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Mental Health and the Paranormal

Simon Dein
University College London and Durham University

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Simon Dein
University College London and Durham University
London and Durham, UK

To date, there has been a dearth of work examining the relationships between paranormal experiences and mental health. After defining paranormal experience and its prevalence, I examine a number of areas related to paranormal experience and psychopathology: psi and the unconscious, dissociation and fantasy proneness, schizotypy, transliminality and reality monitoring, child abuse, reasoning and information processing, and transpersonal psychology. Finally, I discuss the clinical implications of these findings.

Keywords: ***mental health , paranormal, anomalous , schizophrenia, transpersonal, clinical applications***

Annette, a woman in her sixties, reported an experience that typically would be referred to as telepathic. She had been separated from husband Alan for many years and had no contact with him. When the couple separated, she continued to live in the family home in London while he had immigrated to Melbourne. She suddenly awoke from her sleep one night with the distinct feeling that something was seriously wrong with Alan. Rather concerned, she phoned Alan at home to find that he had been admitted to a hospital with a heart attack. A few days later when she contacted the hospital, she was able to speak to Alan who told her that he had been thinking of her before his heart attack. This was by no means the first time that Annette had such experiences. She claimed that she would generally sense that one of her friends or relatives was experiencing a difficult problem in their lives even though, she emphasized, they had not physically contacted her, and, in some instances, she had not communicated with them for some time. Her mental health did not suffer as a result of these experiences.

Mark, a 25-year-old man, had recently been admitted to a hospital in a very agitated state. For several months, he had neglected himself and become convinced that neighbors were interfering with his thoughts. He maintained that strangers could read his thoughts. His neighbors were able to replace his thoughts with theirs, an experience that he found very traumatic. In addition, he claimed that he could hear his neighbors' voices coming in through the walls of his house. The psychiatrist looking after him made a diagnosis of schizophrenia based upon classical, Schneiderian, first rank symptoms including thought insertion, thought broadcasting, and third person auditory hallucinations. He was started on antipsychotic medication, and after several weeks, his "psychotic" symptoms largely disappeared.

How might both these experiences be understood? In the first instance there are several possible explanations: coincidence, a vivid dream, ESP, fabrication, and/or unresolved attachment issues. In the second instance, it is likely that most people would consider Mark mad, in the lay sense, in view of his bizarre experiences. Whereas Annette was able to function, this was not the case for Mark. There are, however, similarities between the two cases. Both individuals claimed to have experiences that are not readily accounted for in terms of folk psychology, that is, the information that lay people have about the mind. In both instances, they were convinced that thoughts could travel though space from one person to another breaching the boundaries between the self and the outside world. Both experiences could be defined as anomalous. What makes people cross the psychotic threshold is not necessarily the content but the consequences of their beliefs. As Peters (2001) rightly pointed out, it is not *what* you believe, it is *how* you believe it.

Anomalous Experiences in the General Population

Anomalous experience is an umbrella term for types of strange experiences, which science does not yet fully understand or cannot yet explain. They are assumed to deviate from ordinary experiences or from the usually accepted explanations of reality and are often

seen as bizarre. Experiences are anomalous on account of the fact that they are not explicable by "normal," folk psychology or conventional scientific processes including folk physics. Both psychiatry and parapsychology focus on anomalous phenomena such as visions, voices, and thought processes, and there is obvious overlap between them. In this paper, I will outline the relationship between the two disciplines. Psychiatrists have a longstanding interest in anomalous phenomena (Murray, 2012).

In contrast to the traditional categorical approach to psychosis adopted in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), there is emerging interest in a more dimensional view, which proposes that psychosis-like beliefs, perceptual distortions, and idiosyncrasies of thought and communication, considered characteristic diagnostic criteria for psychosis, are distributed (albeit to varying degrees) throughout the general population (for a recent systematic review of this topic, see van Os, Linscott, Myin-Germeys, Delespaul, & Krabbendam, 2009, and Nuevo et al., 2010). Alexander Moreira-Almeida and Etzel Cardeña (2011) noted that evidence of a high prevalence of psychotic experiences in the general, non-clinical population and several other recent research findings have fueled sophisticated criticisms of the current concepts of schizophrenia and the diagnostic criteria used by the *International Statistical Classification of Diseases and Related Health Problems* (ICD-10) and the DSM-IV. This approach views florid psychosis as comprising the most extreme pole of the population spectrum. Phenomena that psychiatrists regard as truly pathological have been found to be prevalent in the general population. One question, which arises from this dimensional view, is how such anomalous experiences become clinically significant.

