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Prayer, personality and purpose in life: An empirical enquiry among adolescents in the UK

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### **Abstract**

The linkage between religion and purpose in life is a matter of theoretical interest within the two fields of empirical theology and psychology of religion. Empirical evidence for this linkage remains vulnerable according to the measures of religion and purpose in life employed. Conceptually prayer provides an interesting test of this linkage in light both of the personal nature of this religious activity and of the persistence of prayer among individuals who do not attend worship services. This study draws on data provided by 10,792 13- to 15-year-old students from five different parts of the UK (England, Northern Ireland, Scotland, Wales *and* London) to test the connection between prayer and purpose-in-life (assessed by an established single-item measure) after taking into account personal differences (age and sex), psychological differences (Eysenck's three dimensional model of personality), and religious differences (affiliation, and worship attendance). The data demonstrate that prayer frequency adds additional prediction of enhanced levels of purpose in life among young people after taking all other variables into account, and that prayer frequency is a stronger predictor of purpose in life than religious affiliation or worship attendance.

*Keywords:* prayer, psychology, purpose in life, religion, personality

## Introduction

### Purpose in life and psychological enquiry

Purpose in life is a construct of considerable interest within the broad field of individual differences. Following the pioneering work of Frankl (1978) purpose in life is understood to be essential to the meaning-making process which confers meaningfulness, a core component of psychological wellbeing. It is purpose in life which makes living worthwhile and which helps to prevent despair from leading to actions such as suicide. Building on Frankl's work empirical research establishing the contours and correlates of purpose in life has been facilitated by the development of the Purpose in Life Test, developed by Crumbaugh (1968) and Crumbaugh and Maholick (1969), and more recently by the Purpose in Life Scale developed by Robbins and Francis (2000). Other studies have routinely assessed purpose in life by a single item measure (see Francis & Robbins, 2009).

Early empirical research concerned with the psychological correlates of purpose in life, as reviewed by Yalom (1980), focused largely on the relation between purpose in life and psychopathology, anxiety or negative affect. More recently, this perspective continues with studies that link lower levels of purpose in life with living with HIV disease (Lyon & Younger, 2001), higher levels of suicidal ideation (Edwards & Holden, 2001), higher levels of general anxiety (Bigler, Neimeyer, & Brown, 2001), higher levels of fear of death and death avoidance (Ardelt, 2003, 2008), higher levels of depression (Heisel & Flett, 2004; Hedberg, Gustafson, Al  x, & Brulin, 2010), higher risk of suicidal behaviours (Wang, Lightsey, Pietruszka, Uruk, & Wells, 2007), higher risk of psychosis and psychotic episodes (Turner, Jackson, Renwick, Sutton, & Foley, 2007), and higher risk of addiction to substances (Martin, MacKinnon, Johnson, & Rohsenow, 2011).

In the late 1980s work by Zika and Chamberlain (1987, 1992) focused attention more strongly on the positive correlates of purpose in life, including psychological wellbeing, positive affect and life satisfaction. This perspective continues with studies that link higher levels of purpose in life with recovery from alcoholism (Carroll, 1993; Waisberg & Porter, 1994), positive self-image (Shek, 1992), higher levels of self-esteem, balanced affect, cognitive wellbeing, and better health (Coward, 1996), greater happiness (Lewis, Lanigan, Joseph, & de Fockert, 1997), psychological wellbeing (Bigler, Neimeyer, & Brown, 2001; Thoits, 2012), mature defence mechanisms and mature coping strategies (Whitty, 2003), higher levels of perceived mental and physiological health (Nygren, Aléx, Jonsén, Gustafson, Norberg, & Lundman, 2005), higher levels of hope and satisfaction in life (Bronk, Hill, Lapsley, Talib, & Finch, 2009), and better developed emotional responses in coping with mental stress (Ishida & Okada, 2011). In a factor analytic study, Compton (2001) found that purpose in life was associated with a range of different measures including: life satisfaction, happiness, positive affectivity, self-acceptance, existential well-being, self-esteem, and environmental mastery. There is also a long history of demonstrating the direct relationship between purpose in life and pro-social attitudes (Pearson & Sheffield, 1975; Shek, Ma, & Cheung, 1994; Francis & Robbins, 2006).

