

Research into Psychotic Symptoms: Are There Implications for Parapsychologists?

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Abstract: Parapsychology and psychopathology are usually thought of as separate disciplines which have little relevance to each other. In this paper, I will suggest reasons why the two disciplines would profit from exchanging ideas and information. Both parapsychology and psychopathology deal with anomalous experiences. Moreover statistical associations have been reported between paranormal experiences and psychological symptoms. I review research into delusions and hallucinations which suggest that information processing and reasoning biases play a role in both symptoms. Biases in information processing and reasoning have also been found to discriminate between those who believe in paranormal phenomena and those who do not. These findings do not establish the non-veracity of some paranormal experiences as this can only be determined by empirical research.

Introduction

It is easy to assume that the disciplines of psychopathology and parapsychology address different facets of the universe. After all, textbooks on psychiatry and abnormal psychology nowadays rarely include mention of parapsychological phenomena, and treatises on parapsychology rarely discuss stress or mental illness, except perhaps in passing. Nonetheless, there are reasons for believing that both disciplines would profit from a consideration of the other.

Most obviously, although the descriptive languages employed by the two disciplines differ radically, both focus on anomalous experiences. Psychopathologists tend to describe such experiences as belonging to various types of mental illness such as 'schizophrenia' and 'manic depression'. However, these concepts are misleading because they disguise the value laden nature of the attribution of mental illness (Bentall, 1992a; Szasz, 1960), and also because categorical systems of diagnosis such as those found in the fourth edition of the American Psychiatric Association's Diagnostic and Statistical Manual (DSM-IV; American Psychiatric Association, 1994) and the tenth edition of the World Health Organization's International Classification of Diseases (ICD-10; World Health Organization, 1992) lack proven scientific validity (Bentall, 1992b; Clark, Watson, & Reynolds, 1995). In fact, it is the peculiar experiences and behaviours which patients and their families complain about which must form the focus of inquiry in psychopathology - for example, hearing voices when no one else is present, or feeling persecuted without good cause. These types of experiences and behaviours

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are usually singled out as 'pathological' precisely because they seem to be inexplicable within the conceptual framework of ordinary folk psychology (Horowitz, 1983).

Similarly, parapsychologists tend to discuss their subject matter in terms of different hypothetical processes such as ESP, telekinesis or precognition. However, the raw phenomena which allow the inference of these processes - for example, the apprehending of novel information without any immediate source, the perception that objects move at will, uncannily accurate convictions about future events - are anomalous experiences which appear to defy explanation within a conventional conceptual framework, in these cases the framework of folk physics.

This connection between the subject matters of psychopathology and parapsychology extends beyond mere formal similarity. Some studies indicate that people who report paranormal experiences have higher than normal levels of psychological symptoms (McCreery & Claridge, 1995) whereas others indicate that individuals suffering from mental illness report unusually strong convictions about the reality of supernatural forces (Eckblad & Chapman, 1983; Thalbourne, 1994a; Thalbourne, 1994b). Statistical associations of this sort cannot be used to dismiss parapsychological phenomena as non-veridical, as such questions can only be resolved by experiment. (Bem & Honorton's (1994) analysis of the ganzfeldt experiments should caution zealous psychopathologists against dismissing all parapsychological phenomena as evidence of unstable minds). Nonetheless, they do indicate that psychopathologists and parapsychologists would do well to get to grips with each others' findings.

In this paper, I will discuss psychological research on delusions and hallucinations, two types of psychopathological phenomena which should be of particular interest to parapsychologists. I will show that each of these types of anomalous experience can be explained in terms of biases or deficits in information processing. After discussing these phenomena, I will conclude by pointing to some similarities between the relevant research findings and the results of research into beliefs about the paranormal.

Delusions

The term 'delusion' is used to describe the apparently bizarre beliefs avowed by many patients who suffer from psychotic disorders (disorders in which the individual is said to have 'lost touch with reality' in some way). The most common delusions reported by patients are persecutory (eg. "there is a conspiracy to kill me which is being organized by the Director General of the BBC") or grandiose (eg. "I am God incarnate"), but other less common delusional themes include delusions of reference (in which apparently innocuous events are believed to have extraordinary significance for the self), erotomanic delusions (eg. "Madonna is secretly in love with me") and delusional misidentifications (eg. "My partner has been replaced by an alien robot who looks exactly like her"). DSM-IV defines such beliefs in terms of the patient's unusually high level of conviction, the fact that the delusion is resistant to counter argument, and the lack of congruence between the belief and the beliefs commonly held by the individual's subculture (American Psychiatric Association, 1994). This last criterion should alert us to some real difficulty in determining whether a belief can be said to be delusional or not. Jaspers (1912/1963) argued that an additional feature of delusions is their inherent 'ununderstandability' (ie. the fact that they cannot be seen as meaningful within the context of the individual's personality or history). However, Sims (1988) has pointed out that the 'ununderstandability' criterion is, in itself, quite subjective. This difficulty of precisely determining whether or not a belief is delusional undoubtedly reflects the fact that delusions lie along a continuum with normal beliefs (Kendler, Glazer, & Morgenstern, 1983; Strauss, 1969). Recent findings of systematic psychological differences between deluded and nondeluded patients suggest that we may be confident, at least to a degree, that the concept of delusion is not entirely socially constructed.