Reports of paranormal experiences are prevalent in the general population with over half of the population reporting at least one such experience (Ross & Joshi, 1992). According to Targ, Schlitz, and Irwin (2000), in most countries where surveys have been conducted, psi related experiences have been reported by over half the population. A prevalence of over 50% has been found in surveys undertaken in North America, Great Britain, other countries in Europe, especially Iceland, the Middle East, Brazil, South Africa, Asia, and Australasia (Cardeña, Lynn, & Krippner, 2000). The most commonly reported paranormal experiences involve apparent telepathy (acknowledged by about a third, and sometimes as much as half, of the population) or clairvoyance (in about a fifth of the population). The systematic study of spontaneous paranormal experiences has developed also through the study of numerous collections of individual case reports beginning in the late 1800s and continuing until the present. The large volume of these case studies reinforces the view of paranormal experiences as widespread in the general population (adapted from Targ et al., 2000, pp. 222-223). In the USA, a poll of belief in paranormal phenomena based upon 1,236 adults (Gallup & Newport, 1991) reported that one out of every four Americans believes in ghosts and one in six Americans has felt that they have been in touch with someone who has died. In the UK, an opinion poll of 1000 British adults (Daily Mail, 2/2/98) found that 64% maintained that some people have powers that cannot be explained by science, 47% believe in thought reading, and 34% believe in psychokinesis. Moore (2005) found that three in four Americans continue to believe in the paranormal. A substantial minority of the population claim to have had a direct personal experience of the paranormal (Blackmore, 1984; Clarke, 1995; Palmer, 1979).

The reported prevalence, however, varies in different cultural groups. Culture determines the types of experiences reported, the ways in which they are reported, and their impact on subsequent behavior. Generally, however, the experiences appear compelling, meaningful, and personally significant and occur in waking consciousness, sleep, and in dreams. They can relate to an event taking place at the time (i.e., are contemporaneous) or refer to the future (i.e., are precognitive). It is important to note, however, that just because an experience is widely reported, it does not mean that this experience is genuine and reported correctly. I will not attempt to add to the already controversial scientific discourse on the ontology of paranormal phenomena. Rather in this paper, I will discuss the mental health implications of these phenomena.

First, a brief note on terminology. Here I deploy the term paranormal rather than spiritual or religious with its implications of attribution to a higher power. As Tobacyk and Milford (1983) noted, religious and paranormal belief systems share overlapping constructs and notions, for example, belief in a spiritual world and belief in experiential metaphysics, which is the belief that some individuals are able to experience aspects of a spiritual world. However, religion and spirituality are generally considered to be separate from paranormal

beliefs (Sobal & Emmons, 1982) and separate from each other (Emmons & Paloutzian, 2003).

Thalbourne (2003), a psychologist and a prominent researcher in the field, defined paranormal:

> A phenomenon is paranormal if it refers to hypothesized processes that in principle are physically impossible and outside the realm of human or animal capabilities as presently conceived by conventional scientists . . . often used as a synonym for "psychic," "parapsychological," "attributable to psi," or even "miraculous" (though shorn of religious overtones). (pp. 83-84)

Measures of paranormal belief deployed in research range from extremely narrow with some assessing belief only in ESP, to very broad measures that cover belief in magic, religious phenomena, extraordinary life forms, ghosts, superstition, and so on (Irwin, 1993). Here I focus upon a number of diverse phenomena ranging from typical psi experiences such as telepathy, clairvoyance, and precognition to more complex phenomena such as sense of presence, out-of-body experiences, and near death experiences.

Paranormal Experience and Mental Health

There has been surprisingly little research examining the associations between anomalous experience and psychopathology[1]. The extant literature focuses upon two areas: the immediate emotional impact of anomalous experiences and the relationship between such experiences and various measures of psychopathology. In a study of psychological impact of telepathic experiences, Stevenson (1970) found the most common emotional responses were anxiety and depression. More generally, the most commonly reported emotions are anxiety and happiness (Irwin, 1999; Milton, 1992). There is, however, limited evidence that having a psi related experience per se induces long-term psychological or physical after effects (Stokes, 1997), but their interpretation is highly culture dependent. In the USA, for example, there is evidence that some members of the general population are fearful of psi related experiences.

