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Phenomenology of Non-Dream Premonition Experience and its Relationship with Cognitive Style, Absorption, and Luckiness

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Abstract: Much research has addressed the psychological correlates of premonition experience, but little direct attention has been given to the relationships between premonition experience and cognitive style, psychological absorption, and luck in a person's life. While the main aim of the present study was to compare two sets of findings about premonition experiences—one set of findings from new data specifically collected for the present study, and the other from a previous survey (Parra, 2013)—the secondary aim was to test these above-mentioned relationships. A sample of 234 undergraduate students completed the Premonition Experiences Questionnaire, the Cognitive Style Index, the Tellegen Absorption Scale, and the Questionnaire of Beliefs about Luck. The patterns of findings of the two studies were predominantly similar, with some explainable differences. Cognitive style, Absorption, and Belief in Luck, were predictors of premonition experience.

Keywords: premonitions, beliefs about luck, cognitive style, absorption.

INTRODUCTION

Premonition is a form of "extrasensory perception [ESP] in which the target is some future event that cannot be deduced from normally known data in the present" (Thalbourne, 2003, p. 90; see also, Dossey, 2009; Steinkamp, 2000). In a study by Parra (2013), a questionnaire was used to collect information on spontaneous premonition experiences (dream and non-dream) to determine the proportion of people in Argentina who claim to have had various kinds of premonition experiences, and to discover correlations between these experiences and other variables, such as content, topics, symbols, clearness, vividness, emotional variables, sensory modalities, and whether people could discern normal from paranormal explanations for their premonitions. The majority of premonitory dreamers reported that their premonitions were vivid, clear, and emotionally intense.

Premonitory dreams were reported to be clearer than usual dreams. Parra also found that more than half the participants who reported premonitions during waking states, reported feeling anxious, but many expressed feelings of happiness and relief.

In a second study using the same sample (Parra, 2015), associations between these experiences were explored. Personality measures and personality variables such as neuroticism, extraversion, empathy, and schizotypy were compared in relation to dream-related premonition experiences and nondream-related premonition experiences, for experients and non-experients. Participants who reported non-dream premonitions had higher scores on empathy and schizotypy, but were not significantly higher on neuroticism and extraversion, although they did endorse more positive indicators of schizotypy (unusual experiences) and cognitive empathy, such as emotional comprehension. Although schizotypal personality traits were associated with premonition experience, experiencers and non-experiencers did not differ on the negative dimensions of schizotypy.

While this research has addressed some psychological correlates of premonitions, little direct attention has been given to the relationship between premonition experience and style of cognition, absorption, and perceived role of luck in a person's life. The present study was undertaken to explore such relationships.

Style of Cognition

Rather than being an aptitude, thinking style is a way of choosing and using one's aptitudes (Sternberg, 1997). Hodgkinson, Langan-Fox, and Sadler-Smith (2008) report that psychologists have been "reluctant to acknowledge intuition as a viable construct, often consigning it to the 'fringes' of the field of psychology, within the realms of parapsychology . . ." (p. 1; see also, Claxton, 2000; Klein, 2003). Hodgkinson et al. argue that intuition is equated with 'esoteric' and 'New Age' thinking (see also, Boucouvalas, 1997). Hodgkinson et al. add that

> Psychologists have recognized [the] importance [of intuition] in a variety of cognitive processes, from the use of heuristics in decision making (Cappon, 1993; Klein, 2003) to creativity (Claxton, 1998) and learning (Burke & Sadler-Smith, 2006; Hogarth, 2001), and personality and individual differences theories. (p. 1)

Using the Constructive Thinking Inventory to test differences between psychic claimants and control groups, Parra (2011) found that psychic claimants tend to have more positive attitudes; their thinking is action-oriented; they are good behavioural copers; they think in ways that

promote effective action; and they are more accepting of others, but they are more rigid in their thinking than non-psychic claimants. Relatedly, a number of papers have investigated rational versus intuitive thinking, and how each might predict paranormal belief (e.g., Irwin & Young, 2001). According to some studies (Aarnio & Lindeman, 2005; Genovese, 2005; Wolfradt et al., 1999), high intuitive thinking and low analytical thinking predict paranormal belief. To take a slightly different approach, the present study will focus more on individual differences in profiles of cognitive styles in relation to paranormal experiences rather than paranormal beliefs *per se*. In the present study, we will specifically investigate correlates of thinking styles and premonition experience.

