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Psychological type and the three major dimensions of personality: mapping the relationship between the FPTs and the EPQR-A among clergy and churchgoers

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ABSTRACT

The present study was designed to situate the eight scales of the Francis Psychological Type Scales within the three dimensional psychological space defined by the abbreviated Eysenck Personality Questionnaire Revised (EPQR-A), drawing on data provided by 2,769 clergy and churchgoing participants. The data support the concurrent validity of the Extraversion and Introversion Scales of the Francis Psychological Type Scales against the Eysenck Extraversion Scale. The data also illustrates how all the scales of the Francis Psychological Type Scales may be nuanced by correlations with the Eysenckian dimensions of extraversion, neuroticism, and psychoticism and with the Eysenckian Lie Scale.

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Introduction

The measurement of psychological type theory, as operationalised by the Myers-Briggs Type Indicator (Myers & McCaulley, 1985), the Keirsey Temperament Sorter (Keirsey & Bates, 1978), and the Francis Psychological Type Scales (Francis, 2005), generates eight continuous scale scores that underpin the generation of dichotomous type categories. The eight scales operationalise four core constructs. Two scales measure the orientations, introversion and extraversion; two scales measure the perceiving functions, sensing and intuition; two scales measure the judging functions, thinking and feeling; and two scales measure the attitudes toward the outside world, judging and perceiving.

Within psychological type theory, with its roots in Jung (1971), the two orientations are concerned with the sources of psychological energy: extraverts are energised by engagement with the outside world, while introverts are energised by engagement with the inner world (see Ross & Francis, 2020). The two perceiving functions are concerned with the ways in which information is perceived: sensing types are concerned with data and facts, while intuitive types are concerned with ideas and theories. The two judging functions are concerned with the ways in which information is evaluated:

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thinking types are concerned with objective analysis and systems, while feeling types are concerned with subjective values, and people. The two attitudes are concerned with the way in which the perceiving and judging functions relate to the outside world: perceiving types employ their preferred perceiving function in the outside world, while judging types employ their preferred judging function in the outside world.

The measurement of three major dimensions approach to personality, as operationalised by the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975), the Eysenck Personality Questionnaire Revised (Eysenck et al., 1985), and the Eysenck Personality Scales (Eysenck & Eysenck, 1991) generate three scale scores concerned with higher-order personality factors. These three scales measure extraversion, neuroticism, and psychoticism. As the names of two of the three scales imply, two of the three major dimensions of personality are rooted in the notion of continuity between normal personality and personality disorders.

Within Eysenckian theory, the Neuroticism Scale assesses a continuum ranging from emotional stability, through emotional lability, to neurotic disorder. In the manual to the Eysenck Personality Scales, Eysenck and Eysenck (1991) describe people who record high scores on the Neuroticism Scale as anxious and worrying individuals who may be moody and frequently depressed. They are likely to sleep badly, and to suffer from various psychosomatic disorders. They are overly emotional, reacting too strongly to all sorts of stimuli (p. 4). The Psychoticism Scale assesses a continuum ranging from tendermindedness, through toughmindedness, to psychotic disorder. Eysenck and Eysenck (1991) describe people who record high scores on the Psychoticism Scale as tending to be cruel and inhumane, lacking in feeling and empathy. They tend to be aggressive. They tend to have a liking for odd and unusual things, to disregard danger and to upset other people (p. 6). The Extraversion Scale assesses a continuum ranging from introversion, through ambiversion, to extraversion. Eysenck and Eysenck (1991) describe people who record high scores on the Extraversion Scale as sociable individuals who like parties, who have many friends, and who need people around them. They tend to crave excitement, to take chances, to act on the spur of the moment and to be generally impulsive (p. 4).

Although psychological type theory and the three dimension model of personality have their origin in very different conceptual frameworks, a few empirical studies have set out to explore the connection between the two systems, recognising two potential points of contact. First, both systems use the same language to differentiate between introversion and extraversion and imply both similarity and dissimilarity in the way in which their language is used. Second, the Eysenckian differentiation made between high scores and low scores on the Psychoticism Scale carries connotations in common with the differentiation made in psychological type theory between judging and perceiving. Almost all the studies exploring the association between psychological type theory and the Eysenckian model of personality have drawn on the Myers-Briggs Type Indicator.