There is currently controversy concerning whether unusual experiences are symptoms of a mental disorder, if mental disorders are a consequence of such experiences, or if people with mental disorders are especially susceptible to or even looking for these experiences. Although some literature deals with psi psychopathology, particularly the writings of Ehrenwald (1948), Ullman (1949, 1973), Greyson (1977), and Eisenbud (1970), there is very little recent literature discussing specifically the prevalence of paranormal beliefs and experiences in psychiatric patients and the psychiatric interpretation of subjective paranormal experience. Those who report paranormal phenomena have been found to experience higher levels than normal of psychological symptoms (McCreery & Claridge, 1995), and those with mental disorders report unusually strong convictions about supernatural phenomena (Ekblad & Chapman, 1983; Thalbourne, 1994). Stronger beliefs in the paranormal have been associated with higher scores on schizophrenia relevant measures in the general population (Thalbourne & French, 1995; Tobacyk & Wilkinson, 1990; Windholz & Diamant, 1974). People who have been diagnosed with psychotic disorders (bipolar, brief reactive psychosis, and schizophrenia) demonstrate a high phenomenological overlap with psi related experiences. Such individuals frequently report receiving telepathic messages (American Psychiatric Association, 1994) and are frequently distressed by the experience. Schizophrenia itself is associated with unusual beliefs of a paranormal nature such as thought broadcasting and mind reading.

Thalbourne's (1994) study of university students found that those whose scores indicated higher belief in the paranormal tended to score significantly higher on the Magical Ideation Scale (which measures proneness to psychosis), the Perceptual Aberration Scale (which assesses a variety of nonpsychotic body image and perceptual distortions), and the combined Perceptual Aberration-Magical Ideation (Per-Mag) Scale. However, the correlation with the MMPI's Schizophrenia Scale reached significance for males only. In a survey of the correlates of belief in (and alleged experience of) the paranormal, Thalbourne and Delin (1994) examined, among other variables, the clinical status of their subjects. In addition to a comparison group of 241 university students, the sample included 86 persons with manic-depression and 38 with schizophrenia. The correlations between the Australian Sheep-Goat Scale (Thalbourne & Delin, 1993) and the Manic-Depressiveness Scale (Thalbourne & Delin, 1994 as well as the Magical Ideation Scale (Eckblad & Chapman, 1983) were positive and, for the most, significant in all three groups. Thalbourne and French (1995) in an English sample of 114 university students, using as measures of belief in the

paranormal the Australian Sheep-Goat Scale, reported that paranormal belief was significantly correlated with measures of manic-depressive and manic-depressive experience, as well as magical ideation. It was noted, moreover, that manic-depressive experience was moderately correlated with magical ideation, suggesting some overlap between the relevant conditions groups. Mischo (1996) reported that while half of the people with belief in unusual experiences investigated did not show any psychologically striking behavior, the other half had significant scores on different schizotypal scales. Thus, although the data suggest that belief in the paranormal is associated with some measures of psychopathology, there is a need for additional research to further assess and understand these relationships.

The belief in unusual experiences alone, however, does not indicate psychological disorder. Neppe (1984) proposed a category termed *subjective paranormal experience psychosis* to describe individuals with a long history of psi related experiences that deteriorate into frank psychosis. There is little known about the factors that drive individuals from paranormal experiences to psychotic states. Targ and colleagues (2000) proposed that the healthy experient of psi may be at risk of developing a delusional or paranoid explanation in the context of lack of support or education concerning the nature of these experiences. I propose that this education could consist in pointing out (a) that there is a genuine ontological basis for paranormal phenomena, and (b) that there is a genuine danger of being mislead by such experiences or of jumping to wrong or premature conclusions.

