



NOTES AND SHORTER COMMUNICATIONS

Belief in extraterrestrial life, UFO-related beliefs, and schizotypal personality

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Summary—An 8-item scale was devised to assess belief in extraterrestrial life and UFO-related beliefs. Cross sectional data are reported on 276 young adults who completed the scale along with several measures of schizotypal personality. These data provide evidence that UFO-related beliefs are associated with higher schizotypy scores, but that the belief in extraterrestrial life *per se* is not. © 1997 Elsevier Science Ltd

INTRODUCTION

Beliefs in paranormal phenomena are thought to be widely held in the general population (e.g. Clarke, 1991) and it has been hypothesised that those who believe in and report experiences of the paranormal are more likely to score high on schizophrenia related measures. The first study to test this was carried out by Windholz and Diamant (Windholz & Diamant, 1974) who found that students' scores on a measure of extraordinary phenomena beliefs were associated with scores on the schizophrenia scale of the Minnesota Multiphasic Personality Inventory (Hathaway & McKinley, 1983). More recent work by Thalbourne (1994) has replicated this finding and extended the investigation to the association between paranormal beliefs and some aspects of schizotypal personality. Thalbourne (1994) found that stronger beliefs in the paranormal were associated with scores on the magical ideation scale (Eckblad & Chapman, 1983) and the perceptual aberration scale (Chapman, Chapman & Raulin, 1978) (see also Thalbourne & French, 1995).

Thalbourne (1994) used a 13-item version of the Australian sheep-goat scale which measures core concepts of paranormal beliefs (ESP, life after death, PK). However, there remains much debate over what constitutes paranormal phenomena with distinctions being drawn between these core beliefs and a wider range of extraordinary claims such as is measured by Tobacyk and Milford's (Tobacyk & Milford, 1983) belief in paranormal phenomena scale. This provides subscale scores for beliefs in psi, witchcraft, superstition, spiritualism, and extraordinary life forms.

In addition to these phenomena, recent years have seen an increase in reports of alien abduction and UFO-related experiences (Mack, 1994). Although it might be argued that UFO-related beliefs are not paranormal beliefs, the accounts provided by those who claim to have been abducted are certainly extraordinary. It might be predicted that stronger UFO-related beliefs would also be associated with higher schizotypy scores. However, as such phenomena usually lie outside the focus of paranormal belief scales this hypothesis remains to be tested.

One study by Spanos, Cross, Dickson & DuBreuil (1993) compared those who reported intense UFO experiences (e.g. contact with aliens) with those who reported non-intense experiences (e.g. seeing an unexplained light in the sky) finding that the groups did not differ on measures of psychopathology, intelligence, and fantasy proneness. Spanos *et al.* (1993) conclude that the onus is on those who favour the psychopathology argument to provide evidence in support of it.

Although this is beyond the focus of the present study, it remains to be seen whether UFO-related beliefs are associated with the schizotypy construct.

METHOD AND RESULTS

Respondents were 276 (141 males and 135 females) young people (mean age = 17 yr, SD = 0.26) attending a further education college in Essex, England. All completed a battery of questionnaires under the supervision of their class teachers who were briefed beforehand on procedures for administration of the questionnaires. Data collection took place in December 1996 (the present study was conducted as part of other work into the association between religiosity and schizotypy). 8 items were chosen for the purpose of the present study: (1) "Do you think there is good evidence that life exists on other planets?", (2) "Do you believe that you have ever been taken on board a spaceship?", (3) "Do you believe that alien intelligence is probably responsible for UFO's?", (4) "Do you think that beings on other planets may be influencing what happens on earth?", (5) "Do you believe that the government refuses to tell us the truth about flying saucers?", (6) "Do you think that Earth is the only planet in the universe that supports life?", (7) "Do you believe that aliens are abducting human beings?", and (8) "Do you think that people who say that they have been abducted by aliens are mentally ill?". Each item was answered as either "yes" (1) or "no" (0) and the scale was scored so that higher scores indicated a stronger belief that life exists elsewhere in the universe, that alien life forms are influencing what happens on earth, and that abduction of human beings is taking place.

Respondents also completed the perceptual aberration, magical ideation, cognitive disorganization, paranoid ideation, physical anhedonia, social anhedonia, and impulsive nonconformity scales of the multidimensional schizotypal traits ques-

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tionnaire (Rawlings & MacFarlane, 1994). Item 9 on the magical ideation scale ("Is it a little bit silly to believe aliens might be controlling things here on earth?") was removed in order to avoid item overlap between the magical ideation scale and the belief scale. Items on the belief scale were interspersed with items on the multidimensional schizotypal traits questionnaire.

