abstract]. In J. D. Morris, W. G. Roll, & R. L. Morris (Eds.), *Research in parapsychology 1976* (pp. 154-155). Metuchen, NJ: Scarecrow Press.
- Braud, W. G., and Braud, L. W. (1975). The psi-conductive syndrome: Free response GESP performance following evocation of "left-hemispheric" vs. "right-

- hemispheric" functioning [Abstract]. In J. D. Morris, W. G. Roll, and R. L. Morris (Eds.), *Research in parapsychology 1974* (pp. 17-20). Metuchen, NJ: Scarecrow Press.
- Cheyne, J. A., Newby-Clark, I. R., and Rueffer, S. D. (1999). Relations among hypnagogic and hypnopompic experiences with sleep paralysis. *Journal of Sleep Research, 8*, 313-317.
- Cheyne, J. A., Rueffer, S. D., and Newby-Clark, S. R. (1999). Hypnagogic and hypnopompic hallucinations during sleep paralysis: Neurological and cultural construction of the nightmare. *Consciousness and Cognition, 8*, 319-337.
- Claridge, G. (1985). *Origins of mental illness: Temperament, deviance and disorder*. Oxford: Basil Blackwell.
- Claridge, G. S., Pryor, R., and Watkins, G. (1989) *Sounds from the bell jar: Ten psychotic authors*. Macmillan.
- Espinoza, L. S. (2004). Experiencias aparicionales y absorción psicológica: Un estudio exploratorio on line. In F. E. da Silva (Ed.), *Segundo encontro psi: Refletindo sobre o futuro da parapsicologia* (pp. 76-81). Curitiba, Paraná: Facultades Integradas "Espírita."
- Gallagher, C., Kumar, V.K., and Pekala, R. J. (1994). The Anomalous Experiences Inventory: Reliability and validity. *Journal of Parapsychology, 58*, 402-428.
- Garrett, E. (1939). *My life as a search for the meaning of mediumship*. New York: Oquaga Press.
- Gertz, J. (1983). Hypnagogic fantasy, EEG, and psi performance in a single subject. *Journal of the American Society for Psychical Research, 77*, 155-170.
- Honorton, C. (1977). Psi and internal attention states. In B. B. Wolman (Ed.), *Handbook of parapsychology* (pp. 435-472). New York: Van Nostrand Reinhold.
- Irwin, H. J. (1981). Some psychological dimensions of the out-of-body experience. *Parapsychology Review, 12*(4), 1-6.
- Kohr, R. L. (1980) A survey of psi experiences among members of a special population. *Journal of the American Society for Psychical Research, 74*, 395-411.
- Irwin, H. J. (1985) *Flight of mind: A psychological study of the out-of-body experience*. Metuchen, NJ: Scarecrow Press.
- Leaning, F. E. (1925). An introductory study of hypnagogic phenomena. *Proceedings of the Society for Psychical Research, 35*, 287-411.
- Mack, J. E. (1994). *Abduction: Human encounters with aliens*. London: Simon & Schuster.
- Mavromatis, A., & Richardson, T. E. (1984). Hypnagogic imagery. *International Review of Mental Imagery, 1*, 159-189.
- Mavromatis, A. (1987). *Hypnagogia: The unique state of consciousness between wakefulness and sleep*. London: Routledge & Kegan Paul.
- McCreery, C. (1993). *Schizotypy and out-of-the-body experiences*. Unpublished doctoral dissertation, University of Oxford, England.