There is, however, some evidence that paranormal experiences reported by clinical groups are more negative, bizarre, detailed, and disturbing (Bentall, 2000; Targ et al., 2000). Emotional reactions to paranormal experiences, content, and locus of control appear to be different among clinical and non-clinical subjects. Also, individuals diagnosed with psychosis appear less likely to have insight into the strangeness of their paranormal experiences compared to healthy experients (Targ et al., 2000). In contrast, other studies have found no link between paranormal experiences and mental health disorders (Goulding, 2004), and one study suggested that such experiences could actually improve mental wellbeing, reduce fear of death, contribute to optimism about the future, and bring meaning in life (Kennedy & Kanthamani, 1995). While psychotic people may well be inclined to endorse paranormal beliefs (Greyson, 1977; Persinger, 1987), the converse is not always the case.

Psi and the Unconscious

When the (British) Society for Psychical Research was founded in 1882, there was great interest in hypnosis focusing not only on its use for investigating the unconscious and latent aspects of human personality but also in its relationship to paranormal perception (Ullman, 1977). Early researchers, including T. Weir Mitchell (1922), W. F. Prince (1916), and Pierre Janet (1886), focused on the relationships between psi and altered states of consciousness and investigated this relationship through a number of phenomena: hypnosis (Janet, 1886), hysteria (Mitchell, 1922), multiple personality (Mitchell, 1922; Prince, 1916), and paranoia (Prince, 1927). Myers' classic two-volume study, *Human Personality* (1903), explored the evidence for survival and provided a comprehensive survey of the relationship between disordered internal states, including hysteria and insanity, and man's supraliminal (the term used to connote psi ability) capacities. Psychoanalytic writings on psi and psychiatry have focused upon the dynamics of psi events as they arise in a clinical context. Only a few have gone so far as to theorize about the role psi may play in the evolution and symptomatology of the major psychoses.

Throughout his professional life, Freud (1921) had an interest in various paranormal phenomena including prophetic dreams, telepathy, and superstition (although not typically labelled as paranormal). He described what he felt might be telepathic and clairvoyant perceptions by patients that appeared to be related to important repressed material. However, his biographers are undecided whether or not he accepted these phenomena; it appears that he, for the most part, explained paranormal phenomena rationally in terms of unconscious conflicts. There is evidence, nonetheless, that he was open to their scientific validation. At the age of 65, he mentioned:

> I do not belong with those who reject in advance the study of so-called occult phenomena as being unscientific, unworthy, or harmful. If I were at the beginning of my scientific career, instead of at the end of it, as I am now, I might perhaps choose no other field of study—in spite of its difficulties. (Mitchell, 1989, p. 25)

If there is some uncertainty about Freud's level of belief, there is no doubt that his followers particularly Carl Jung and Sandor Ferenzi devoted much time to the study of the occult (Jung, 1953). Jung is well known for his writings on *synchronicity* or meaningful coincidences (Jung, 1952/1973). In addition, he described his own personal anomalous experiences, which he took to be real: mystical union, telepathy, spirit mediums, and near death experiences (Jung, 1963/1989). Main (1997) wrote:

> Paranormal events accompanied his decision to make a career in psychiatry, his conflict and eventual breach with Freud, his relationship with his ghostly guru Philemon, the writing of Septem Sermones and Mortuos in which he adumbrated much of his later psychology, his formulation of the concept of the self as the centre of psychic totality, and his heart attack and transformative near death experience of 1944. (p. 7)

Ehrenwald (1948) was the first in the modern era to examine the significance of telepathy for an understanding of paranoia and the schizophrenic psychoses. He considered psi as an archaic, regressive, or primitive faculty and considered telepathy or *heteropsychic input*, as he called it, as evidence of some impairment of a filtering mechanism designed to ward off such influence. He proposed that heteropsychic stimuli operating in adult life posed a potential threat to one's sense of intactness and definition as a discrete entity. For him, telepathic awareness emerged as a compensatory mechanism. Telepathic sensitivity, according to Ehrenwald, played its most significant role at the onset of a psychotic process and during the later, more deteriorated phases of the disorder. In the early stage of illness, telepathically perceived content may appear in the emerging delusional material, in which case the delusion cannot be completely understood on the basis of projection. At a more advanced stage, Ehrenwald interpreted the picture of deterioration as resulting from the disorganizing effect of the intrusive flooding by both autopsychic and heteropsychic stimuli. Similarly Ullman (1949, 1952), in a clinical context, noted that patients who functioned close enough to a psychotic breakdown to be aware of its possible imminence, manifested psi ability in the therapeutic context more frequently and more consistently than do other patients.