Psychological Absorption

Psychological absorption is the capacity to focus attention exclusively on some object (including mental imagery) to the exclusion of distracting events. Absorption 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 (Levin & Young, 2001-2002, p. 203; see also, Tellegen & Atkinson, 1974). 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, 2010a), and the perceptual trait of many paranormal experiencers and psychic claimants (Parra & Argibay, 2012). 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 (e.g., premonitions) to absorption (Alvarado & Zingrone, 1994; Glicksohn, 1990).

The present study will focus on absorption as a predictor of premonition experience.

Perceived Personal Luckiness

Because of the diversity of concepts of luck, if measures of perceived personal luckiness are to remain valid, it is necessary either to define luck for the respondent or to categorise the respondent's concept of what luck is.

The term 'luck' is often used as a means of expressing "gratitude for life success and good fortune, yet it is also often used to account for improbable and unexpected events, either serendipitous or tragic" (Luke, Sherwood, & Delanoy, 2008, p. 111; see also, Smith, 1998). Luke et al. state that

> the term luck for specific event outcomes may hide a degree of unconscious psychic intervention at work, either in the service of the person, as in the case of good luck, or against them, as with bad luck. (p. 25)

A number of parapsychologists acknowledge the possible psi component of luck, regarding it as ecologically plausible (e.g. Broughton, 1991; Smith, Wiseman, Machin, Harris, & Joiner, 2000; Taylor, 2003; Watt & Nagtegaal, 2000).

Such perceptions of personal luckiness have a number of implications for research into the psychology of gambling (Chiu & Storm, 2010), health risk behaviour, obsessive compulsive disorder, superstitions (Frost et al., 1993), and parapsychology (e.g., Darke & Freedman, 1997a, 1997b; Day, Maltby, & Macaskill 1999; Irwin, 2000; Watt & Nagtegaal, 2000).

Research has shown that the majority of people consider luck to have some importance in their lives (Smith, Wiseman, Machin, Harris, & Joiner, 1997, 2000). Based on responses to semi-structured interviews, a comprehensive 62-item luck beliefs scale was developed and factor-analysed, producing a robust four-factor solution with factors labelled (i) Luck (controllable, stable, non-random); (ii) Chance (spontaneous, uncontrollable, patternless, random), (iii) Providence or divine/fatalistic luck (determined or influenced by metaphysical beings, higher forces, fate, or destiny; it is stable, consistent, external, and periodic and may be influenced by prayer), and (iv) Fortune (a metaphor for success, good health, prospects, etc.). Given these four definitions, it would be of interest to researchers to know whether any or all of these forms of luck predict premonition experience. Therefore, the present study will focus on luck as a predictor of premonition experience.

Aims of the Present Study

The main aim of the present study was to describe and to compare findings in a previous study (Parra, 2013) and a new survey of an Argentina population who claim to have had various kinds of premonition experiences. A second aim was to explore correlations between these experiences and the variables, cognitive style, psychological absorption, and beliefs about luck. It is therefore hypothesized that premonition experience

is related to: (1) cognitive style; (2) absorption; and (3) beliefs about luck. (Note that the focus of the present paper is not on the phenomenology of premonition experiences related to dreams as analyzed in Parra, 2013.)

