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Running head: Personality, Christian belief and paranormal belief

Personality, conventional Christian belief and unconventional paranormal belief:

A study among teenagers

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Abstract

A sample of 10,851 pupils (5,493 males and 5,358 females) attending year-nine classes (13- to 14-year-olds) and a sample of 9,494 pupils (4,787 males and 4,707 females) attending year-ten classes (14- to 15-year-olds) in non-denominational state-maintained secondary schools in England and Wales completed questions concerned with conventional Christian belief and unconventional paranormal belief, alongside the short-form Junior Eysenck Personality Questionnaire. The data demonstrated that conventional Christian belief and unconventional paranormal belief occupy different locations in relation to the Eysenckian model of personality in respect of the psychoticism scale and the lie scale. While conventional Christian belief is associated with lower psychoticism scores and higher lie scale scores (greater social conformity), unconventional paranormal belief is associated with higher psychoticism scores and lower lie scale scores (lower social conformity).

Personality, conventional Christian belief and unconventional paranormal belief:

A study among teenagers

Eysenck's dimensional model of personality proposes that individual differences in personality can be most economically and adequately summarised in terms of three orthogonal higher order factors (Eysenck & Eysenck, 1975, 1991). The first factor is expressed on the continuum from introversion, through ambiversion, to extraversion. Those who score high on the extraversion scale can be characterised as sociable, lively, active, carefree, dominant and assertive. The second factor is expressed on the continuum from emotional stability, through emotional lability, to neurotic disorder. Those who score high on the neuroticism scale can be characterised as anxious, depressed, tense, emotional, irrational and often have low self-esteem. The third factor is expressed on the continuum from tendermindedness, through toughmindedness, to psychotic disorder. Those who score high on the psychoticism scale can be characterised as cold, aggressive, toughminded, antisocial and impersonal. In order to guard against dissimulation, the Eysenckian family of personality measures also generally includes what has been defined (somewhat unfortunately) as a lie scale. Those who score high on this scale can often be characterised as displaying high levels of social conformity rather than intentional or unintentional dissimulation.

The relationship between personality and individual differences in conventional religiosity has been of longstanding interest within the psychology of religion. Reviewing empirical evidence on the relationship in the mid-1970s, Argyle and Beit-Hallahmi (1975) concluded that the findings were insufficient to support any consistent or stable linkage between these constructs. Reviewing the empirical evidence two decades later, Beit-Hallahmi and Argyle (1997) revised their conclusion in light of the way in which a series of independent studies had demonstrated an inverse relationship between indices of conventional

religiosity and Eysenck's dimension of psychoticism. A somewhat closer reading of the evidence would have convinced these reviewers of a second stable and consistent relationship, namely a positive relationship between indices of conventional religiosity and the Eysenckian lie scale. Evidence for these conclusions is provided, for example, in a series of studies reported across a range of samples in Australia and Canada (Francis, Lewis, Brown, Philipchalk, & Lester, 1995), France (Lewis & Francis, 2000), Germany (Francis & Kwiran, 1999), Greece (Youtika, Joseph, & Diduca, 1999), Hong Kong (Francis, Lewis, & Ng, 2003), Northern Ireland (Lewis, 1999, 2000, 2001; Lewis & Joseph, 1994), Republic of Ireland (Maltby, 1997; Maltby & Lewis, 1997), South Africa (Francis & Kerr, 2003), the United Kingdom (Bourke & Francis, 2000; Carter, Kay, & Francis, 1996; Francis, 1991, 1992, 1999; Francis & Bennett, 1992), and the United States of America (Lewis & Maltby, 1995; Roman & Lester, 1999). At the same time these studies generally failed to find any significant correlations between indices of conventional religiosity and either neuroticism scores or extraversion scores.