### **Prayer and psychological enquiry**

Scientific concern with the empirically observable correlates of prayer predated the development of the psychology of religion with the statistical enquiries published by Galton (1869, 1872, 1883) and were of central concern to some of the early commentators in the psychology of religion, including James (1902), Coe (1916), and Hodge (1931). After a considerable period of neglect, as noted by Finney and Malony (1985), empirical research in the psychology of prayer re-emerged during the 1990s as

noted by Brown (1994) and Francis and Astley (2001). Recent overviews of this renaissance have been provided by ap Siôn and Francis (2009) and Spilka and Ladd (2013). Two strands of recent empirical research exploring the psychological correlates of prayer are of particular relevance to the present study: one strand examines the connection between prayer and personality, and the second strand examines the connection between prayer and purpose in life.

### **Prayer and personality**

A number of studies have explored the relationship between frequency of personal prayer and personality drawing on Eysenck's dimensional model of personality. Eysenck's model of personality, operationalised by instruments such as the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975), the Revised Eysenck Personality Questionnaire (Eysenck, Eysenck, & Barrett, 1985) and the Eysenck Personality Scales (Eysenck & Eysenck, 1991), maintains that abnormal personality (poor functional psychological health) is not discrete from, but continuous with, normal personality (good functional psychological health). Accordingly, neurotic disorders lie at one extreme of a dimension of normal personality, ranging from emotional stability, through emotional lability, to neurotic disorder. Similarly, psychotic disorders lie at one extreme of another dimension of normal personality, ranging from tendermindedness, through toughmindedness, to psychotic disorder. Eysenck's model also maintains that the two dimensions of neuroticism and psychoticism are orthogonal and independent of each other. Alongside the measures of neuroticism and psychoticism, Eysenck's model adds a third dimension of personality which is not itself concerned with psychological disorder. This third dimension ranges from introversion, through ambiversion, to extraversion. Eysenck's questionnaires designed to measure these three dimensions of personality also routinely include a lie scale.

An initial study conducted among a sample of 230 16- to 18-year-old female students, reported by Francis and Wilcox (1994), found no significant correlations between prayer frequency and either extraversion scores or neuroticism scores, but a significant negative correlation between prayer frequency and psychoticism scores. In other words, individuals who record low scores on the psychoticism scale are more likely to engage in prayer. This key finding was subsequently supported by data from the United Kingdom reported by Francis and Wilcox (1996) among 236 16- to 19-year-old female A-level students, by Smith (1996) among 191 11- to 15-year-old school pupils, by Francis and Bolger (1997) among 50 retired members of an ex-civil servants association, by Francis (1997) among three samples of 378, 458 and 292 undergraduates, by Francis and Johnson (1999) among 311 primary school teachers, by Fearn, Booker, and Francis (2001) among 157 adult artists and by Francis, Robbins, Lewis, and Barnes (2008) among 2,306 sixth-form students. This consensus is also supported by data from the United States of America reported by Maltby (1995) among 92 female university students, by Lewis and Maltby (1996) among 100 male undergraduates, and by Maltby, Talley, Cooper, and Leslie (1995) among 324 adults, by data from France by Lewis (2000) among 462 female university students, by data from Australia by Kaldor, Francis, and Fisher (2002) among 1,033 adults, and by data from Norway by Lewis, Francis, and Enger (2004) among 479 school pupils.

This established connection between prayer and personality is important to the present enquiry for both conceptual and practical purposes. Conceptually, the connection between prayer and personality is consistent with the implications of Eysenck's dimensional model of personality for explaining individual differences in tenderminded social attitudes in general (Eysenck, 1975, 1976) and in religiosity in particular (Francis, 1992). Practically, the connection between prayer and personality emphasises the importance of taking personality factors into account as control variables when testing the association between prayer and

other variables like purpose in life.