METHOD

Participants

2013 study: From a total of 513 undergraduate students recruited from the Psychology Department of the Universidad Abierta Interamericana (South Campus), Buenos Aires, Argentina, 429 (83%) completed usable questionnaires. The sample comprised 218 (51%) females and 211 (48%) males, ranging in age from 17 to 54 years (M = 34 years; SD = 13 years).

Present study. From a total of 286 undergraduate students recruited from the Psychology Department of the Universidad Abierta Interamericana (South Campus), Buenos Aires, Argentina, 234 questionnaires (81%) were usable. The sample comprised 188 (80%) females and 46 (20%) males, ranging in age from 17 to 64 years (M = 26 years; SD = 9 years).

Participation was voluntary and no payments were made to teachers or participants for their participation.

Materials

Premonition Experiences Questionnaire (PEQ). A self-report questionnaire, the Premonition Experiences Questionnaire (PEQ), was developed for the purposes of collecting data on spontaneous premonition experiences (for details, see Parra, 2013). The first part of the questionnaire (items 1 to 1.8) explores 'Premonitions in dreams', and the second part (items 2.1 to 12) covers 'Premonition not related to dreams' which are premonition-like waking experiences. If participants answered 'Never' to item 1, they are instructed to move onto the second part (item 2.1).

The first part, 'Premonition in dreams', involves: Frequency ('Never', to 'Multiples times'); Content ('Deaths', 'Serious events', and 'Trivial events'—not featured in this study); Symbols ('difficult to interpret', 'easy to interpret', 'very real events', 'no images', which were in part inspired by L. E. Rhine's [1961] classification—not featured in this study); Vividness ('Perfectly vivid and intense', to 'So vague and diffuse they are impossible to discern'); Clearness ('Not intense' to 'Very intense'); Emotional intensity ('Not intense' to 'Very intense'—not featured in this

study); Discern normal/paranormal explanations ('Never' to 'Every time'—not featured in this study); Time range ('Minutes' to 'Years'); and People involved (e.g., 'Mother/Father', 'Brothers/Sisters', etc.).

The second part, 'Premonition not related to dreams' (i.e., presentiments), also involved Frequency, Vividness, Clearness, Discern a premonitory dream, Time range, People involved, and Relatives who had premonition experiences ("if yes, who"), and Premonition at will ('Never' to Very frequently').

Participants could also describe the types of premonitory experiences (Topics) they had, such as unusual success in gambling, avoid accidents, anticipated the state of health, assaults/robberies, major accidents, death of someone near, and so on. Participants could also give responses to items covering four sensory modalities of the premonition experiences: visual experiences, sudden feelings (i.e., pre-feelings), hearing voices, and physical signs. Part 2 also covered characteristics of the experiences, such as Negative Emotions (anxiety, pessimism, despair, shame, etc.) and Positive Emotions (awesome, pride, relief, optimism, etc.).

Cognitive Style Index (CSI; (Allinson, Chell, & Hayes, 2000; Allinson & Hayes, 1996, 2000). The CSI was developed to meet the growing need for psychometrically sound instruments for the measurement of cognitive style in organizational settings. The CSI is a 38-item self-report questionnaire with a three-point scale (true-uncertain-false) measuring intuition and analysis in cognitive style in its original version. There are 21 analytic items which are scored according to the following scheme: true = 2, uncertain = 1, false = 0. For the 17 intuitive items, scoring is reversed: true = 0, uncertain = 1, false = 2. Scores are computed by adding the individual's scores for all thirty-eight items (Allinson & Hayes, 1996). Higher scores (towards 76) indicate a more analytical respondent, and lower scores indicate a more intuitive respondent. The CSI has indicated strong reliability (internal consistency and temporal stability, and good evidence of construct and concurrent validity; Allinson & Hayes, 1996). Based on the validating studies described, test authors concluded that the CSI demonstrates its psychometric properties by (a) a distribution of scores closely approximating theoretical expectations, (b) excellent reliability in terms of internal consistency and temporal stability, and (c) good initial evidence of construct and concurrent validity (Allinson & Hayes, 1996, p. 131; Allinson, Armstrong, & Hayes, 2001). The internal reliability of the CSI is good, Cronbach's alpha = .93 (Allinson, Chell & Hayes, 2000).