Four studies reported by Campbell and Heller (1987), Sipps and Alexander (1987), Landrum (1992), and Sagginio and Kline (1996) employed the Myers-Briggs Type Indicator alongside Eysenck's earlier two-dimensional model of personality (extraversion and neuroticism) as operationalised by the Eysenck Personality Inventory (Eysenck & Eysenck, 1964). Campbell and Heller (1987) investigated the relationship between the introversion scale of an unspecified version of the Myers-Briggs Type Indicator and the Eysenck

Personality Inventory measure of extraversion among a sample of 468 undergraduate students. Sipps and Alexander (1987) investigated the relationship between the extraversion and introversion scales of the Myers-Briggs Type Indicator Form F and the Eysenck Personality Inventory measure of extraversion, among a sample of 840 psychology students. Landrum (1992) investigated the relationship between the scales of the Myers-Briggs Type Indicator Form G and the Eysenck Personality Inventory measures of extraversion, among a sample of 116 undergraduate psychology students. Saggino and Kline (1996) investigated the relationship between the Myers-Briggs Type Indicator Form F (Italian) and the Eysenck Personality Inventory among a sample of 227 volunteer students.

Another five studies have employed Eysenck's three-dimensional model of personality (Francis & Jones, 2000; Francis et al., 2007; Furnham et al., 2001; Steele & Kelly, 1976; Wakefield et al., 1976). Wakefield et al. (1976) investigated the relationship between an unspecified version of the Myers-Briggs Type Indicator and the Eysenck Personality Questionnaire among a sample comprising 39 college students and 40 vocational rehabilitation clients. Steele and Kelly (1976) investigated the relationship between the Extraversion and Introversion, Sensing and Intuition, and Thinking and Feeling Scales of the Myers-Briggs Type Indicator Form F and the Eysenck Personality Questionnaire among a sample of 93 volunteer undergraduate students. Francis and Jones (2000) investigated the relationship between the Myers-Briggs Type Indicator Form G and the Eysenck Personality Questionnaire among a sample of 377 adult churchgoers. Furnham et al. (2001) investigated the relationship between the Myers-Briggs Type Indicator Form G and the Eysenck Personality Profiler among a sample of 263 job applicants for a middle management post. Francis et al. (2007) investigated the relationship between the Myers-Briggs Type Indicator Form G and the short form of the Eysenck Personality Questionnaire Revised among 554 students.

The findings of these studies indicate a complex relationship between the Myers-Briggs Type Indicator and Eysenckian models of personality. The four strong relationships emerging consistently between the scales of these two models is the strong positive correlation between the Eysenckian Scale of Extraversion and the Myers-Briggs Type Indicator Extraversion Scale (Francis & Jones, 2000; Francis et al., 2007; Furnham et al., 2001; Landrum, 1992; Saggino & Kline, 1996; Sipps & Alexander, 1987; Steele & Kelly, 1976; Wakefield et al., 1976), the strong negative correlation between the Eysenckian Scale of Extraversion and the Myers-Briggs Type Indicator Introversion Scale (Francis & Jones, 2000; Francis et al., 2007; Furnham et al., 2001; Landrum, 1992; Saggino & Kline, 1996; Sipps & Alexander, 1987; Steele & Kelly, 1976; Wakefield et al., 1976), the strong positive correlation between the Eysenckian Scale of Psychoticism and the Myers-Briggs Type Indicator Perceiving Scale (Francis & Jones, 2000; Francis et al., 2007; Furnham et al., 2001; Saggino & Kline, 1996), and the strong negative correlation between the Eysenckian Scale of Psychoticism and the Myers-Briggs Type Indicator Judging Scale (Francis & Jones, 2000; Francis et al., 2007; Furnham et al., 2001; Saggino & Kline, 1996). Although other consistent relationships also emerge, the proportion of variance accounted for is generally low. For example, eleven of the nineteen significant correlations reported by Francis and Jones (2000) share less than five percent of the variance in common.

Just one study so far has reported on the association between psychological type theory and the Eysenckian model of personality drawing on the Keirsey Temperament Sorter. Francis et al. (2008) employed the Keirsey Temperament Sorter and the short

form of the Eysenck Personality Questionnaire Revised among a sample of 554 students. The two strongest correlations reported by this study were between the two measures of extraversion ($r = .70, p < .001$) and between the Keirsey Temperament Sorter measure of perceiving and the Eysenckian psychoticism scale ($r = .46, p < .001$).

Research question

Against this background the aim of the present study is to replicate the earlier analyses that assessed psychological type alongside the Eysenckian dimensions of personality using the Myers-Briggs Type Indicator or the Keirsey Temperament Sorter, by using for the first time the Francis Psychological Type Scales. The Francis Psychological Type Scales were first published by Francis (2005) as a measure of psychological type developed specifically for survey-based research. The present study has been designed as part of the validation of the Francis Psychological Type Scales, particularly in respect of the measure of introversion and extraversion alongside the Eysenckian Extraversion Scale.