The psychological mechanisms underpinning these two stable findings have been variously expressed. Two accounts have been advanced to explain the inverse relationship between indices of conventional religiosity and psychoticism scores. The first account, as rehearsed by Francis (1992), builds on Eysenck's classic theory of social learning according to which low psychoticism scores are associated with greater conditioning into tenderminded social attitudes (Frcka & Martin, 1987) and according to which conventional religiosity belongs to the domain of tenderminded social attitudes (Eysenck, 1975, 1976). The second account, as rehearsed by Francis (2005), builds on the association between high levels of conventional religiosity and femininity (Thompson, 1991) and the association between femininity and low psychoticism scores (Eysenck & Eysenck, 1976). Three accounts have been advanced to explain the positive relationship between indices of conventional religiosity

and lie scale scores, all three of which were well rehearsed by Pearson and Francis (1989). The first account accepts the social conformity interpretation of lie scale scores (Massey, 1980) and argues that conventional religiosity is associated with higher levels of social conformity. The second account accepts the immaturity interpretation of the lie scale scores (Crookes & Buckley, 1976) and argues that conventional religiosity is associated with immaturity. The third account accepts the paradoxical interpretation that high lie scale scores reflect the truthful account of high ethical standards (Loo, 1980) and argues that conventional religiosity is associated with truthfulness.

Although as yet much less well developed, a second research tradition has begun to map the association between Eysenck's dimensional model of personality and paranormal beliefs. A very different pattern of relationship emerges from these studies. In a study among 51 undergraduates (mean age, 20.7 years) in the United States of America, Lester (1993) found no significant correlations between either lie scale scores or psychoticism scores and belief in astrology, faith healing, mediums, or extra-sensory perception. Similarly, in a study among 94 adolescents (mean age, 15.9 years) in the United States of America, Willging and Lester (1997) found no significant correlations between psychoticism scores and a measure concerned with belief in psychic phenomena, but this study failed to report on the lie scale. In a third study concerning paranormal beliefs and personality among black South Africans, drawing on 260 grade-eleven secondary school students (mean age, 19.2 years) and 244 first-year social science university students (mean age, 21.9 years), Peltzer (2002) found no significant association between either lie scale scores or psychoticism scores and scores recorded on the full 25-item Paranormal Belief Scale proposed by Tobacyk and Milford (1983). In a fourth study among 279 13- to 16-year-old pupils in South Wales, Williams, Francis, and Robbins (2007) found no significant correlations between either lie scale scores or psychoticism scores and a six-item measure of paranormal belief.

These four primary studies reported by Lester (1993), Willging and Lester (1997), Peltzer (2002), and Williams, Francis and Robbins (2007) are, nonetheless, limited by three factors: the sample sizes are relatively small; while concentrating on paranormal belief, no comparison is offered with conventional religiosity; and paranormal belief was operationalised in ways that overlap with conventional religiosity. The aim of the present study is to extend the previous research in three ways: by drawing on a much larger sample of young people; by including two discrete indicators of unconventional paranormal belief; and by including in the same study two discrete indicators of conventional Christian belief. The clear contrast between conventional Christian belief and unconventional paranormal belief removes overlap between the two constructs as represented, for example, by the notion of life after death.

Method

Sample

The Religion and Values Today Survey, described in detail by Francis (2001), was completed by 33,982 pupils attending year-nine and year-ten classes throughout England and Wales. This database was constructed to be thoroughly representative of young people in this age group (13- to 15-year-olds) being educated within both the state-maintained schools sector and the independent schools sector. Data were provided from 163 schools, stretching from Pembrokeshire in the west to Norfolk in the east, from Cornwall in the south to Northumberland in the north. A proper mix of rural and urban schools was included, as was a proper mix of independent and state-maintained schools.

Procedure

Participating schools were asked to follow a standard procedure. The questionnaires

were administered in normal class groups to all year-nine and year-ten pupils throughout the school. Pupils were asked not to write their name on the booklet and to complete the inventory under examination-like conditions. Although pupils were given the choice not to participate, very few decided not to take part in the survey. They were assured of confidentiality and anonymity. They were informed that their responses would not be read by anyone in the school, and that the questionnaires would be despatched to the University of Wales for analysis.

Measures

The present analysis draws on the following key components included in the questionnaire administered to all the pupils.

Unconventional paranormal belief was assessed by two items rated on a five-point Likert type scale, ranging from 'agree strongly', through 'agree', 'not certain', and 'disagree', to 'disagree strongly'. The items were: I believe in black magic; I believe that it is possible to contact the spirits of the dead.

Conventional Christian belief was assessed by two items rated on a five-point Likert type scale, ranging from 'agree strongly', through 'agree', 'not certain', and 'disagree', to 'disagree strongly'. The items were: I believe in God; I believe that Jesus Christ really rose from the dead.