Until recently, a view of delusions that was commonly accepted by psychologists was to see them as rational interpretations of abnormal perceptual experiences (the paradigm case being the patient who hears a hallucinatory voice and believes that the police have planted a radio-receiver in his head). This account was particularly advocated by Maher (1974, 1992) who pointed to case studies of patients whose delusions seem to have arisen this way, and who went so far as to deny that nonperceptual cognitive abnormalities were implicated at all. Maher's anomalous perception model undoubtedly works for some patients - for example, patients who suffer from delusional misidentifications, who appear to have difficulty processing information about faces (Ellis & Young, 1990). However, the findings from a research programme which we have been conducting in Liverpool over the past decade point to at least two kinds of cognitive abnormality which we seem to be important in the origin and maintenance of some delusional beliefs.

In a number of studies, we have shown that patients suffering from persecutory delusions have abnormal information processing biases. For example, using the 'emotional Stroop' paradigm in which subjects are asked to ignore the meaning of a word and simply report the ink colour in which it is written, we showed that paranoid patients are slow at colour-naming words relating to personal threat (Bentall & Kaney, 1989), presumably because these kinds of words 'grab' their attention. This result has been replicated by other researchers (Fear, Sharp, & Healy, 1996; Kinderman, 1994; Leafhead, Young, & Szulecka, 1996). Not surprisingly, paranoid patients also preferentially recall information relating to their delusions (Bentall, Kaney, & Bowen-Jones, 1995; Kaney, Wolfenden, Dewey, & Bentall, 1992).

A second type of cognitive abnormality which may be even more significant in the origin and maintenance of delusions is attributional. Human beings readily seek explanations for the events which impact on them - Zullow, Oettingen, Peterson, & Seligman (1988) have estimated that a causal statement can usually be found for every hundred words or so of spoken or written text. Abramson, Seligman, & Teasdale (1978) suggested that a particular kind of attributional style - a tendency to attribute negative events to causes which are internal (caused by self), global (likely to affect all areas of life) and stable (unlikely to change) - predisposes individuals to depression. Using measures developed by Seligman and his group, we found that patients suffering from persecutory delusions attribute negative events to causes which are external (other blaming), global and stable (Kaney & Bentall, 1989). This finding has now been replicated in several further studies (Candido & Romney, 1990; Fear, et al., 1996; Kinderman & Bentall, 1996; Lee & Won, 1998; Lyon, Kaney, & Bentall, 1994) and using different methodologies (Kaney & Bentall, 1992). It appears that paranoid patients specifically make external-personal attributions, in which blame for a negative event is attributed to the deliberate intentions of others, rather than the external-situational attributions (eg. "I'm sorry I'm late but the traffic was dreadful") often made by ordinary people (Kinderman & Bentall, 1997).

Although it is easy to see why persistently blaming others for one's own failures might lead to paranoid delusions, it is not so easy to see how this style of reasoning could develop. In our latest work, we have explored the possibility that the paranoid attributional style reflects the interaction of two separate processes (Bentall & Kinderman, 1998).

First, the tendency to avoid attributing the responsibility for negative events to the self seems to be an exaggeration of a normal strategy for regulating self-esteem (Bentall, Kinderman, & Kaney, 1994). Consistent with this account, we have found that paranoid patients avow a positive view of themselves when tested using direct measures (Kinderman & Bentall, 1996), whereas they show evidence of low self-esteem when tested using indirect measures (Bentall & Kaney, 1996; Kinderman, 1994; Lyon, et al., 1994). We believe that this high level of defensiveness is probably the product of dysfunctional family relationships. Consistent with this hypothesis, we have recently found that recovered paranoid patients report

unsatisfactory relationships with their parents that date back to early childhood (Rankin, Bentall, Hill, & Kinderman, *subm.*)