In his review of parapsychology and psychopathology, Alberti (1974) re-examined the longstanding belief in the close relationship of psi to dissociative states such as occur in hypnosis, hysteria, and psychosis (see, for example, Bender, 1935; Ehrenwald, 1948; Janet, 1886; Moser, 1935; Myers, 1903). Although he accepted the association between the tendency to dissociative states and the occurrence of various automatisms and psi phenomena, he is critical of the nature of the correlation. He noted, for example, that in cases of multiple personality, genuine psi effects are rare and interpreted the relationship as a contingent one rather than a causal one. Furthermore, he proposed that proneness to dissociative states and guessing ability (e.g., ESP) are two distinct entities. Having discussed relationships between paranormal experiences and psychopathology, I shall move on to examine factors that might underlie these associations.

Dissociation and Fantasy Proneness

Two constructs have been linked to paranormal beliefs: dissociation and fantasy proneness. Dissociation has been defined by the DSM-IV as: "A disruption in the usually integrated functions of consciousness, memory, identity, or perception of the environment. The disturbance may be sudden or gradual, transient or chronic" (American Psychiatric Association, 1994, p. 766). In clinical practice, the term dissociation is applied to a wide range of altered states of conscious.

Ross and Joshi (1992) argued for a relationship between paranormal experience and dissociation, putting forward a model in which paranormal experiences are conceptualized as an aspect of normal dissociation. Like dissociation generally, paranormal experiences can be triggered by trauma, especially childhood physical or sexual abuse. Such experiences discriminate individuals with childhood trauma histories from those without at high levels of significance. Dissociativity has been correlated with paranormal belief in a number of studies (e.g., Irwin, 1994; Pekala, Kumar, & Marcano, 1995; Wolfradt, 1997; Ross & Joshi, 1992; Richards, 1991), although a few studies have not demonstrated such a relationship (e.g., Groth-Marnat, Roberts, & Ollier, 1998-99). Makasovski & Irwin (1999) suggested that pathological dissociation predicts belief in parapsychological and spiritual concepts, but that non-pathological dissociative tendencies (absorption) do not correlate with paranormal belief. Rattet and Bursik (2001) reported that dissociative tendencies were related to paranormal belief, but not to self-reported precognitive experiences.

High levels of dissociation are found in those with other types of anomalous experiences. Powers (1994) has shown that a group of alleged alien abductees demonstrated higher levels of dissociativity than a matched sample of non-abductees. Similarly, French, Santomauro, Hamilton, Fox, and Thalbourne (2008) found higher levels of dissociativity in a group of people claiming alien contact compared to a matched control group. Children reporting past-life memories have been shown to have higher levels of dissociative tendencies in both Sri Lanka (Haraldsson, Fowler, & Periyannanpillai, 2000) and Lebanon (Haraldsson, 2002). Greyson (2000) has reported that although people reporting near-death experiences (NDEs) are generally psychologically healthy, some do manifest non-pathological signs of dissociation. Gow (2006) found that those reporting out-of-body experiences were more fantasy prone, higher in their belief in the paranormal and displayed greater somatoform dissociation.

A fantasy prone person is reported to spend a large portion of his or her time fantasizing, has vividly intense fantasies, paranormal experiences, and intense religious experiences (Merckelbach, Horselenberg, & Muris, 2001). Fantasy proneness was first identified by Wilson and Barber (1983) as being a characteristic of highly hypnotically susceptible individuals and is highly correlated with absorption (Lynn & Rhue, 1988). From the early 1990s, psychologists and parapsychologists were aware that fantasy proneness correlates with both paranormal belief and a tendency to report paranormal experiences (e.g., Irwin, 1990, 1991). As Berenbaum, Kerns, and Raghavan (2000) asserted:

> Individuals with high levels of absorption are at increased risk of having anomalous experiences because they may intentionally be trying to have them or may be more likely to explore aspects of their phenomenological worlds that other people would not explore. Potentially these explorations might develop into full blown anomalous experiences. (p. 39)

Glickson and Barrett (2003) found that the trait of absorption underlies hallucinatory experience, dissociation and anomalies of belief and experience including paranormal belief.