### **Prayer and purpose in life**

A number of studies have explored the relationship between frequency of personal prayer and purpose in life. An initial study, reported by Francis and Burton (1994), explored the relationship between personal prayer and perceived purpose in life among a sample of 674 12- to 16-year-old students attending a Catholic school and who identified themselves as members of the Catholic Church. Two main conclusions emerged from these data. First, the data demonstrated a significant positive relationship between frequency of personal prayer and perceived purpose in life, even after controlling for individual differences in frequency of church attendance. Second, personal prayer was shown to be a stronger predictor of perceived purpose in life than church attendance. This key connection between prayer frequency and purpose in life was subsequently supported by data from the United Kingdom reported by Francis and Evans (1996) among two samples of 12- to 15-year-old students (1,640 who never attended church and 659 who attended church most weeks), by Francis (2005) among two much larger samples of 13- to 15-year-old students (12,717 who never attended church and 3,744 who attended church most weeks), by Robbins and Francis (2005) among two samples of 13- to 15-year-old students in Northern Ireland (1,206 from Catholic schools and 1,464 from Protestant schools), and by Francis and Robbins (2009) among a sample of 2,563 13- to 15-year-old students in England and Wales.

This set of studies that has established the connection between prayer and purpose in life after holding constant individual differences in church attendance is important to the present enquiry for both conceptual and practical purposes. Conceptually, the finding clarifies the relative independence of the psychological significance of prayer from that of church attendance. First, individual differences in frequency of prayer functions as a predictor of levels of purpose in life among both churchgoers and non-churchgoers. Second, after taking



levels of church attendance into account prayer explains additional variance in levels of purpose in life. In other words, in respect of purpose in life prayer is a stronger and more important predictor than church attendance. Practically, the finding emphasises the importance of taking church attendance into account as a control variable when testing the association between prayer and other variables like purpose in life.

### **Research questions**

Arising from this body of empirical evidence concerning the association between prayer and personality and the association between prayer and purpose in life, the present study addresses the following empirical and conceptual research questions. The empirical research question tests the persistence of the association between frequency of prayer and purpose in life among young people after taking into account the effect of personal factors (sex and age), personality factors (extraversion, neuroticism, and psychoticism), and religious factors (Christian affiliation and religious attendance). This aim is operationalised by drawing on data from the Young People's Attitudes to Religious Diversity Project which set out to obtain responses from at least 2,000 13- to 15-year-old students attending state-maintained schools in each of five areas of the United Kingdom: England, Northern Ireland, Scotland, Wales *and* London. In each area half of the students were recruited from schools with a religious character (Anglican, Catholic, or joint Anglican and Catholic) and half were recruited from schools without a religious character. Following the model of the previous studies reported by Francis and Burton (1994), Francis and Evans (1996), Francis (2005), Robbins and Francis (2005), and Francis and Robbins (2009) this study operationalises both prayer frequency and purpose in life by means of single-item measures. The conceptual research question is concerned to offer an explanation for the persistence of this association between frequency of prayer and purpose in life among young people in the second decade of the twenty-first century in the United Kingdom.

## Method

### Procedure

Within the participating schools questionnaires were administered by religious education teachers within examination-like conditions. Students were assured of anonymity and confidentiality and given the option not to participate in the project.

### Participants

Responses were received from 2,398 students in England (1,205 males and 1,193 females), from 1,988 students in Northern Ireland (888 males and 1,100 females), from 2,724 students in Scotland (1,285 males and 1,439 females), from 2,319 students in Wales (1,124 males and 1,195 females), and from 2,296 students in London (1,016 males and 1,280 females).

### Measures

*Purpose in life* was assessed by the single-item measure, 'I feel my life has a sense of purpose', rated on a five-point scale: agree strongly (5), agree (4), not certain (3), disagree (2), disagree strongly (1).

*Religious affiliation* was recorded by a checklist of world faiths and Christian denominations in response to the question, 'What is your religion?' For the current analysis all the Christian categories were collapsed into a single group and those affiliated with other world faiths were omitted, producing a dichotomous variable: no religion (1), and Christian (2).

*Religious attendance* was assessed by the question, 'Apart from special occasions (like weddings) how often do you attend a religious worship service (e.g. in a church, mosque or synagogue). Responses were recorded on a seven-point scale: never (1), sometimes (2), at least once a year (3), at least six times a year (4), at least once a month (5), nearly every week (6), and several times a week (7).