Tellegen Absorption Scale (TAS; Tellegen & Atkinson, 1974). The TAS is a 34-item self-report inventory. Each item of this scale requires a 'true' or 'false' response, and if a subject answers 'true', s/he is instructed to answer

two more questions appended to each of the TAS items. These two additional questions were designed to ascertain: (a) how frequently people engage in the given TAS activity (creation of opportunity for absorptive activities); and (b) how easy it is for the respondent to do so (capacity for engaging in these kinds of experiences). The internal reliability of the TAS is good, Cronbach's alpha = .90; test-retest reliability has also been found to be acceptable of the Argentine-Spanish version (Parra, 2006, 2010a, 2010b).

Questionnaire of Beliefs about Luck (QBL; Luke, Sherwood, & Delanoy, 2003). The QBL is a 41-item questionnaire, scored on a seven-point Likert scale from 'strongly disagree' to 'strongly agree'. The scale assesses belief in four polar concepts of luck: Luck, Chance, Providence, and Fortune (these were defined above). Each subscale has ten items scoring from 10 to 70 in total. The four factors allow for a diverse range of conceptualisations about luck, complementing a fifth measure of Perceived Personal Luckiness (one item), which is scored the same as the QBL subscales, with a score range 1 to 7. The internal reliability of the QBL is good, with a Cronbach's alpha = .83.

Procedure

Participants were invited to complete the questionnaire in a single session, selected from days and times previously agreed upon with the teachers. They were asked not to write their names on the questionnaire to preserve anonymity. They also received information about the aims of the study and instructions were given about the premonitions and paranormal dreams in general. Only the data not related to dreams was analysed in the present study. The data related to dreams will be analysed in another article (Parra, submitted)

RESULTS

Descriptive Findings

In order to compare two sample proportions between two studies (the 2013 study and the present study), a two-sample *z*-test was used to test each response pair using Ausvet's "EpiTools Epidemiological Calculators" (Sergeant, 2017). Two-tailed tests were run, and results were compared to a specified significance level of .05. Given so many *z*-score tests on response differences between the two samples (a total of 61), it was necessary to

make a Bonferroni correction by dividing the critical *p* value (α = .05) by the number of *z*-score tests: The new critical $p = \alpha/61 = .05/61 = .0009$.

Non-parametric tests (r_s) were also run to test the three hypotheses, since the scores were not normally distributed. Those comparison were one-tailed given that the hypotheses are directional.

Frequency. As Table 1 indicates, approximately half of the sample (*N* = 222; 51.7%) experienced premonitions in the 2013 study and approximately three quarters of the sample (*N* = 183; 78.2%) experienced premonitions in the present study. The difference is significant. Given that the samples are drawn from the same population (i.e., the Psychology Department of the Universidad Abierta Interamericana), all other significant differences reported below, and in Tables 1, 2, and 3, must largely be attributed to sampling error in the form of response variations caused by mostly uncontrollable social, historical, semester, and seasonal variations. For convenience, only the most common inter-survey responses are compared and reported here.

