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## **Personality and Paranormal Belief: a study among adolescents**

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## **Personality and Paranormal Belief: a study among adolescents**

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*A sample of 279 13- to 16-year-old adolescents completed the Short-form Revised Junior Eysenck Personality Questionnaire (JEPQR-S) and a six-item Index of Paranormal Belief. The data demonstrate that neuroticism is fundamental to individual differences in paranormal belief, while paranormal belief is independent of extraversion and psychoticism.*

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**KEY WORDS:** Personality, Eysenck, Paranormal religion

## **Introduction**

In recent years increased interest has been placed on the study of paranormal beliefs among teenagers. For example, Boyd (1996) conducted a study among 506 teenagers between the ages of 14 and 16 attending non-denominational schools. The data demonstrated that 46% were uncertain whether experimenting in the occult was harmful, one in five (19%) said they had used an ouija board occasionally, and 41% agreed that it was possible to contact spirits of the dead. Francis and Kay (1995) found similar results in their study of over 13,000 teenagers between the ages of 13 and 15. The data demonstrated that over one-third (35%) believed in their horoscope, 37% believed in ghosts, and one in five (18%) believed in black magic. The data also demonstrated a positive correlation between belief in supernatural phenomena and age, indicating that older pupils were more likely to believe in paranormal phenomena than younger pupils (pp. 151-163). However, other studies have demonstrated a negative correlation between paranormal belief and age. For example, Preece and Baxter (2000) conducted a study among 2,159 students in years 7 (11- to 12-year-olds), 9 (13- to 14- year-olds) and 11 (15- to 16- year-olds) from 22 schools and 51 trainee teachers participating in the postgraduate certificate of education programme (PGCE). The data demonstrated that levels of scepticism regarding paranormal beliefs became more pronounced among older participants, with the PGCE students being the most sceptical.

Smith (2002) conducted research into the beliefs and values of 3,418 teenagers between the ages of 13 and 15 from Walsall. With reference to supernatural belief it was found that 25% believed in black magic, 33% believed in the possibility of contacting the spirits of the dead, and 48% believed in ghosts. Smith also discovered that in general it was Christian teenagers who were more likely to believe in the

possibility of contacting the spirits of the dead and who were more likely to believe in ghosts. Williams, Francis and Robbins (in press) found that there were significant correlations between belief in the paranormal and attitude toward Christianity ( $r = 0.19$ ,  $P < .001$ ), similar results being reported elsewhere (Thalbourne and Hensley, 2001).

Sjödin (2002) found that high levels of paranormal belief were present among 1,488 Swedish youth between the ages of 16 and 19, with 77% believing in premonitory signs and over 50% believing in such phenomena as UFOs and telepathy. Among a second sample of 511 adults (with an age range of 16 to 74 years), Sjödin (2002) found similar results with 30% believing in the possibility of contacting the spirits of the dead, 56% believing in premonitory signs and a quarter (25%) believing in UFOs. Similar results have been demonstrated on an international level, in England (Francis, 2001; Smith, 2002), the Czech Republic (Quesnell, 2000), South Africa (Peltzer, 2003), and within a cross-cultural perspective (Höllinger & Smith, 2002).

With the prevalence of paranormal belief being so well documented, attention has begun to focus on the individual differences associated with such belief including individual differences in personality as assessed by the Eysenck Personality Questionnaire, which measures personality on three dimensions, namely extraversion, neuroticism and psychoticism. In terms of traditional religiosity it has been shown that there is no relationship between neuroticism and religiosity (Francis & Jackson, 2003; Francis, Pearson, Carter, & Kay, 1981a), that extraversion is negatively associated with religiosity (Francis, Pearson, Carter, & Kay, 1981b; Francis, Pearson & Kay 1983a), that psychoticism is negatively associated with religiosity (Francis & Pearson, 1985; Francis, 1992; Kay, 1981) and that there is a positive correlation

between lie scale scores and religiosity (Francis, Pearson, & Kay, 1983b).