Method

Procedure

As part of a wider set of studies involving clergy and churchgoers, participants were invited to complete measures on psychological type and personality. Participation was voluntary, anonymous, and confidential.

Measure

Psychological type was assessed by the Francis Psychological Type Scales (Francis, 2005; Francis et al., 2017; Village, 2021). This is a self-report, pencil and paper instrument which comprises 40 items to distinguish between the two orientations (E and I), the two perceiving functions (S and N), the two judging functions (T and F) and the two attitudes towards the outside world (J and P). Each item consists of contrasting pairs of characteristics, and participants are invited to select the characteristics which they feel best represent their personal preferences. The Francis Psychological Type Scales uses a forced-choice format.

Personality was assessed by the abbreviated form of the Eysenck Personality Questionnaire Revised (Francis et al., 1992). This is a self-report, pencil and paper instrument which comprises three six-item indices of extraversion, neuroticism, and psychoticism, together with a six-item Lie Scale. Each item is assessed on a binary scale: yes and no.

Participants

Completed data for both measures was provided by 2,769 participants: 1,139 women, 1,603 men, and 27 who preferred not to say.

Table 1. Scale properties.

Scale	N items	Alpha	Mean	SD
<i>EPQR-A</i>				
Extraversion	6	.84	2.97	2.20
Neuroticism	6	.74	2.19	1.84
Psychoticism	6	.36	0.25	0.57
Lie Scale	6	.68	2.75	1.80
<i>FPTS</i>				
Extraversion	10	.80	4.54	2.94
Introversion	10	.80	5.46	2.94
Sensing	10	.77	5.45	2.59
Intuition	10	.77	4.55	2.59
Thinking	10	.68	3.73	2.39
Feeling	10	.68	6.27	2.39
Judging	10	.79	6.05	2.78
Perceiving	10	.79	3.95	2.78

N = 2,769.

Results

Table 1 presents the scale properties of the four indices of the abbreviated form of the Eysenck Personality Questionnaire Revised (extraversion, neuroticism, psychoticism, and Lie Scale) and of the eight indices of the Francis Psychological Type Scales (extraversion, introversion, sensing, intuition, thinking, feeling, judging, and perceiving). Regarding the Eysenck scales, the measures of extraversion, neuroticism, and psychoticism each recorded a satisfactory level of internal consistency reliability with alpha coefficients (Cronbach, 1951) in excess of .65. The measure of psychoticism recorded a much lower alpha coefficient, which is unsatisfactory but consistent with the recognised weaknesses of this scale (Francis et al., 1992). Regarding the Francis Psychological Type Scales, all eight measure achieved a satisfactory level of internal consistency reliability with alpha coefficients in excess of .65.

In terms of mean scale scores, the Eysenck scales can range from 0 to 6. The mean scores for extraversion, neuroticism, and the Lie Scale all fall within the middle range, but the mean scale score for the Psychoticism Scale is really low, reflecting a general problem with this measure among religiously engaged participants (see Francis, 1992) and contributing to the low internal consistency reliability. In terms of mean scale scores, the Francis Psychological Type Scales can range from 0 to 10, and the mean scores for each pair of scales add to 10. Examining the balance between each pair of scales demonstrates that the current participants are weighted toward introversion (I), sensing (S), feeling (F), and judging (J), a pattern common within church-related studies (see Francis, 2009).

Table 2. Correlations between EPQR-A scales and FPTS scales.

	EPQR-A: E	EPQR-A: N	EPQR-A: P	EPQR-A: L
FPTS: Extraversion	.73***	-.20***	.01	-.04*
FPTS: Sensing	-.16***	.01	-.13***	.16***
FPTS: Thinking	-.02	-.05*	.11***	-.03
FPTS: Judging	-.20***	.02	-.11***	.11***

Note: * $p < .05$; *** $p < .001$.

Table 2 presents the correlations between the four scales of the abbreviated Eysenck Personality Questionnaire revised and one of each pair of the Francis Psychological Type Scales (extraversion, sensing, thinking, and judging), recognising that the correlations with the other scale of each pair would be a mirror image (introversion, intuition, feeling, and perceiving). The core finding from this set of correlations concerns the strong correlation between the two measures of extraversion ($r = .73$, $p < .001$). This finding adds evidence for the concurrent validity of the extraversion (and introversion) indices of the Francis Psychological Type Scales.