Second, we have argued that the tendency to make external-personal rather than situational attributions reflects an inability to infer the mental states of others (a skill sometimes misleadingly described as having a 'theory of mind' or ToM; Baron-Cohen, 1995). This type of inference is often required when we discount the negative actions of other people (eg. "He was probably rude to me because he was feeling very stressed) by attributing them to circumstances. Consistent with this argument, other researchers have observed that paranoid patients perform poorly on ToM tasks (eg. questions that can only be answered by correctly inferring false beliefs in others) (Corcoran, Cahill, & Frith, 1997; Corcoran, Frith, & Mercer, 1995) although this finding has not always been replicated (Drury, Robinson, & Birchwood, 1998). In our own work, we have found that normal individuals who perform relatively poorly on ToM tasks tend to make excessive external-personal attributions as our theory predicts they should (Kinderman, Dunbar, & Bentall, 1998). Our ongoing studies are examining relationships between more general cognitive deficits, ToM and attributions in clinical samples.

Hallucinations

Whereas research on delusions has pointed to the role of motivated reasoning biases in the genesis of abnormal beliefs, research on hallucinations has pointed to the role of beliefs in determining unusual perceptual experiences.

It is customary within psychiatry to regard hallucinations as evidence of mental illness. Auditory hallucinations (hearing voices) were regarded as first-rank symptoms of schizophrenia by the famous psychopathologist Kurt Schneider (1959), and more recent studies have consistently shown that hallucinations, especially in the auditory modality, are experienced by the majority of patients diagnosed as suffering from schizophrenia (Sartorius, Jablensky, Korten, Ernberg, Anker, Cooper, et al., 1986; Sartorius, Shapiro, & Jablensky, 1974). However, a surprising number of normal individuals, when questioned, report a history of hallucinatory experiences (Bentall & Slade, 1985a; Posey & Losch, 1983; Tien, 1991). Moreover, there is evidence of quite substantial cultural variations in the disposition to have hallucinatory experiences (Al-Issa, 1977, 1995).

Three observations have allowed researchers to understand the cognitive processes involved in auditory hallucinations. First, there is evidence that hallucinatory experiences occur more frequently under periods of stress or when the individual is exposed to an environment which is either lacking in stimuli or noisy (Slade & Bentall, 1988). Second, auditory hallucinations are accompanied by small activations of the speech muscles (Gould, 1948; Green & Kinsbourne, 1990; Inouye & Shimizu, 1970; McGuigan, 1966) and by activations of speech areas in the left hemisphere of the brain (McGuire, Shah, & Murray, 1993). Third, auditory hallucinations can sometimes be inhibited by the individual carrying out some kind of concurrent verbal task such as naming objects or reading (Erickson & Gustafson, 1968; Gallagher, Dinin, & Baker, 1994; James, 1983; Margo, Hemsley, & Slade, 1981). Many investigators have concluded that these observations can be accounted for by supposing that auditory hallucinations are misattributed inner speech (Bentall, 1990; Frith, 1992; Hoffman, 1986). That is, the people who hear voices seem to be talking to themselves in a relatively normal way but, somewhat abnormally, believe that their inner voice is coming from someone else.

The reasons why some people should have a predisposition to mistake the source of their inner speech are not entirely understood. Attempts to assess the ability of hallucinating patients to monitor the source of their experiences has yielded some evidence of a general deficit in this area (Bentall, Baker, & Havers, 1991; Bentall & Slade, 1985b; Johns & McGuire,

1999). Interestingly, this deficit appears to be especially evident when patients attempt to monitor the source of emotionally salient stimuli (Baker & Morrison, 1998; Morrison & Haddock, 1997).

However, deficits in source monitoring seem to be only one of the factors involved in auditory hallucinations. The cross cultural evidence referred to earlier suggests that individual's beliefs about reality may help to determine whether or not they believe that particular experiences are generated by themselves or by other individuals (Al-Issa, 1977, 1995). Consistent with this account, studies of hallucinating patients and normal subjects who have a history of hallucinations indicate that their perceptual judgements can be highly influenced by suggestions (Haddock, Slade, & Bentall, 1995; Mintz & Alpert, 1972; Young, Bentall, Slade, & Dewey, 1987).

These findings have fairly obvious implications for clinical practice. Patients who hold strong beliefs about the omnipotence and omniscience of their voices seem especially distressed by them. Challenging these beliefs is therefore an approach which sometimes beneficial effects (Chadwick & Birchwood, 1994).

