INTRODUCTION

Within the psychology of religion there is an extensive range of psychometric measures available. Despite such interest, the measurement of prayer has been somewhat neglected, partly due to the preference of researchers to use a single item measure of prayer activity.

In an attempt to improve on existing measures of prayer, the Multidimensional Measure of Prayer Behaviour Ritual (MMPB) was developed.

The MMPB incorporates five subscales: 'Colloquial,' 'Petititionary,' 'Ritual,' 'Meditative,' and 'Attunement.' The first four subscales are based on the conceptualization of Poland and Pendleton (1991). The ‘Attunement’ subscale is based on the notion of aligning the will with God’s will. The Ritual subscale was included because prayer of attunement is regarded as the ultimate prayer by some authors (e.g., Foster, 1992; Heiler, 1932).

The MMPB incorporates Polon and Pendleton (1991) fifteen items, six items are comparable to items from Luckow et al. (1997), six items are comparable items from Cook and Bade (1998), one item is comparable to an item from Richards (1991), and two items are original.

Present Study

First, to examine the factor structure of the MMPB, it was hypothesised that a five-factor model would best describe the MMPB in line with Kline (2005), meaningful equivalent models were also examined.

Second, to examine the relationship between the MMPB and Eysenck’s dimensional model of personality (Eysenck & Eysenck, 1985). Previous studies employing a single-item frequency of prayer measure and have found that prayer was negatively related to Psychotism (e.g., for a review see Kaldor, Francis, & Fisher, 2002).

Data Analysis

Confirmatory factor analysis (CFA) was conducted using LISREL 8.7 (Joreskog & Sorbom, 2005). To test the models outlined above the Maximum Likelihood (ML) algorithm was employed because this is the default algorithm in LISREL. Goodness-of-Fit statistics for all the models tested are reported in the results section, however, only the factor loadings of the best fitting model are reported.

Multiple regression was conducted on the personality and prayer variables. Generally, studies concerning personality and prayer employed prayer as a predictor variable and personality dimensions as criterion variables.

Method

Sample

Participants comprised an international opportunistic sample of 1,306. Of these, the majority were from the United Kingdom (N = 528), Ireland (N = 156), the United States (N = 178), and Canada (N = 45). The remainder (N = 57) were from 31 different countries. Age of respondents ranged from 16 to 80 (mean = 26.77; SD = 11.40). The sex distribution was 69.6% female and 30.4% male.

Measures

The Multidimensional Measure of Prayer Behaviour (MMPB) is concerned with measuring different types of prayer. The scale comprises 30 items scored on a seven-point scale ranging from ‘never’ (0), through ‘every 3 months’ (1), to ‘daily’ (6). Possible range of score is 0 – 180 with higher scores indicating a higher frequency of different types of prayer. The measure comprises five subscales: Colloquial (eight items – range 0 – 48), Petitionary (three items – range 0 – 18), Ritual (six items – range 0 – 36), Meditative (seven items – range 0 – 44), and Attunement (six items – range 0 – 36).

The Revised Eysenck Personality Questionnaire – Abbreviated (EPPQ-A; Francis, Brown, & Phillips, 1992) is a measure of Eysenck’s dimensional model of personality (Eysenck & Eysenck, 1985). This 24-item measure comprises four subscales with six items each, measuring Extraversion, Psychoticism, Neuroticism, and Lie Scale. Responses are scored on a ‘yes’ (1), ‘no’ (0) format. Scores on each subscale range from 0 – 6 with higher scores indicating higher levels of the personality trait.

The Goodness-of-Fit Statistics (Table 2) indicate a less than optimal fit for the five-factor model. The pettigrew model (cf. The Revised Multidimensional Measure of Prayer Behaviour: a Confirmatory Factor Analysis (1998)) suggests an acceptable fit. Additionally, the Expected Cross Validation Index (ECVI) suggests that the one-factor model does not fit the data as well as the Five-factor model.

Although none of the models were good in terms of model fit, the results showed that the five-factor model fitted the data significantly better than any other model tested. Additionally, in the five-factor model, all of the items loaded highly on the respective factors. Table 4 shows that the factors were all highly correlated, and the highest correlation was found between the Petitionary and Colloquial factors.

Table 2 shows the loadings of the items measured in the MMPB. The five-factor model was found to be the best model among all the models tested. The results are statistically significant for all the factors tested. The highest correlation is between the Petitionary and Colloquial factors.

Conclusion

In summary, the data support the hypothesis that prayer is related to Psychotism, as reported by previous studies. The results also support the idea that prayer is related to personality traits, as indicated by the correlation between the five factors and the personality traits.

Further psychometric work on the MMPB is recommended.

Contact for further information:

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One-factor Model

Since all the factors were highly correlated it was decided to test a one-factor model. The Goodness-of-Fit Statistics (Table 2) indicate a less than optimal fit for this model. Therefore, the five-factor model, and the GFI indicate a poorly fitting model, although the CFI suggests an acceptable fit. Additionally, the Expected Cross Validation Index (ECVI) suggests that the one-factor model does not fit the data as well as the Five-factor model.

Second Order Factor Model

Since the one-factor model did not fit the data as well as the five-factor model, and because the factors, in the five-factor model, were highly correlated it was decided to test a second order model specifying one general prayer factor underlying the five primary factors (Colloquial, Petitionary, Ritual, Meditative, and Attunement). The second order model failed to converge suggesting that the five-factor model is more appropriate fit to the data (Brown, 2006).

Four-Factor Model

Since the Meditative and Attunement prayer factors (Table 4) were highly correlated, and because Meditative prayer includes components of intimacy and Petitionary prayer factors from the four-factor model were highly correlated (0.96), and because of theoretical considerations (e.g., VanDeCreek (1998) suggested that Colloquial and Petitionary prayer could be classified as a single prayer type), it was decided to collapse the Meditative and Attunement factors into a single Colloquial factor, and test a three-factor model (Colloquial, Ritual, Meditative).

The Goodness-of-Fit Statistics (Table 2) indicate a less than optimal fit for this model. The three-factor model, the SRMR, and the GFI indicate a poorly fitting model, although the GFI suggests an acceptable fit. Additionally, the ECVI suggests that the three-factor model does not fit the data as well as the five-factor model or the four-factor model, but fitted the data better than the one-factor model.

Table 5 shows that all prayer subscales were significantly negatively correlated with Psychotism, Meditative, and Attunement were significantly negatively correlated with Neuroticism. All prayer subscales except Petitionary and Ritual, were significantly positively correlated with the Lie Scale.

Discussion

MMPB

Although none of the models were good in terms of model fit, the results showed that the five-factor model fitted the data significantly better than any other model tested. Additionally, in the five-factor model, all of the items loaded highly on the respective factors. The five-factor model was the best fitting model, the Goodness-of-Fit Statistics indicated that the fit was less than optimal. It may be that it is difficult to get a parsimonious factor solution to any multidimensional measure of prayer because many people who pray employ many of the major types of prayer, but not all of the major types of prayer. If they employed all major types of prayer then a one-factor solution should fit the data. The factor correlations from the five-factor model were high (Table 4). Prayer and Personality

It is evident that Psychotism was negatively related to all prayer subscales, while Extraversion was positively related to the Colloquial subscale and Neuroticism was negatively related to the Attunement subscale. Psychotism was the strongest predictor of all the prayer measures and supports Kaldor et al.’s (2002) contention that Psychotism is the only dimension of personality that is fundamental to individual differences in prayer.

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Results

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