

**ASSESSING THE RELATIONSHIP BETWEEN
SUBJECTIVE VALIDATION, PERSONALITY
CHARACTERISTICS AND BELIEFS IN THE
PARANORMAL**

FINAL REPORT

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Introduction

In this report I describe recent research on biased beliefs the subjective validation effect. Subjective validation occurs when a person finds confirmation of her/his prior beliefs in the presence of clear and unambiguous evidence to the contrary. There are reasons to believe that the subjective validation effect is a common, if not universal, phenomenon in human thinking. It appears especially prominent in the genesis and maintenance of bizarre beliefs including beliefs in the paranormal (Marks, 2000).

When we consider the more bizarre beliefs such as those concerning the paranormal, new evidence suggests that the subjective validation effect is associated with schizotypy, fantasy proneness and vividness of imagery. Subjective validation is moderated by a person's level of schizotypy such that high schizotypes maintain their prior beliefs significantly longer than low schizotypes when given evidence to the contrary to their beliefs. This evidence sheds light on the question of how personality and subjective validation enable bizarre beliefs and delusions to be maintained in light of disconfirming evidence.

Subjective validation is a core aspect of people's reports and beliefs concerning the paranormal. In experiencing personality readings by alleged psychics, a person will focus on and/or remember the "hits" or accurate statements, and forget and/or ignore the "misses," or inaccurate statements. In this way, the person subjectively validates the preconception that there is a "psychic" or paranormal connection between themselves, other people and/or other events in the universe. The main forms of paranormal belief concern ideas about telepathy (non-sensory mind to mind communication), precognition (knowing the future), and psychokinesis (energy transfer to objects).

Subjective validation is also sometimes referred to in the literature as the "personal validation effect". This is a specific form of subjective validation relating to the situation in which people are given a description allegedly of themselves which is readily accepted as true even though it is a generic description which applies equally well to anybody. Yet another name for the subjective validation effect is "The Forer Effect," named after the psychologist B.R. Forer who discovered in 1948 that people willingly accept general or vague descriptions of their personality as being unique to them, even though the same description can be applied equally to everybody. Forer gave a personality test to his students and, without bothering to look at the answers, provided them all with the same general personality analysis extracted from a newspaper astrology column. The analysis read as follows:

"You have a need for other people to like and admire you, and yet you tend to be critical of yourself. While you have some personality weaknesses you are generally able to compensate for them. You have considerable unused capacity that you have not turned to your advantage. Disciplined and self-controlled on the outside, you tend to be worrisome and insecure on the inside. At times you have serious doubts as to whether you have made the right decision or done the right thing. You prefer a certain amount of change and variety and become dissatisfied when hemmed in by restrictions and limitations. You also pride yourself as an independent thinker; and do not accept others' statements without satisfactory proof. But you have found it unwise to be too frank in revealing yourself to others. At times you are extroverted, affable, and sociable, while at other times you are introverted, wary, and reserved. Some of your aspirations tend to be rather unrealistic".

Forer asked his students to rate this analysis and received a highly positive response. Forer's students were convinced that he could "read" their personalities. This study is easily replicated and the author has done so on numerous occasions. Unfortunately, most Forer-type studies have been conducted only on college students.

In the research to be reported here, we used a sample of community volunteers, more representative of the general population.

The Forer effect helps to explain why so many people readily believe that pseudosciences such as astrology, fortune telling and graphology are valid. Marks and Kammann (1980) argued that: *“once a belief or expectation is found, especially one that resolves uncomfortable uncertainty, it biases the observer to notice new information that confirms the belief, and to discount evidence to the contrary. This self-perpetuating mechanism consolidates the original error and builds up an overconfidence in which the arguments of opponents are seen as too fragmentary to undo the adopted belief”*.

Subjective validation tends to occur whenever people become wedded to their pet ideas and prejudices. People, both lay and professional, can easily talk and think themselves into believing that their beliefs are true even though the evidence may well be pointing towards other possibilities. This can lead to problems of various kinds. Decisions can be made for inappropriate or wrong reasons. Dangerous ideas can be maintained and disseminated across communities and populations. Wars can be started when the evidence being cited is wholly lacking. Defending these ideas in the face of challenges by others not emotionally wedded to them will cause major problems for those responsible.