As yet, however, only a small number of studies have begun to explore the relationship between Eysenck's dimensional model of personality and paranormal belief, and these studies present contradictory findings. On the one hand, some studies support the view that paranormal belief is associated with higher neuroticism scores. For example, Wiseman and Watt (2004) in a study of 116 questionnaire respondents from a general population sample demonstrated that those who scored highly on neuroticism were more likely to endorse positive and negative superstitious belief ( $p < .001$ ). A significant positive correlation ( $p < .001$ ) was also reported by Quesnell (2000), in his study of 3,432 young people in the Czech Republic, between neuroticism scores and all but one of his nine questions relating to the paranormal.

On the other hand, some studies support the view that no significant correlations can be found between neuroticism and paranormal belief. For example, a study by Lester (1993) among 51 undergraduates demonstrated that belief in life-after-death, hell, UFOs, heaven, ghosts, God and life on other planets all correlated significantly with psychoticism ( $p < .05$ ), but that beliefs concerning paranormal phenomena were independent of neuroticism. A later study by Willging and Lester (1997) among 94 adolescents demonstrated that belief in life-after-death was significantly negatively correlated with psychoticism ( $p < .05$ ), but that none of the four aspects of paranormal belief included in the studies were associated with neuroticism.

Against this background, the aims of the present study are to examine the relationships between paranormal belief and Eysenck's three major dimensions of personality (neuroticism, psychoticism and extraversion) among a sample of adolescents in Wales, and to test whether level of paranormal belief among the

present sample is associated with neuroticism as suggested by Quesnell (2000) and Wiseman and Watt (2004), or independent of neuroticism as suggested by Lester (1993) and Willging and Lester (1997).

## **Method**

### **Sample**

A sample of 279 pupils, from one state-maintained secondary school in North Wales, completed a questionnaire concerned with beliefs and values. Participants were offered the option of not answering the questionnaire, but none refused. Over half (56%) of the respondents were males and 44% were females. One quarter of the sample (25%) were aged 13; 32% were aged 14; 30% were aged 15 and 13% were aged 16.

### **Measures**

Personality was assessed by the *The Short-form Revised Junior Eysenck Personality Questionnaire* (Corulla, 1990). This instrument comprises four 12-item scales measuring extraversion, neuroticism, psychoticism and the lie scale. The items are assessed on a dichotomous scale of 'yes' and 'no'.

Paranormal beliefs were assessed by the *Index of Paranormal Belief*, a six-item measure designed to explore beliefs in the spiritual world, determinism, external control, and horoscopes. The items are assessed on a Likert-type scale employing a five-point response scale ranging from 'agree strongly', through 'agree', 'not certain' and 'disagree', to 'disagree strongly'.

## **Results and discussion**

The five scales employed within the study recorded the following Cronbach alpha reliability coefficients: Index of Paranormal Belief, .77; extraversion, .79;

neuroticism, .77; psychoticism, .70; lie scale, .62. These alpha coefficients indicate adequate internal reliability consistency.

Table one sets out the item-rest-of-test correlations along with the percentage endorsement scores, that is those who 'agree' or 'agree strongly', for each of the six items on the Index of Paranormal Belief. The data demonstrate that high levels of paranormal belief were present among the sample. In terms of belief in a spiritual world, over half (53%) of the sample believe in ghosts, with a further 43% believing it possible to contact the spirits of the dead. Two-fifths (41%) believe in their horoscope, and a quarter (27%) believe that tarot cards can tell the future. Half of the sample (50%) believe in fate, and nearly a third (30%) believe that their future has already been decided for them.

**-Insert Table One about here-**

Table two presents the Pearson product moment correlation coefficient between sex, age, paranormal belief, lie scale, neuroticism, psychoticism and extraversion. Three main conclusions can be drawn from the data. First, in relation to sex differences in paranormal belief, the data demonstrate that within the sample females were more likely to hold paranormal beliefs than males ( $r = .19, p < .001$ ). This finding is consistent with results reported by Wiseman and Watt (2004) and Wolfradt (1997). Second, the data demonstrate that age is not a significant predictor of paranormal belief ( $r = -.07, NS$ ). This finding differs from the general theory expounded by Preece and Baxter (2000) that paranormal beliefs decrease with age, although it needs to be recognised that the present sample encompasses a somewhat restricted age range. Third, the data demonstrate that there is a significant positive

correlation between paranormal belief and neuroticism scores ( $r = .32, p < .001$ ), accounting for 10% of variance. However, no significant relationship was found between paranormal belief and either extraversion or psychoticism.