96% of respondents disagreed that people who say they have been abducted by aliens are mentally ill; 85% agreed that there is good evidence that life exists on other planets; 64% disagreed that earth was the only planet to support life; 54% agreed that aliens are abducting human beings; 40% agreed that beings on other planets may be influencing what happens on earth; 36% agreed that alien intelligence is probably responsible for UFO's; 32% agreed that the government refuses to tell the truth about flying saucers; and 1% agreed that they had been taken on board a spaceship. The reviewer noted the fact that there seemed to be some contradiction between claiming that aliens were abducting human beings but denying that alien intelligence is probably responsible for UFOs. It was suggested that this pattern of results reflects the use of the no/yes forced choice format and that some respondents may have been trying to indicate that they thought that not all UFOs were of alien origin. The eight items were summated to yield a total belief score for each respondent. Total scores on the belief scale ranged from 0 to 8 (mean = 4.09, SD = 2.00; Cronbachs alpha = 0.75).

No significant difference was found between males (mean = 4.15, SD = 2.11) and females (mean = 4.02, SD = 1.86) on the belief scale ($t = 0.53$, $df = 274$, $p > 0.60$). However, as previous research has reported some differences in the pattern of associations between schizotypal traits and paranormal beliefs for males and females (Thalbourne, 1994), correlations between scores on the belief scale and each of the schizotypy scales were conducted separately for each sex. All tests were two-tailed and $p < 0.01$ significance level was chosen given the relatively high number of correlations to be computed.

For males, higher scores on the belief scale were associated with higher scores on perceptual aberration ($r = 0.25$, $p < 0.01$), magical ideation ($r = 0.53$, $p < 0.001$), cognitive disorganization ($r = 0.45$, $p < 0.001$), and paranoid ideation ($r = 0.31$, $p < 0.001$). No other correlations reached statistical significance (largest $r = -0.15$, NS). For females, higher scores on the belief scale were associated with higher scores on magical ideation ($r = 0.44$, $p < 0.001$). No other correlations reached statistical significance (largest $r = -0.11$, NS).

The referee suggested that we reanalyse these data separating out those items which deal with extraterrestrial life from those dealing with UFO related-beliefs to test the prediction that the correlations with schizotypy would only hold for UFO-related beliefs and not the belief in extraterrestrial life per se. Two items dealt with the possibility of extraterrestrial life only (items 1 and 6), the remaining six-items (items 2, 3, 4, 5, 7, and 8) dealt with UFO related experiences. Scales were computed for each of these item groupings and were found to be positively associated in males ($r = 0.50$, $p < 0.001$) and in females ($r = 0.48$, $p < 0.001$).

For males, UFO-related beliefs were positively associated with magical ideation ($r = 0.51$, $p < 0.001$), cognitive disorganization ($r = 0.43$, $p < 0.001$), and paranoid ideation ($r = 0.27$, $p < 0.01$). No other correlations reached statistical significance (largest $r = 0.19$, NS). Belief in extraterrestrial life, with UFO related beliefs partialled out, was not associated with scores on any of the schizotypy scales (largest $r = -0.22$, NS).

For females, UFO-related beliefs were positively associated with magical ideation ($r = 0.43$, $p < 0.001$). No other correlations reached statistical significance (largest $r = 0.09$, NS). Belief in extraterrestrial life, with UFO-related beliefs partialled out, was not associated with scores on any of the schizotypy scales (largest $r = 0.14$, NS).

DISCUSSION

It would seem that the belief in extraterrestrial life, and UFO-related beliefs to a lesser extent, are fairly common among young people. These data most likely reflect the fact that in recent years there has been much media attention on extraterrestrial beliefs (e.g. the Roswell 'autopsy', the release of the film Independence Day, claims relating to life on Mars) which may have increased the level of agreement on the various items (see Sparks, Sparks & Gray, 1995).

These sources of influence, however, reflect a mix of possible fact (e.g. 'life on Mars'), fiction (e.g. Independence Day) and possible fantasy (e.g. Roswell 'autopsy') and clearly some beliefs would seem to be more credible than others. For example, the reviewer drew our attention to the fact that the late Carl Sagan was heavily involved in the search for extraterrestrial intelligence (SETI) project but was an avowed sceptic concerning UFO's and abduction claims. Separate analysis of the belief in extraterrestrial life and UFO-related items showed that UFO-related beliefs were positively associated with scores on the schizotypy scales, but when UFO-related beliefs were partialled out, no significant associations remained between belief in extraterrestrial life and scores on the schizotypy scales.

Although UFO-related beliefs were associated with magical ideation in both males and females, in males but not in females, UFO related beliefs were also associated with scores on perceptual aberration, cognitive disorganization, and paranoid ideation. Thalbourne (1994) also found that the association between paranormal beliefs and schizotypy was stronger in males than females. One explanation for these data is the suggestion that schizotypy is under greater genetic control in males than females (Claridge & Hewitt, 1987).

In conclusion, these data provide evidence in support of the view that UFO-related beliefs are associated with the schizotypy construct, but that the belief in extraterrestrial life per se is not.

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