Paranormal beliefs are usually defined as experiences which if true would involve processes that are in principle outside the realm of human capabilities as presently conceived by science. Regardless of whether these phenomena are real or not they have important theoretical and clinical implications. A number of studies have indicated a link between schizotypy and paranormal belief (Thalbourne et al, 1997; Thalbourne, 1994 and Thalbourne & Delin, 1994). One of the first to do so was Windholz and Diamant (1974) who found that believers in the paranormal scored higher on the Hypomania and Schizophrenia scales of the MMPI.

The “fantasy prone person”, as identified by Wilson and Barber (1983), has frequent involvement with imagination and fantasy, high hypnotic susceptibility and reports high numbers of paranormal-type experiences (Lynn & Rhue, 1988). Crawley (2002) found significant correlations between Vividness of Visual Imagery Questionnaire (VVIQ-2; Marks, 1995). The Australian Sheep-Goats Scale (Thalbourne & Delin, 1993), the Revised Paranormal Belief Scale (Tobacyk, 1988) and fantasy proneness, suggesting a common set of characteristics among believers in the paranormal as compared to sceptics. These concepts and the theoretical links between them provide the background for the current research.

Large-scale surveys have revealed that a large proportion of the general population believes in paranormal phenomena. A Gallup poll in 2001 found that over a half of Americans believe in two of the following issues: psychic or spiritual healing, and extrasensory perception (ESP). In addition, a third or more believe in things like haunted houses, possession by the devil, ghosts, telepathy, extraterrestrial beings having visited earth, and clairvoyance. The situation is quite similar in the UK and in Europe.

A laboratory study of the subjective validation effect

The context for subjective validation in the real world is typically too messy and poorly controlled to be able to reach any definite conclusions. It is necessary to try to “bottle it” and study it in the controlled environment of the laboratory. This new laboratory study aimed to test the hypothesis that people scoring highly on paranormal belief scales score highly on schizotypy.* However, as schizotypy is a multi-dimensional construct, and the questionnaires that we used measured different aspects of schizotypy, we carried out a more fine-grained analysis of exactly what aspects of schizotypy can predict paranormal belief. Claridge (1985) proposed a continuum model of schizophrenia, whereby latent vulnerability to schizophrenia is displayed in the form of a continuum of cognitive and personality traits that can exist without the overt

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expression of illness. The model proposes a normal distribution of latency to schizophrenia in the general population, ranging from low at one extreme to overt schizophrenia at the other. Schizotypy thus refers to an individual's susceptibility to display schizophrenic symptomatology. One of the core symptoms of schizophrenia is delusions; these are false, unshakeable ideas or background and are held with extraordinary conviction. Thus the delusion is an extreme form of subjective validation.

Given the assumption that schizotypy is a dimensional correlate of schizophrenia we would expect individuals high in this construct to behave differently from those scoring low. We predicted that individuals high in certain aspects of schizotypy would maintain their prior beliefs significantly longer than individuals low in schizotypy, when given evidence to the contrary. The first hypothesis (H1) was that beliefs in the paranormal would show a strong subjective validation effect. In other words, beliefs about psi would be resistant to disconfirming evidence. In addition, we tested three hypotheses concerning the influence of personality characteristics on paranormal beliefs. We hypothesised that people who maintain paranormal beliefs would be high scorers in scales assessing:

H2 schizotypy

H3 fantasizing

H4 vividness of imagery

Furthermore we hypothesised (H5) that the above characteristics will be positively correlated.

Methods and measures

The methods were piloted in a study carried out at Cardiff University with Robert Snowden, Nicola Gray, Lisa Evans and a team of 'card-sharps' trained by the author. This larger-scale study was carried out in London.

Sample

One hundred and twenty participants who were interested in the paranormal and/or believed that they were psychic were recruited. All participants were above 18 years of age with a range 18-59 and a mean age of 24 years. Sixty-two percent were females and 38% were males. There were two experimenters, both of whom were trained by the principal investigator.

Measures

To assess the participants' pre-existing paranormal beliefs, two questionnaires were administered. The first one was that Australian Sheep-Goat Scale (Thalbourne & Delin, 1993) and the second was the Revised Paranormal Belief Scale (R-PBS; Tobacyk, 1988). In the Australian Sheep-Goat Scale participants were asked to indicate the extent to which they agreed or disagreed with statements by circling a true/false response. The R-PBS was measured on a seven-point scale ranging from strongly disagree to strongly agree. This questionnaire consisted of six sub-scales: 1) traditional religious belief, 2) psi, 3) witchcraft, 4) superstition, 5) spiritualism, 6) extraordinary life events and 7) pre-cognition.