Schizotypy

Much of the work on paranormal beliefs and mental illness has deployed the concept of schizotypy, a multidimensional construct that appears to be on a continuum with psychosis (Claridge, 1997). Of the nine diagnostic criteria for schizotypal personality disorder specified in the *DSM–IV* (American Psychiatric Association, 1994), several resemble possible forms of psi related experiences. High scores on the schizotypy scales indicate an increased risk of developing schizophrenia. There is a large amount of research indicating a link between schizotypy and paranormal beliefs and experience (Chequers, Joseph, & Diduca, 1997; Goulding, 2004, 2005; Schofield & Claridge, 2007; Thalbourne & French, 1995; Wolfradt & Watzke, 1999).

There is some evidence that the biological correlates of schizotypy and paranormal experiences are similar. Schizotypy (Buschbaum et al., 2002; Cannon, van Erp, & Glahn, 2002) and paranormal beliefs and experiences (Persinger, 1984; Persinger & Valliant, 1985) are associated with temporal lobe dysfunction. Right hemisphere dysfunction has been posited to play a role in schizophrenia (Cutting, 1992) and has also been posited to play a role in anomalous experience. Neppe (1984) pointed out the similarities of many psi-related experiences to symptoms of temporal lobe epilepsy.

Child Abuse and Trauma

Paranormal beliefs and experiences have also been associated with childhood trauma (Irwin, 1992; Wilson & Barber, 1983), abuse (Lawrence, Edwards, Barraclough, Church, & Hetherington, 1995; Perkins & Allen, 2006; Ross & Joshi, 1992), need for interpersonal control (Irwin, 1994), and a perceived lack of childhood control (Watt, Watson, & Wilson, 2007). Relatively few studies have addressed specifically the links between paranormal experiences and trauma. Paranormal experiences have also been associated with negative affect and negative experiences (Lindeman & Aarnio, 2006). Perkins (2006) compared paranormal belief systems in individuals with and without childhood physical abuse histories. Psi, precognition, and spiritualism, which are thought to provide a sense of personal efficacy and control, were among the most strongly held beliefs in abused subjects and were significantly more prevalent in abused versus non-abused subjects. The results suggest that by providing a sense of control, certain paranormal beliefs may offer coping strategies to individuals who endured the stress of physical abuse in childhood. Negative life events have been associated with paranormal experiences. Rabeyron (2006) found in a qualitative

study that paranormal experiences occur after negative life events. Rabeyron and Watt (2010) found significant correlations between paranormal experiences and mental boundaries, traumas, and negative life events. This finding requires further empirical validation.

Transliminality and Reality Monitoring

Thalbourne and Delin (1994) presented evidence that paranormal belief and experience correlated with traits such as creativity and mystical experience. They postulated a single common factor underlying these experiences: *transliminality*, the extent to which the contents of some preconscious (or unconscious or subliminal) region of the mind are able to cross the threshold into consciousness. Thalbourne and Maltby (2008) defined transliminality as a hypersensitivity to psychological material originating in (a) the unconscious, and/or (b) the external environment. Using subliminal stimuli, Crawley, French, and Yesson (2002) provided evidence supporting the idea that non-conscious processing may sometimes create the illusion of paranormal powers. Another useful framework for understanding paranormal experience is that of reality monitoring—referring to the ability to distinguish between mental events that are internally generated and those reflecting external reality. In the perceptual domain this would result in a tendency to hallucinate while in the memory domain it would reflect a susceptibility to false memories (Johnson & Raye, 1981; Johnson, Hashtroudi, & Lindsay, 1993).

Reasoning and Information Processing Bias in Delusions and Hallucinations and in Paranormal Experiences

Bentall (2000) presented an excellent overview of how reasoning and information biases are involved in delusions and hallucinations in schizophrenia. The following discussion derives from his work (see also French and Wilson, 2007, for a useful discussion). He asserted that sufferers from delusions demonstrate preferential recall or information related to their delusions and attributional biases in which negative events are attributed to the actions of others. In hallucinations there is misattributed inner speech. In a similar way, those believing in the paranormal exhibit such biases including poor probability reasoning and the belief that they have control over random events (Blackmore & Trosianco, 1985; Brugger, Regard, Landis, Krebs, & Niederberger, 1994). Probability mismanagement is a cognitive bias that might result in the formation of paranormal beliefs. Those who misjudge the probability of mundane coincidences are more likely to misinterpret normal events as paranormal.