- McCreery, C., and Claridge, G. (1995). Out-of-the body experiences and personality. *Journal of the Society for Psychical Research*, 60, 129-148.
- Moody, R. (with Perry, R). (1993). *Reunions: Visionary encounters with departed loved ones*. London: Little, Brown.
- Ohayon, M. (2000). Prevalence of hallucinations and their pathological associations in the general population. *Psychiatry Research*, 97, 153-164.
- Ohayon, M. M., Priest, R. G., Caulet, M., and Guilleminault, C. (1996). Hypnagogic and hypnopompic hallucinations: Pathological phenomena? *British Journal of Psychiatry*, 169, 459-467.
- Palmer, J. (1979). A community mail survey of psychic experiences. *Journal of the American Society for Psychical Research*, 73, 221-251.
- Palmer, J., Bogart, D. N., Jones, S. M., and Tart, C. T. (1977). Scoring patterns in an ESP ganzfeld experiment. *Journal of the American Society for Psychical Research*, 71, 121-145.
- Parra, A. (2006). "Seeing and feeling ghosts": Absorption, fantasy proneness, and healthy schizotypy as predictors of crisis apparition experiences. *Journal of Parapsychology*, 70, 357-372.
- Parra, A. (2008). Aura vision as a hallucinatory experience: Its relation to fantasy proneness, absorption, and other perceptual maladjustments. In S. Sherwood (Ed.), *Proceedings of the 51<sup>st</sup> Annual Convention of the Parapsychological Association* (pp. 166-175). West Downs Centre, University of Winchester, Winchester, England.
- Parra, A., Adróver, F., and González, G. (2006). Estudio exploratorio de la experiencia alucinatoria: Comparación entre población clínica y no-clínica (Exploratory survey on the hallucination experience: Comparison between clinical and non-clinical samples). In A. Trimboli, J. C. Fantin, S. Raggi, and P. Fridman (Eds.), *Encrucijadas actuales en salud mental: Primer Congreso Argentino de Salud Mental* (pp. 258-267). Buenos Aires: Akadia.
- Pekala, R. J., Kumar, V. K., and Cummings, J. (1992) Types of high hypnotically-susceptible individuals and reported attitudes and experiences of the paranormal. *Journal of the American Society for Psychical Research*. 86, 135-150.
- Raine, A. (1991). The SPQ: A scale for the assessment of schizotypal personality based on DSM-III-R criteria. *Schizophrenia Bulletin*, 17, 556-564.
- Raine, A. (1992). Sex differences in schizotypal personality in a non-clinical population. *Journal of Abnormal Psychology*, 101, 361-364.
- Raine, A., and Baker, L. (1992) *The Schizotypal Personality Questionnaire: Genetics, psychophysiology, neuropsychology and gender differences*. Portland, Oregon: Western Psychological Association.
- Raine, A., and Benishay, D. (1995). The SPQ-B: A brief screening instrument for schizotypal personality disorder. *Journal of Personality Disorders*, 9, 346-355.

- Sarbin, T. R., and Juhasz, J. B. (1975). The social context of hallucinations. In R. K. Siegel and L. J. West (Eds.), *Hallucinations: Behavior, experience and theory* (pp. 214-227). New York: Wiley.
- Schacter, D. L. (1976). The hypnagogic state: A critical review of the literature. *Psychological Bulletin*, 83, 452-481.
- Schacter, D. L., and Kelly, E. F. (1975). ESP in the twilight zone. *Journal of Parapsychology*, 39, 27-28.
- Sherwood, S. (2002). Relation between the hypnagogic/hypnopompic states and reports of anomalous experiences. *Journal of Parapsychology*, 66, 127-151.
- Siegel, R. K. (1980). The psychology of life after death. *American Psychologist*, 35, 911-931.
- Simmonds, C. A. and Roe, C. A. (2000). Personality correlates of anomalous experiences, perceived ability and beliefs: Schizotypy, temporal lobe signs and gender. Proceedings of Presented Papers. The 43<sup>rd</sup> Annual Convention of the Parapsychological Association, 276-291.
- Stanford, R. G. (1987). The out-of-body experience as an imaginal journey: The developmental perspective. *Journal of Parapsychology*, 51, 137-155.
- Swann, I. (1975). *To Kiss Earth Goodbye*. New York: Hawthorne Books.
- Tellegen, A. (1981). Practicing the two disciplines for relaxation and enlightenment: Comment on "Role of the feedback signal in electromyograph biofeedback: The relevance of attention by Qualls and Sheehan." *Journal of Experimental Psychology*, 110(2), 217-226.
- 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.
- White, R. A. (1964). A comparison of old and new methods of response to targets in ESP experiments. *Journal of the American Society for Psychical Research*, 58, 21-56.
- Wilson, S. G., and Barber, T. X. (1983). The fantasy-prone personality: Implications for understanding imagery, hypnosis, and parapsychological phenomena. In A. A. Sheikh (Ed.), *Imagery: Current theory, research, and application* (pp. 340-387). New York: Wiley.
- Wolfradt, U., Oubaid, V., Straube, E. R., Bischoff, N., and Mischo, J. (1999). Thinking styles, schizotypal traits and anomalous experiences. *Personality and Individual Differences*, 27, 821-830.