Could Some Information-Processing Biases Influence Belief in Paranormal Phenomena?

I have so far argued that delusions and hallucinations can be understood in terms of particular information processing and reasoning biases. It is reasonable to ask whether belief in the supernatural is influenced by similar processes. Such beliefs, which are very common in all cultures, present a particular challenge to those who believe in an easy distinction between normal and abnormal beliefs. For example, Gallup and Newport (1991), in a survey of over 1000 American adults, found that about one quarter of those surveyed believed in ghosts and that about one tenth claimed to have been in the presence of a ghost. About a quarter of those surveyed said that they had telepathic experiences, and about one in seven thought that they had seen a UFO. Three quarters reported that they occasionally read their horoscope in newspapers.

Schmeidler and McConnell (1958) coined the unfortunate terms 'sheep' and 'goats' to describe believers and nonbelievers in paranormal phenomena respectively and, despite the apparently pejorative nature of these terms, they have been widely used by parapsychologists ever since. In a review of the psychological literature comparing 'sheep' with 'goats' (much of which has used questionnaire measures of belief in the paranormal such as the Belief in the Paranormal Scale (Jones & Russell, 1980), French (1992) found considerable evidence that 'sheep' exhibit biases in reasoning and information processing which tend to reinforce their beliefs. For example, some studies have found that 'sheep' are more likely than 'goats' to believe that they have control over random events (Brugger, Regard, & Landis, 1991), and that belief in paranormal phenomena is associated with high levels of perceived performance on parapsychological tasks (for example, tests of psychokinesis) regardless of actual performance (Benassi, Sweeney, & Drevno, 1979). Blackmore and Troscianko (1985) observed that 'sheep' performed worse than 'goats' on questions designed to measure their ability to reason about probabilities, and that they also tended to underestimate the level of performance on parapsychology tests which would be expected by chance, with the consequence that their own performance seemed to them to be much better than chance. Russell and Jones (1980) gave 'sheep' and 'goats' fictitious journal articles reporting successful and unsuccessful ESP experiments; although both groups reacted emotionally to evidence that appeared to contradict their views the 'goats' tended to remember both types of information equally well, whereas the 'sheep' recalled more accurately the information which was consistent with their beliefs.

Religious convictions form another category of beliefs which, to the non-committed, may seem nonsensical, and which may be spared from inclusion as delusions only because of

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their apparent cultural congruence. Roberts (1991) administered two questionnaire measures of perceived purpose and meaning in life (Crumbaugh's (1968) Purpose in Life Test and Battista and Almond's (1973) Life Regard Index) to a group of actively deluded psychiatric patients, a group of recovered deluded patients, a group of Anglican ordinands (trainee priests), and a 'normal' group of psychiatric nurses. The Anglican ordinands scored highly on both questionnaires, as did the actively deluded patients, whereas the recovered deluded patients and 'normal' controls scored lower. Fourteen out of 16 of the actively deluded patients reported that their lives had improved following the development of their belief systems, for example because they had established a new sense of identity or a clearer sense of duty and responsibility, or because they felt emotionally more positive.

Conclusions

The idea that the disciplines of psychopathology and parapsychology might learn from each other is not a new one; in the early years of the 20th century, psychologists such as Fredrick Myers and William McDougall explicitly included paranormal phenomena within the subject matter of abnormal psychology (Parker, 2000). After nearly a century in which the two disciplines have gone their separate ways, it is now possible see once again the common ground that they share.

The available evidence points to the possibility that supernatural beliefs can be influenced by psychological processes which, although more benign, in some sense parallel those observed in deluded and hallucinated psychiatric patients. However, as Roberts (1991) has observed, it is important not to overstate these similarities or to conclude too much from them. Some of the cognitive peculiarities observed in psychotic patients, for example theory of mind deficits, have never been observed in ordinary people who believe in the paranormal, and perhaps never will be. Other similarities between people who experience the paranormal and psychotic patients might reflect the impact of paranormal experiences on mental health (Parker, 2000). Like Roberts, we can perhaps agree with Jaspers (1912/1963) who argued that, "Religious experience remains what it is whether it occurs in Saint or psychotic, or whether the person in whom it occurs is both at once".

Nonetheless, it would be wrong to ignore entirely evidence of similarities between psychiatric patients and particular groups of ordinary people for fear of offending ordinary people. Indeed, the findings reviewed in this paper add to the mounting evidence that psychiatric disorders exist on continua with normal functioning, making any clear division between the 'them' who are mentally ill and the 'us' who are untroubled difficult and in many ways unhelpful.

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