Table 1
Descriptives: Non-Dream Premonitions in Two Studies (2013 & Present)*

Variables	2013 Study (*N* = 429)		Present Study (*N* = 234)			
	N	%	*N*	%	*z*	*p***
Q1: Frequency						
Never	207	48.3	51	21.8	5.5	sig.
One single	34	7.9	24	10.3	0.8	n.s.
Sometimes	141	32.8	127	54.3	4.4	sig.
Multiple times	47	11.0	32	13.7	0.8	n.s.
[Yes, sub-total]	**[222]**	**[51.7]**	**[183]**	**[78.2]**	**6.7**	**sig.**
Total	429	100.0	234	100.0		
Q1.3 & Q4: Vividness						
Perfectly clear and intense	44	19.8	20	10.9	2.4	n.s.
Moderately clear and intense	81	36.5	91	49.7	2.7	n.s.
Unclear but vivid	65	29.3	48	26.2	0.7	n.s.
Vague and diffuse	28	12.6	21	11.4	0.4	n.s.
So vague/diffuse, cannot discern	4	1.8	3	1.6	0.5	n.s.
Total	222	100.0	183	100.0		
Q5: Clearness						
Not intense	32	14.4	46	25.1	2.7	n.s.
A little intense	69	31.1	107	58.4	5.5	sig.
Moderately intense	97	43.7	29	15.8	6.0	sig.
Very intense	24	10.8	1	0.7	1.3	n.s.
Total	222	100.0	183	100.0		

Table 1 *(Cont'd)*
Descriptives: Non-Dream Premonitions in Two Studies (2013 & Present)*

Variables	2013 Study (*N* = 429)		Present Study (*N* = 234)			
	N	%	*N*	%	*z*	*p***
Q1.7 & Q7: Time range						
Minutes	77	34.7	31	16.9	4.0	sig.
Hours	28	12.6	55	30.0	4.3	sig.
Days	30	13.5	61	33.3	4.8	sig.
Months	4	1.8	29	15.8	5.1	sig.
Years	13	5.9	1	0.5	12.5	sig.
Impossible to discern time range	70	31.5	6	3.5	7.2	sig.
Total	222	100.0	183	100.0		
*Q1.8 & Q8: People involved**						
Acquaintances	95	42.8	90	49.1	1.3	n.s.
Relatives	81	36.5	64	34.9	0.3	n.s.
Friends	71	32.0	71	38.7	1.4	n.s.
People I do not know	48	21.6	25	13.6	2.1	n.s.
Mother/Father	41	18.5	54	29.5	0.3	n.s.
Brothers/Sisters	36	16.2	37	20.2	1.0	n.s.
Sons/Daughters	30	13.5	12	6.5	2.3	n.s.
Wife/Husband	29	13.1	16	8.7	1.4	n.s.
Total	222		183			
Q9: Relatives who had Premonition Experiences						
Mother (only)	29	13.0	35	19.1	1.7	n.s.
Brothers/sisters	11	4.9	9	4.9	0.0	n.s.
Other relatives	11	4.9	89	48.6	10.2	sig.
Sons/Daughters	5	2.2	7	3.8	3.5	sig.
Both parents	5	2.2	4	2.1	0.2	n.s.
Father (only)	4	1.8	26	14.2	4.7	sig.
Grandmother and mother	2	0.9	1	0.5	1.6	n.s.
Grandmother (only)	2	0.9	7	3.8	7.0	sig.
No relative with premonitions	69	31.0	5	2.7	7.3	sig.
Yes (Total)	**222**	**100.0**	**183**	**100.0**		
Q10: Premonition at will						
Never	172	77.5	144	78.6	0.3	n.s.
Yes (Total)	**[50]**	**[22.5]**	**[39]**	**[21.4]**	0.3	n.s.
Once	24	10.8	21	13.0	0.7	n.s.
Occasionally	8	3.6	16	7.5	7.8	sig.
Very frequently	18	8.1	2	0.9	14.4	sig.
Total	222	100.0	183	100.0		

* Present Study = 2015 data.
** Bonferroni Correction, $p < .0009$.

Vividness. In the 2013 study, of the 222 participants who reported premonitions, 81 participants (36.5%) reported that vividness was *moderately clear and intense*, which was the most common response. In the present study, of the 183 participants who reported premonitions, 91 participants (49.7%) made the same response. *Z*-test results on response differences were not significant.

Clearness. In the 2013 study, of 222 participants, the most common response (n = 97, 43.7%) was that premonitions were *moderately intense*, but in the present study of 183 participants, the most common response was that premonitions were *a little intense* (n = 107, 58.4%). Two of four *z*-test results were significant, indicating that some between-sample differences may be due to sampling error.