Personality was assessed by the short-form Junior Eysenck Personality Questionnaire (Francis & Pearson, 1988). This instrument proposes four six-item indices of extraversion, neuroticism, psychoticism, and a lie scale. Each item is rated on a two-point scale: 'yes' and 'no'.

Analyses

Given the potential contamination caused by school type and given the luxury of such a large database, the following analyses were conducted only among those pupils attending non-denominational state-maintained schools. Moreover, separate analyses were conducted among year-nine and year-ten pupils in order to check whether the same findings emerged from separate analyses of two subsets of the data. The year-nine sample comprised 10,851 pupils, 5,493 males and 5,358 females. The year-ten sample comprised 9,494 pupils, 4,787 males and 4,707 females.

Results

Table 1 examines the scale properties of the short-form Junior Eysenck Personality Questionnaire. The alpha coefficients for the extraversion scale and the neuroticism scale

- insert table one about here -

passed the threshold of acceptability proposed by DeVellis (1991). Although the alpha coefficient for the psychoticism scale and the lie scale fell below this threshold of 0.65, they nonetheless remained satisfactory for instruments of this length. The means and standard deviations were within the expected range (Francis & Pearson, 1988).

Table 2 presents the item endorsement for the two items of conventional Christian belief and for the two items of unconventional paranormal belief. In this presentation the

- insert table two about here -

agree strongly and agree responses have been collapsed into one single category 'yes', while the disagree strongly and disagree responses have been collapsed into the single category 'no'. In summary, these data demonstrated quite high levels of belief in both spheres.

Regarding conventional Christian belief: among year-nine pupils, 39% believed in God, and 28% believed that Jesus Christ really rose from the dead; among year-ten pupils, 35% believed in God, and 25% believed that Jesus Christ really rose from the dead. Regarding

unconventional paranormal belief: among year-nine pupils, 31% believed that it is possible to contact the spirits of the dead, and 20% believed in black magic; among year-ten pupils, 33% believed that it is possible to contact the spirits of the dead, and 21% believed in black magic.

Table 2 also presents the partial correlation coefficients (controlling for sex differences) between the four belief items and the four scales of the personality questionnaire. Generally the correlations between the belief items and both the extraversion scale and the neuroticism scale were relatively trivial, especially in respect of conventional Christian belief. The correlations between the belief items and both the psychoticism scale and the lie scale were stronger and in opposite directions for the conventional Christian belief and for unconventional paranormal belief. Conventional Christian belief was associated with lower psychoticism scores and higher lie scale scores, while paranormal beliefs were associated with higher psychoticism scores and lower lie scale scores.

Conclusion

The present study set out to build on the foundations of the four projects reported by Lester (1993), Willging and Lester (1997), Peltzer (2002) and Williams, Francis, and Robbins (2007) concerning the relationship between paranormal belief and Eysenck's dimensional model of personality. The findings of these four earlier studies were of particular theoretical interest because they suggested that paranormal beliefs were located within a different personality space from that occupied by conventional religious beliefs, attitudes and practices demonstrated by a wide range of recent studies, including, for example, the study reported by Francis, Lewis, Brown, Philipchalk, and Lester (1995) among a total of 1,076 undergraduate students in Australia, Canada, the United States of America and the United Kingdom. The present study has extended earlier research in three ways. First, the present study has included both indices of conventional Christian belief and indices of unconventional

paranormal belief within the one research programme. Second, the present study has drawn on a large representative sample of young people. Third, the present study has, in one sense, confirmed and, in another sense, developed the findings of Lester (1993), Willging and Lester (1997), Peltzer (2002) and Williams, Francis, and Robbins (2007).

Psychoticism scores and lie scale scores can be considered as defining four quadrants of a two-dimensional psychological space within which both conventional Christian belief and unconventional paranormal belief can be located by the directionality and size of the correlation coefficients. According to the present data, unconventional paranormal belief does not simply fail to occupy the same personality space as conventional Christian belief, unconventional paranormal belief occupies the mirror image of that personality space. While conventional Christian belief is associated with lower psychoticism scores, unconventional paranormal belief is associated with higher psychoticism scores. While conventional Christian belief is associated with higher lie scale scores, unconventional paranormal belief is associated with lower lie scale scores. There are two main issues of theoretical interest informed by these findings: the first concerned specifically with Eysenckian personality theory, and the second concerned with a wider problem in the psychology of religion and spirituality.