**-Insert Table Two about here -**

Since in the present data sex is correlated both with neuroticism scores, as consistent with previous research (Francis & Pearson, 1991; Francis, 1993), and with paranormal belief scores, partial correlations were calculated controlling for sex and age (see table three). These data demonstrate that, after controlling for sex differences, the correlation between paranormal belief and neuroticism remained at a statistically significant level ( $r = .27, p < .001$ ), accounting for 8% of variance. At the same time, paranormal belief remains independent of psychoticism and extraversion.

**-Insert Three about here-**

## **Conclusion**

This study has examined the extent and prevalence of paranormal beliefs among a sample of adolescents in Wales, and how those beliefs related to personality dimensions as assessed by Eysenck's three dimensional personality model. Three conclusions can be drawn from the paper.

First, the data demonstrate that a fairly high proportion of adolescents in Wales hold a range of beliefs in the paranormal. In particular, over half the sample (53%) believe in the existence of ghosts, and 43% believe that it is possible to contact the spirits of the dead. In terms of divination, while two-fifths (41%) believe in their horoscopes, the number falls to 27% who believe that tarot cards can tell the future, suggesting different levels of belief in the plausibility of different methods of

divination. Finally, in terms of determinism and external control, while half of the sample (50%) believes in fate, the number falls to 30% who believe their future has been decided for them, suggesting differing ways in which people understand the concept of fate.

Second, the data demonstrate that it is girls who are most likely to believe in the paranormal. As has already been noted by Francis (1993) and Francis and Kay (1995), it is girls who are more likely to believe in the more religious and spiritual aspects of life. These data demonstrate that girls are also more likely to believe in the paranormal and supernatural aspects of life.

Third, in agreement with the research of Wiseman and Watt (2004) and Quesnell (2000), the data demonstrate that neuroticism is the personality dimension fundamental to individual differences in paranormal belief. In line with Eysenck's (1991) definition of those who score higher on the neuroticism scale this finding suggests that those who are more likely to believe in the paranormal also tend to be anxious individuals who are frequently depressed, with over-emotionality affecting their normal judgement and adjustment. Two arguments may be put forward as to why neuroticism and paranormal belief correlate. On the one hand, the high neurotic may well find the world of the paranormal to be a source of comfort, allowing them to interpret and predict events and thus quelling their disposition for over-emotionality. On the other, a belief in the paranormal may be indicative of the over-emotionality displayed by the neurotic person. Further research is needed to determine which argument may hold more validity.

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## Tables

**Table One:** Percentage Item Endorsement

Item	R	%
I believe in ghosts	.5118	52.7
I believe in fate	.5435	49.9
I believe in my horoscope	.4719	40.8
I believe it is possible to contact the spirits of the dead	.5631	42.7
I believe that tarot cards can tell the future	.5761	27.3
I believe that my future is already decided for me	.4119	29.7
Alpha		0.77

**Table Two:** Correlation Coefficients

	Para	Lie	Neu	Psy	Ext	Age
Sex	+0.1921 .001	-.0084 NS	+0.4243 .001	-0.3005 .001	+0.0422 NS	-0.0187 NS
Age	-0.0717 NS	+0.0022 NS	-0.0027 NS	+0.0150 NS	+0.0310 NS	
Ext	+0.0811 NS	-0.1995 .001	-0.1751 .01	-0.2309 .01		
Psy	-0.0015 NS	-0.3005 .001	-0.2309 .001			
Neu	+0.3244 .001	+0.0041 NS				
Lie	+0.0191 NS					

**Table Three:** Partial Correlation Coefficient controlling for sex and age

	Para	Lie	Neu	Psy
Ext	+0.0728 NS	-0.2064 .001	-0.2201 .001	+0.1402 .01
Psy	+0.0608 NS	-0.3165 .001	-0.1268 .01	
Neu	+0.2794 .001	+0.0052 NS		
Lie	+0.0162 NS			