Time Range. In the 2013 study, for most respondents, 77 of 222 participants (34.7%), the time range from premonition to event was in minutes. In the present study, 61 (33.3%) of 183 participants, the time range from premonition to event was in days. All six *z*-test results were significant, indicating that the between-sample differences may be due to sampling error.

People Involved. Of the 222 participants who reported premonitions in the 2013 study, the most common response (n = 95; 42.8%) was "acquaintances". Of the 183 participants who reported premonitions in the present study, "acquaintances" was also the most common response (n = 90; 38.5%). In five of nine tests, *z*-test results were significant, indicating that some between-sample differences may be due to sampling error.

Relatives who had Premonition Experiences. Of the 69 participants whose relatives had premonition experiences in the 2013 study, mothers were said to report more than any other (n = 29; 13.0%). However, in present study, 'other relatives' most often reported premonition experiences (n = 91, 38.9%), although mothers were the next most frequent (n = 35; 19.1%). In five out of nine tests (including tests on mothers), *z*-test results were significant, indicating that some between-sample differences may be due to sampling error.

Premonition at Will. In the 2013 study, 50 participants (22.5%) had premonitions at will at least once. In the present study, 39 participants (19.2%) had premonitions at will at least once. In two out of five tests (excluding the 'Yes' response), *z*-test results were significant, indicating that some between-sample differences may be due to sampling error.

Sensory Modalities of Premonitions. Table 2 shows that in the 2013 study, 88 (39.6%) out of 222 said they had 'visionary' premonitory experiences related to a given situation; 97 (43.7%) had pre-feelings of a future event; 64 (28.8%) heard voices warning them about a future event; and 42 (18.9%) felt physical signs *at least once* that anticipated the future event.

Table 2
Descriptives: Sensory Modalities of Premonitions

Sensory Modalities	2013 Study (n = 222)*	Present Study (n = 183)*	z	p**
Vision	88 (39.6%)	86 (47.0%)	1.5	n.s.
Pre-feeling	97 (43.7%)	85 (46.4%)	0.6	n.s.
Hearing voices	64 (28.8%)	30 (16.4%)	3.0	n.s.
Physical signs	42 (18.9%)	77 (42.0%)	5.1	sig.

* Respondents who answered "Yes."
** Bonferroni Correction, $p < .0009$.

In the present study, 86 (47.0%) out of 183 said they had premonitory 'visionary' experiences of the situation; 85 (46.4%) had pre-feelings of a future event; 30 (16.4%) heard voices warning them about a future event; and 77 (42.0%) felt physical signs *at least once* that anticipated the future event. One of four *z*-test results was significant, indicating that between-sample differences for 'Physical signs' may be due to sampling error.

Topics. Table 3 shows that in the 2013 study, out of 222 participants polled who said they had premonitions, 181 (81.5%) had the experience of saying what another person in the conversation was about to say, 94 (42.3%) had unusual success in gambling, and 57 (25.7%) had anticipated the state of health of a person before he/she became ill.

In the present study, out of 183 participants polled, 170 (92.9%) had the experience of saying what another person in the conversation was about to say, 109 (59.5%) had unusual success in gambling, and 56 (30.6%) had anticipated the state of health of a person before he/she became ill.

Eight out of 11 *z*-test results were not significant, indicating that between-sample differences can be explained by chance alone.

Attitudinal changes. Table 3 also shows that in the 2013 study, out of 222 participants, the premonition experiences improved the quality of their work

for 27 participants (12.2%), but in the present study, out of 183 participants, the most common response (n = 24, 13.1%) was that the premonition experiences 'contributed towards spiritual growth', which was not significantly lower for the same response (n = 25, 11.3%) in the 2013 study. Two other z-test results were significant, indicating that those between-sample differences may be due to sampling error.