Participants' beliefs in their own psychic powers were also assessed as a part of the laboratory study. Participants completed a brief questionnaire to assess what they thought was happening during the study and to assess their beliefs in their psychic abilities at the end of the study. They were asked two questions: (a) Are you psychic? (b) What kind of forces do you think you have when you do this kind of task?

To assess schizotypy, the Oxford-Liverpool Inventory of Feelings and Experiences (O-LIFE; Mason et al., 1995) was utilised. This assessment tool measures four dimensions of schizotypy (introvertive anhedonia, unusual experiences, impulsive non-conformity and cognitive disorganisation). Introvertive anhedonia describes a lack of enjoyment from social activities and suggests a dislike of emotional and physical intimacy. Unusual experiences contains items on hallucinatory and magical thinking. Impulsive non-conformity describes self-abusive and reckless behaviours. Lastly, cognitive disorganisation refers to difficulties with attention and concentration.

To assess fantasizing we used the Wilson-Barber Inventory of Childhood Memories and Imaginings: Children's Form (Myers, 1983). To assess imagery vividness, we used the Vividness of Visual Imagery Questionnaire (VVIQ; Marks, 1973). These last two questionnaires were used as indicators of participants' imaging and fantasizing styles.

Procedures

The procedure was in four phases: (i) Obtaining of informed consent; (ii) Completion of questionnaires; (iii) Completion of the card-guessing task; (iv) De-briefing.

Phase (i): Participants were first given an information sheet and a consent form to complete.

Phase (ii): They completed the above questionnaires in counterbalanced order.

Phase (iii): Participants carried out the card-guessing phase of the experiment. During the card guessing phase of the experiment a pack of 40 especially organised Zener Cards was used. These cards had five different designs on them: cross, star, circle, square and three wavy lines. Sitting on opposite sides of a table an experimenter and the participant interacted as cards were pulled from the pack by the experimenter. The cards were swiftly pulled from the top or the back of the pack using a pre-arranged non-randomised pack. The participant was allowed to cut the pack but not in a way that disturbed the pre-arranged sequence. On each of 40 trials the participant had to predict

which card was coming next, out of possible five. After each guess they stated how confident they were on a scale of 1-100 (1 being not confident at all and 100 being totally confident). Participants were asked to give confidence ratings for each of the 40 trials.

As noted above, the sequence of cards was manipulated artificially to provide false feedback. The feedback indicated that their predictions were above chance level in the first block of 20 trials. If the normal rules of probability applied, then it would be expected that participants could obtain approximately 4 correct predictions out of 20 (1 in 5 or 20%). However, in the first block of 20 trials a sleight-of-hand was performed, which increased the participants' correct prediction rate to 8 out of 20 or 40%. After this, participants were then given a second 20-trial block, in which the cards were manipulated to decrease the prediction rate.

At the end of the two trial blocks participants completed two questions relating to their own psi abilities. Each question could receive a score ranging from 0-2. Participants receiving 0 did not believe that they were psychic, those receiving a 1 did not know whether they had any psychic abilities and, lastly, participants scoring 2 believed themselves to be psychic. Total scores for these two items ranged from 0 to 4.

Finally, participants were given a fair test using a pack of 25 Zener Cards. Feedback was given accurately and the participant was informed at the end how many correct guesses they had achieved.

Phase (iv): Participants were debriefed. The methods used were explained and the participants received the opportunity to ask any questions about what had taken place. Participants getting high prediction scores – having being informed of the deception – might have felt a little disappointment but there was no evidence that anybody suffered a significant amount of stress. Those participants who did not believe that they were psychic in the first place had this belief confirmed, whereas participants who believed that they were psychic continued to believe this. Most of the participants who had faith in their psychic abilities and scored low on the Zener cards thought that the only

important factor affecting their performance was the laboratory conditions. In discussing the experiment with the participants, no untoward negative impacts were evident. In general the participants were amused and/or bemused by their results, but, few changed their beliefs as a result of the investigation.