Paranormal beliefs may provide a framework that facilitates a sense of meaning and control. Believers in the paranormal are more inclined to attribute personal involvement in randomly determined processes than non-believers (Brugger et al., 1994). Brugger and Taylor (2003) reviewed studies suggesting that believers perceive more meaningful patterns in random stimuli and perceive more meaningful relationships between distant associated events and objects compared to non-believers. Notions of causality associated with the paranormal beliefs of patients with schizophrenia differ from the causality thinking non-clinical believers. Whereas the former demonstrated a reliance on the role of chance in everyday life, the latter framed their causal concepts in terms of personal responsibility and in seeking meaningful connections (Williams & Irwin, 1991).

Others have associated lack of critical evaluation of hypotheses and the suspension of reality testing with the development of paranormal beliefs. Langdon and Coltheart (2000) asserted that pathological beliefs or delusions arise in part through a failure of the person to subject a hypothetical explanation of sensory experience to critical testing. Relatedly, some commentators (e.g., Alcock, 1981, 1995; Goode, 2000; Vyse, 1997; Zusne & Jones, 1982) have argued that this is also the case for paranormal beliefs. In other words, when a person proposes a paranormal explanation for an experience, this hypothesis might not then be subject to the usual processes of rigorous critical evaluation either at the time of its formulation or when further relevant information later becomes available. In this way, an observed event may become the basis for a paranormal belief by the individual. Irwin (2003, 2004) found that paranormal believers have a pattern of reality testing deficits that is characteristic of the formation of psychotic beliefs—some people interpret an anomalous event as paranormal without critical testing of the logical plausibility of this belief. On such a basis, people who endorse paranormal beliefs would therefore be predicted to show some deficit in reality testing.

A recent study by Irwin and Young (2002) suggested that, when an anomalous experience gives rise to an attribution involving paranormal processes, people with a habitual intuitive-experiential information processing style (Epstein, Pacini, Denes-Raj, & Heier, 1996) will be satisfied with the attribution's intuitive

appeal and, therefore, will not subject it to reality testing. Thus, the suspension of reality testing may be integral to a broader cognitive style of the person. Irwin (2004), using a questionnaire survey of 161 adults from the general Australian population, found that two fundamental facets of paranormal belief were predicted by reality testing deficits. Some people, when faced with anomalous experience, may jump to a paranormal interpretation without due critical testing of the logical plausibility of this belief. Thus, the suspension of reality testing may be integral to a broader cognitive style of the person. Motivational factors, such as a need for a sense of control over life events (Irwin, 2004), may also be important here. Thus, if a paranormal belief provides a sense of reassurance in this respect, reality testing of the belief might be suspended and the belief thereby protected against revision in the face of contrary information (Bader, 1999; Wiseman & Smith, 2002).

In another study (Lawrence & Peters, 2004), individuals who reported a strong belief in the paranormal made more errors on a deductive reasoning task and displayed more delusional ideation than skeptical individuals. Another form of reasoning bias common to both paranormal beliefs and delusions is confirmation bias—the tendency to attend to, interpret, and store information that confirms one's existing beliefs and disregard information that is contradictory to these beliefs. There is some evidence that believers in the paranormal and non-believers experienced increased emotional arousal when they read counter attitudinal information but only the former showed a selective bias in recalling information congruent with their beliefs (Russell & Jones, 1980).

Transpersonal Psychology and the Paranormal

Finally it is possible to examine the relationship between transpersonal and paranormal experience. Daniels (1998) noted that the paranormal is an aspect of human experience that has the potential for promoting transpersonal development. Paranormal experiences can lead to such transformation by encouraging the individual to consider the significance of the wider or deeper reality beyond the world of the ordinary self and its concerns.