Four further observations merit commentary for this set of correlations. First, the Francis Psychological Type Scales measure of extraversion correlates not only with the Eysenck Extraversion Scale but also with the Eysenck Neuroticism Scale ($r = -.20$, $p < .001$). This suggests that the Francis Psychological Type Scales measure of extraversion is weighted toward stable extraversion, while the Francis Psychological Type Scales measure of introversion is weighted toward unstable introversion. Second, the Francis Psychological Type Scales measure of sensing correlates with the Eysenck Extraversion Scale ($r = -.16$, $p < .001$), with the Eysenck Psychoticism Scale ($r = -.13$, $p < .001$), and with the Eysenck Lie Scale ($r = .16$, $p < .001$), suggesting that the Francis Psychological Type Scales measure of sensing may be aligned with introversion, tendermindedness, and social desirability. Third, the Francis Psychological Type Scales measure of thinking correlations with the Eysenck Psychoticism Scale ($r = .11$, $p < .001$), suggesting that the Francis Psychological Type Scales measure of thinking may be aligned with toughmindedness, while the Francis Psychological Type Scales measure of feeling may be aligned with tendermindedness. Fourth, the Francis Psychological Type Scales measure of judging correlates with the Eysenck Extraversion Scale ($r = -.20$, $p < .001$), the Eysenck Psychoticism Scale ($r = -.11$, $p < .001$) and the Eysenck Lie Scale ($r = .11$, $p < .001$), suggesting that the Francis Psychological Type Scales measure of judging may be aligned with introversion, tendermindedness and social desirability, while the Francis Psychological Type Scales measure of perceiving may be aligned with extraversion, toughmindedness, and disregard for social conventions.

Discussion and conclusion

Building on earlier research that had explored the location of the constructs of psychological type theory within the psychological space defined by the Eysenckian three dimensional model of personality, employing either the Myers-Briggs Type Indicator, or the Keirsey Temperament Scales, the present study drew on data provided by 2,769 clergy or churchgoing participants to examine the location of the scales proposed by the Francis Psychological Type Scales within the Eysenckian three dimensional model of personality. Four main conclusions emerge from these data.

The first conclusion concerns the Francis Psychological Type Scales Extraversion and Introversion Scales. The high correlation with the Eysenck Extraversion Scale documents concurrent validity for the Francis Psychological Type Scales Extraversion and Introversion scales. Since in the Eysenckian system the measures of extraversion and neuroticism are orthogonal, the correlations between the Francis Psychological Type Scales Extraversion and Introversion Scales and the Eysenckian measure of neuroticism suggests that the Extraversion Scale of Francis Psychological Type Scales may be characterised as measuring stable extraversion, and the Introversion Scale of the Francis Psychological Type Scales

may be characterised as measuring neurotic introversion. The same pattern emerges in respect of the Keirsey Temperament Sorter measures of extraversion and introversion (Francis et al., 2008) and in respect of the Myers-Briggs Type Indicator measures of extraversion and introversion (Francis et al., 2007).

The second conclusion concerns the Francis Psychological Type Scales Sensing and Intuition Scales. Here sensing is associated with introversion, low psychoticism scores, and social desirability. The same pattern emerges in respect of the Keirsey Temperament Sorter measure of sensing (Francis et al., 2008) and in respect of the Myers-Briggs Type Indicator measure of sensing (Francis et al., 2007). The mirror image of this pattern applies to the measure of intuition of the Keirsey Temperament Sorter and almost to the measure of intuition of the Myers-Briggs Type Indicator, except in the case of the Myers-Briggs Type Indicator there is no connection between intuition and extraversion.

The third conclusion concerns the Francis Psychological Type Scales thinking and feeling scales. Here thinking is associated with high psychoticism scores and feeling is associated with low psychoticism scores. This pattern is not, however, found in the studies employing the Keirsey Temperament Sorter measures of thinking and feeling (Francis et al., 2008) or the Myers-Briggs Type Indicator measures of thinking and feeling (Francis et al., 2007).

The fourth conclusion concerns the Francis Psychological Type Scales judging and perceiving scales. Here judging is associated with introversion, low psychoticism scores, and social desirability, while perceiving is associated with extraversion, high psychoticism scores, and disregard for social desirability. This same pattern emerges in respect of the Keirsey Temperament Sorter measures of judging and perceiving (Francis et al., 2008), and in respect of the Myers-Briggs Type Indicator measures of judging and perceiving (Francis et al., 2007). At the same time, the studies using either the Keirsey Temperament Sorter scales or the Myers-Briggs Type Indicator scales find a positive association between judging and neuroticism and a negative association between perceiving and neuroticism.

As the first study to have employed Francis Psychological Type Scales alongside the Eysenckian three dimensional model of personality, these data support the view that the Francis Psychological Type Scales are broadly accessing the same constructs as accessed by the two longer established measures of psychological type, the Myers-Briggs Type Indicator and the Keirsey Temperament Sorter.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Ethical approval

This study received ethical approval from the St Mary's Centre Ethics Committee (SMC16EC0011).

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