Results

H1: Predicted relationship between psychic beliefs and subjective validation

The average correct prediction rates and confidence scores for the three trial-blocks are given in Table 1.

Table 1. Correct guessing rates and confidence levels for the three trial blocks

Trial block	Correct guesses		Confidence	
	Mean (MCE)*	S.D.	Mean	S.D.
1 (20 cards)	7.70 (4.00)	1.24	32.3	4.8
2 (20 cards)	1.57 (4.00)	1.12	31.8	5.1
3 (40 cards)	8.10 (8.00)	1.43	32.3	5.8

- MCE = mean chance expectation

As the participants' overall confidence remained high in spite of the markedly reduced performance in the second and third blocks of trials, this indicated a strong subjective validation effect. The range in confidence scores was relatively high and we used the average confidence in block 2 as a measure of subjective validation (SV). The correlation between psychic beliefs during the experimental task and confidence in block 2 correlated 0.64 (d.f. = 118; $p < .001$). This indicates that *people with high scores in subjective validation also had a strong tendency to proclaim psychic powers.*

H2: Predicted relationship between psychic beliefs and schizotypy scales

A significant association occurred between the participants' scores on three of the schizotypy scales and beliefs in their psychic abilities (Table 2). It is interesting to note that Unusual Experiences and Cognitive Disorganisation are positively associated with Psychic Beliefs while Introvertive Anhedonia is negatively associated with Psychic Belief and Impulsive Non-conformity is not significantly associated with Psychic Beliefs. This pattern of correlations suggests that the different schizotypy scales are measuring genuinely different aspects of schizotypy.

Table 2. Correlations between schizotypy scales and psychic beliefs

Schizotypy scale	r	p
Unusual Experiences	.432	<.0001
Cognitive Disorganisation	.301	<.0001
Introvertive Anhedonia	-.449	<.0001
Impulsive Non-conformity	.160	NS

H3: Predicted relationship between psychic beliefs and fantasizing

The correlation between the Wilson-Barber Inventory and psychic beliefs was 0.46 (d.f. 118, $p < .0001$), confirming the hypothesis.

H4: Predicted relationship between psychic beliefs and vividness of imagery

The correlation between the VVIQ and psychic beliefs was 0.58 (d.f. 118, $p < .0001$), confirming the hypothesis.

H5: Predicted relationship between the characteristics of subjective validation, schizotypy, fantasizing and vividness of imagery

The correlation matrix for the eight variables is given in Table 3 below. It can be seen that the majority of correlations are positive, providing confirmation of the hypothesis.

Table 3. Correlations between psychic belief, subjective validation, schizotypy, fantasizing and imagery

	Psychic beliefs	SV	Intr Anh	Unusual Exp	Imp Nonc	Cogn Disorg	WBI	VVIQ
Psychic beliefs	-	.642	.178	.434	.410	.378	.463	.579
SV		-	.389	.448	.009	.336	.238	.390
Intr Anh			-	-.190	.107	.198	.008	-.105
Unusual Exp				-	.437	.612	.594	.634
Imp Nonc.					-	.421	.005	.386
Cogn. Disorg.						-	.361	.499
WBI							-	.683

Note: Correlation coefficients in **bold** are significant at $p < .0001$ with 118 d.f.

Conclusions

This study has helped to identify the characteristics of people who strongly believe in personal psychic powers in spite of disconfirmation of by their actual performance. All five hypotheses were confirmed by the experimental data. Psychic believers have a

strong tendency to subjectively validate and have personality characteristics that are linked to schizotypy. In accordance with a number of studies, which have indicated a link between schizotypy and paranormal belief (Thalbourne et al, 1997; Thalbourne, 1994 and Thalbourne & Delin, 1994), the study observed significant associations between paranormal beliefs and specific dimensions of schizotypy personalities.

Previous research has indicated that beliefs in the paranormal are a consequence of the subjective validation effect and wishful thinking (Marks & Kammann, 1980; Marks, 2000). The present study suggests that those who continue to believe in psychic powers, even when their beliefs are discredited by evidence, have personality characteristics that are continuous with those observed in schizophrenics, fantasizes and people with vivid imagery. This result will not surprise many scientists and sceptics of the paranormal. However it is a result that should give pause to those who continue to claim the existence of powers and phenomena for which there is no objective evidence.

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