A problem in transpersonal psychology is how to distinguish between what is pre-rational and what is trans-rational. Both states are "irrational," but pre-rational relates to superstition, voodoo, magical thinking, ego-inflation, and so on, whereas trans-rational has to do with truly mystical states of consciousness. Ken Wilber (1996) discussed the *pre-trans fallacy*, the difference between the prepersonal and transpersonal. Prepersonal states occur when an individual has not yet fully achieved a stable sense of selfhood and personal identity or has regressed to more primitive, childlike states. In contrast, transpersonal states represent a genuine progressive evolution beyond the personal level. One important way of recognizing the difference is that in prepersonal states the individual has no clearly defined sense of self to draw on and, therefore, is fragile and unintegrated in experience. In transpersonal states, on the other hand, the sense of self is transcended but not destroyed. Practically, this means that the person who has developed transpersonal awareness can (and most of the time does) operate from the position of a stable, integrated self. The transpersonal, therefore, transcends and includes the personal, whereas the prepersonal is a primitive anticipation or reversion that excludes the personal. Wilber maintained that many claims about non-rational states make a mistake he calls the pre-trans fallacy. According to him, the non-rational stages of consciousness (what Wilber called pre-rational and trans-rational stages) can be easily confused with one another.

Paranormal phenomena occur commonly during a spiritual crisis (also called a spiritual emergency), a form of identity crisis where an individual experiences drastic changes to their meaning system (i.e., their unique purposes, goals, values, attitude and beliefs, identity, and focus) typically because of a spontaneous spiritual experience. Transpersonal psychologists assert that these crises are a kind of non-pathological developmental crisis that can have powerfully transformative effects on a person's life when supported and allowed to run their course to completion (Grof & Grof, 1989). In some instances, however the influx of information from non-ordinary sources, such as astral projection, precognition, telepathy, or clairvoyance, becomes so overwhelming and confusing that it dominates the picture and constitutes a major problem, in and of itself.

Clinical Implications of Paranormal Experience

There is some evidence that overreliance on reported psi related events to diagnose schizotypal personality disorder or schizophrenia carries the substantial risk of stigmatizing, alienating, or erroneously medicating patients. It is more essential to assess how an individual

interprets and responds to an apparent psi experience than to engage in efforts to evaluate whether or not the experience entailed some paranormal process such as psi. It is important to ensure that patients know that they are not alone in these experiences and that patients are provided education and are given the opportunity to discuss and assimilate the experience.

Recent work on early onset psychosis highlights the importance and benefits of early and phase-specific intervention in the development of psychosis, in terms of both the overall duration and severity of psychotic episodes (McGorry, Nordentoft, & Simonsen, 2005). Building upon this work, Coelho, Tierney, and Lamont (2008) reinforced the need for more formal links between parapsychology units and mental health professionals. The ability to refer distressed individuals (who meet certain criteria) to an appropriate mental health professional would result in more effective interactions and increase the chances of early detection of potential psychotic illness. This would also transfer the responsibility of responding to these contacts to a fully qualified and insured clinician. The clinician's role would be to help the affected individual decide how to deal with their experience in the light of information supplied by the contact.

Conclusion

There is no evidence that paranormal beliefs and experiences are pathological per se, and they appear to be common in the general population. Like symptoms of psychosis such as hallucinations and thought insertion, they occur in non-clinically ill individuals. Although such experiences correlate with various measures of psychopathology, there is a need for further work to understand these associations. In some instances, paranormal experiences may precipitate psychopathology; future work should examine what factors drive individuals from these experiences to develop frank mental illness.

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Notes

1. I am extremely grateful to Professor Chris French who provided comments on an earlier draft of this paper. His talk *You don't have to be crazy to believe in the paranormal but does it help?* has provided an excellent overview of this area which I develop here. (See www.videojug.com/interview/belief-**in-the-paranormal**-2)

About the Author

Simon Dein, PhD, is a consultant psychiatrist in Essex UK specializing in rehabilitation and liaison psychiatry. He holds a doctorate in social anthropology from University College London where he currently teaches. He is an honorary professor at Durham University where he runs an MSc in Spirituality, Theology, and Health. He has written widely on religion and health among Hasidic Jews, Evangelical Christians and Sunni Muslims in the UK. He is founding editor of the journal *Mental Health, Religion and Culture*. He is Chair of the spirituality section of the World Association of Cultural Psychiatry.

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