Table 3
Descriptives: Topics of Waking Premonitions and Emotions in Two Studies (2013 and Present)

	2013 Study (n = 222)		Present Study (n = 183)*			
Topics (more that one choice ticked)	*N*	%	*N*	%	*z*	*p***
1. Saying what another person, about to say	181	81.5	170	92.9	3.3	sig.
2. Unusual success in gambling	94	42.3	109	59.5	3.4	sig.
3. To anticipate the state of health of a person	57	25.7	56	30.6	1.1	n.s.
4. School exams	45	20.3	42	22.9	0.6	n.s.
5. Major accidents	43	19.4	44	24.0	1.1	n.s.
6. Anticipate visiting/living, unknown places	42	18.9	44	24.0	1.2	n.s.
7. Death of someone next	36	16.2	43	23.4	1.8	n.s.
8. Events related to unknown ones	37	16.7	23	11.4	1.5	n.s.
9. Finding objects in unusual places	38	17.1	44	24.0	1.7	n.s.
10. Assaults/robberies	35	15.8	86	46.9	6.8	sig.
11. Events related on the media	21	9.5	9	4.9	1.8	n.s.
Attitudinal changes						
Improved the quality of my work	27	12.2	8	4.37	7.2	sig.
Contributed towards my spiritual growth	25	11.3	24	13.1	0.6	n.s.
Improved my interpersonal relationships	17	7.7	20	10.9	13.0	sig.
Changed the meaning of my life	15	6.8	10	5.4	2.9	n.s.

* Present Study = 2015 data.
** Bonferroni Correction, $p < .0009$.

Correlations

Table 4 lists results for tests on the three hypotheses. Hypothesis 1 states that premonition experiences are related to cognitive style, $r_s(197) = .16$, $p = .01$ (one-tailed). This result indicates that premonition experiences tend to increase as cognitive style becomes more analytical.

Hypothesis 2 states that premonition experiences are related to absorption, $r_s(205) = .26$, $p < .001$ (one-tailed). This result indicates that premonition experiences tend to increase as absorption increases. Also, for five of six Absorption subscales (F1 to F6) correlations were significant (see Table 4). Thus, premonition experiences tend to increase as sensibility, synesthesia, expanded awareness, dissociation, and vivid memories increase.

Table 4
Correlates of Premonition Experiences:* Cognitive Style, Absorption in Premonitions, and Beliefs about Luck ($N = 234$)

Variable	r_s	p
Cognitive Style Index	.16	< .01
Tellegen Absorption Scale	.26	< .001
F1. Sensibility	.21	.001
F2. Synesthesia	.25	< .001
F3. Expanded awareness	.22	.001
F4. Dissociation	.16	.010
F5. Vivid memories	.17	.008
F6. Expanded Consciousness	.12	n.s.
Questionnaire of Beliefs about Luck	.06	n.s.
1. Belief in Control	.12	.026
2. Belief in Chance	.10	n.s.
3. Belief in Providence	.06	n.s.
4. Belief in Fortune	-.04	n.s.

* Premonition experience; Range: 0 = Never to 3 = Very frequently.

Hypothesis 3 states that premonition experiences are related to beliefs about luck, which was only supported for Belief in Control, $r_s(223) = .12$, $p = .026$ (one-tailed). See Table 4 for other results.

DISCUSSION

The number of 'Yes' respondents in the present survey who answered that they had premonitions (78.2%) out-numbered the 'Yes' respondents in the 2013 survey (51.7%). Indeed, the difference was

significant. The number of significant differences was 24 of 61 analyses (39.3%), but within-category differences were most prominent only for *Frequency*, *Clearness*, *Time Range*, and *Relatives who had Premonition Experiences*. It is most likely that the differences are attributable to sampling error due to seasonal variations in anything from weather and different types of courses being held at the time the surveys were run, to how far the advertising reached. For each of these categories, *Vividness*, *People Involved*, *Sensory Modalities of Premonitions*, and *Topics*, most comparisons were not significant. Looked at another way, in the majority of response comparisons (60.7%), the present survey replicates most findings of the previous survey (Parra, 2013).