In terms of Eysenckian personality theory, the relatively stable and consistent finding that higher levels of conventional Christian belief are associated with lower psychoticism scores has been explained in terms of two somewhat different theoretical frameworks, one based on Eysenck's broader theory of social learning linked to conditionability and the other based on broader views of psychological masculinity and femininity. On the former account, traditional religious beliefs are associated with greater conditionability into tenderminded social attitudes (Francis, 1992). On the latter account, traditional religious beliefs are associated with higher levels of psychological femininity (Francis, 2005). The new finding

that unconventional paranormal belief is associated with higher psychoticism scores needs to be tested against the reversibility of these two interpretations. On the former account, unconventional paranormal belief would be associated with lower conditionability into tenderminded social attitudes. On the latter account, unconventional paranormal belief would be associated with lower levels of psychological femininity. Further research remains necessary to adjudicate between these two interpretations.

In terms of Eysenckian personality theory, the relatively stable and consistent finding that higher levels of conventional Christian belief are associated with higher lie scale scores has been explained in terms of three different interpretations of what is being assessed by the Eysenckian lie scales. According to these three different accounts, conventional Christian belief is associated with social conformity, immaturity, or truthfulness (Pearson & Francis, 1989). The new finding that unconventional paranormal belief is associated with lower lie scale scores needs to be tested against the reversibility of these three interpretations.

According to these different accounts, unconventional paranormal belief would be associated with less social conformity, with greater maturity, or with less truthfulness. Further research remains necessary to adjudicate between these three interpretations.

In terms of a wider problem in the psychology of religion and spirituality, these new data contribute to the debate regarding the relationship between conventional Christian belief and the new, alternative and emerging spiritualities, as discussed, for example, by Heelas and Woodhead (2005) in their book *The Spiritual Revolution*. On one account, these new, alternative and emerging spiritualities are thought to be occupying a vacuum left by the declining influence of conventional Christian belief and fulfilling similar psychological functions. On another account, these new, alternative and emerging spiritualities are thought to be functioning in a very different way from traditional religiosity and serving somewhat different psychological functions. The new data generated by the present project tends to

favour the second of these two accounts rather than the first by demonstrating that conventional Christian belief and unconventional paranormal belief occupy clearly different locations within the personality space defined by Eysenck's dimensional model. Further research remains necessary to characterise and operationalise other aspects of the new, alternative and emerging spiritualities in order to provide a fuller and richer understanding of the location of different spiritualities within the framework of coherent accounts of personality and individual differences.

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Table 1: Short-form Junior Eysenck Personality Questionnaire: Scale properties

	alpha	mean	st dev
Year-nine pupils			
extraversion	0.68	4.54	1.55
neuroticism	0.68	3.32	1.82
psychoticism	0.61	1.52	1.43
lie scale	0.58	2.41	1.56
Year-ten pupils			
extraversion	0.68	4.61	1.52
neuroticism	0.70	3.30	1.85
psychoticism	0.61	1.64	1.46
lie scale	0.57	2.09	1.53

Table 2: Conventional Christian belief and unconventional paranormal belief: Item endorsement and partial correlations by sex

	E %	N %	P %	L %	Yes %	? %	No %
<i>Year-nine pupils</i>							
<i>Conventional Christian belief</i>							
I believe in God	-.02	+.02	-.17***	+.22***	39	35	26
I believe that Jesus Christ really rose from the dead	-.02	+.04***	-.14***	+.20***	28	43	29
<i>Unconventional paranormal belief</i>							
I believe in black magic	+.07***	+.05***	+.18***	-.13***	20	34	46
I believe that it is possible to contact the spirits of the dead	+.09***	+.06***	+.14***	-.12***	31	34	35
<i>Year-ten pupils</i>							
<i>Conventional Christian belief</i>							
I believe in God	-.00	+.02	-.17***	+.21***	35	35	30
I believe that Jesus Christ really rose from the dead	-.01	+.04***	-.14***	+.19***	25	44	31
<i>Unconventional paranormal belief</i>							
I believe in black magic	+.08***	+.09***	+.20***	-.15***	21	34	45
I believe that it is possible to contact the spirits of the dead	+.09***	+.10***	+.14***	-.12***	33	32	35

Note. ** = $p < .01$; *** = $p < .001$