Specifically, the sensory modalities most commonly activated during premonitions (with no significant response differences between both surveys) were 'Vision' and 'Pre-feelings', followed by 'Hearing voices'. 'Physical signs' were quite common (42.0%) in the later survey, whereas 'Physical signs' was significantly low in the 2013 survey (18.9%).

A secondary aim of this study was to find correlates of premonition experience with cognitive style, perceived personal luckiness, and absorption. In agreement with numerous research findings (Alvarado & Zingrone, 1994; Glicksohn, 1990; Parra, 2006, 2010; Parra & Argibay, 2012), results show associations of premonition experience with absorption, cognitive style (Parra, 2011; Wolfradt et al., 1999), and luck perceived as primarily controllable, but also internal, stable and non-random. These relationships are now briefly discussed.

In support of the relationship between intuitive thinking style and premonition experience, the sample of the present study (referring only to participants who had premonition experiences) tended to have an intuitive rather than a rational thinking style, and the more premonition experiences, the higher the intuition. In a previous study (Parra, 2011), psychic claimants seemed to be more rigid in their thinking, but Aarnio and Lindeman (2005) found that higher intuition and lower analytical thinking contributed to higher paranormal belief. Oddly, Wolfradt et al. (1999) found that those who possessed both intuitive *and* rational thinking styles were more likely to report paranormal beliefs, paranormal experiences, and subjective paranormal ability than those who expressed either intuitive thinking alone, or rational thinking alone. However, given that paranormal belief is a complex multi-factorial variable, as opposed to a single factor like premonition experience, a more refined research agenda may be needed to tease out the sources of these differences.

The result of this study also confirmed the hypothesis that absorption is associated with premonition experience. This finding is on par with claims made by a number of researchers (e.g., Roche & McConkey, 1990; Tellegen & Atkinson, 1974), where the focal object of attention, even if

imaginary, is thought to become totally real to the experiencer. Absorption in the premonition experience may be experienced as something positive, similar to the enjoyment of music, art, natural beauty, and pleasant forms of daydreaming, which involve short-term detachment from one's immediate surroundings. During such experiences, a person's contact with reality is blurred and partially substituted by a visionary fantasy, which may include premonition experiences (Dossey, 2009).

Also, it was found that absorption correlated with five of six factors—Sensibility, Synesthesia, Expanded awareness, Dissociation, and Vivid memories—results which compare with other research findings (Glicksohn & Barrett, 2003; Glisky, Tataryn, Tobias, & Kihlstrom, 1991; Parra, 2006, 2010; Parra & Argibay, 2012).

Finally, premonition experience was not significantly related to global belief in luck, but it did significantly correlate with 'Belief in Control'. Irwin (2000) found a relationship between global belief in luck and belief in precognition in a sample of Australian adults who participated in a mail survey about paranormal beliefs and belief in good luck. In the present study, the single significant luck predictor ('Belief in Control') suggests that, for people who had premonition experiences, an event may be defined as an outcome of luck if its occurrence is essentially non-random, predictable, and controllable. Those people who have many premonitions may feel that luck is therefore controllable or controlled within a paranormal system. Furthermore, given the four non-significant correlations (see Table 4), there is little evidence that experients associate their premonitions with chance, providence, or fortune, yet a more magical or supernaturalistic mechanism may prevail (*cf.* Irwin, 2000; Pepitone & Safflotti, 1997; Teigen, Evensen, Samollow, & Vatne, 1999). Since people are motivated to seek explanations for what appear to be lucky events, premonition experience might be one mechanism amongst others that helps link luckiness with a predetermined plan.

The above findings are encouraging, as are the between-survey response similarities, which are clearly in the majority. Nevertheless, the prudent position is to await further replication.

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