*Personal prayer* was assessed by the question, ‘How often do you pray in your home or by yourself?’ Responses were recorded on a five-point scale: never (1), occasionally (2), and at least once a month (3), at least once a week (4), and nearly every day (5).

*Sex and school year* were recorded as dichotomous variables: male (1) and female (2); year nine (1) and year ten (2); schools with a religious character (2) and schools without a religious character (1).

*Personality* was assessed by the abbreviated version of the Junior Eysenck Personality Questionnaire Revised (JEPQR-A) developed by Francis (1996) who reported the following Cronbach alpha coefficients: extraversion = .66; neuroticism = .70; psychoticism = .61; lie scale = .57.

### **Analysis**

The present analysis was conducted on a subset of 10,792 students who self-assigned themselves as either religiously unaffiliated or as Christian in order to avoid the complexification of including a range of other religious groups. Within this subset 3,860 young people were religiously unaffiliated and 6,932 were affiliated with the Christian tradition. This subset comprised 5,035 males, 5,699 females and 58 students did not disclose their sex, 5,500 year nine students, 5,259 year ten students and 33 students did not disclose their school year, 2,231 students from England, 1,922 from Northern Ireland, 2,643 from Scotland, 2,241 from Wales, and 1,755 from London. The data were analysed by the SPSS statistical programme employing the frequency, correlation, reliability and regression routines.

### **Results**

The two variables at the heart of the present study are frequency of personal prayer and assessment of purpose in life. The data demonstrated over half of the participants never prayed (55%), while 13% prayed daily, 7 % at least once a week, 3% at least once a month,

and 22% less frequently than that. Over half the participants agreed (31%) or agreed strongly (23%) that they feel their life has a sense of purpose, while 10% disagreed strongly, 6% disagreed and 29% were uncertain.

The personality measures employed in the study all recorded alpha coefficients of internal consistency reliability and means and standard deviations consistent with those reported by Francis (1996): extraversion,  $\alpha = .69$ ,  $M = 4.71$   $SD = 1.53$  ; neuroticism,  $\alpha = .68$ ,  $M = 3.10$ ,  $SD = 1.79$ ; psychoticism,  $\alpha = .57$ ;  $M = 1.15$ ,  $SD = 1.28$ .

- insert table 1 about here -

Table 1 presents the correlation matrix that examines the bivariate associations between purpose in life, personal factors (sex and school year), personality factors (extraversion, neuroticism, and psychoticism), religious factors (Christian affiliation and church attendance) and prayer. Three main themes are illuminated by these data.

First, in terms of personal factors, sex differences are significant across all the variables, while age differences (assessed by school year) are only significant in respect of extraversion scores. Females record significantly higher scores than males on the indices of purpose in life, prayer frequency, church attendance frequency, Christian affiliation, neuroticism and extraversion. Males record significantly higher scores than females on the index of psychoticism. Year-ten students record higher scores than year-nine students on the index of extraversion.

Second, in terms of personality factors, all three of the Eysenckian dimensions are significantly associated with purpose in life, prayer and religiosity in various ways. A higher sense of purpose in life is significantly associated with higher extraversion scores, lower neuroticism scores and lower psychoticism scores. A higher frequency of prayer is significantly associated with higher neuroticism scores and lower psychoticism scores, but independent of extraversion scores. A higher frequency of church attendance is also

significantly associated with higher neuroticism scores, and lower psychoticism scores, but independent of extraversion scores. Self-assigned Christian affiliation is significantly associated with higher extraversion scores, higher neuroticism scores and lower psychoticism scores.

Third, there is a significant positive correlation between prayer frequency and purpose in life. At the same time, however, purpose in life is positively correlated with being female, with self-assigned Christian affiliation and with church attendance, negatively correlated with psychoticism scores and neuroticism scores, and positively correlated with extraversion scores. Prayer frequency is positively correlated with being female, with self-assigned Christian affiliation and with church attendance, negatively correlated with psychoticism scores, and positively correlated with neuroticism scores. In light of such a complex pattern of correlations, multivariate analyses are needed to examine whether the positive correlation between prayer frequency and purpose in life persists after taking individual differences in personal factors, personality factors and religious factors into account.

- insert table 2 about here -

Table two presents the fixed order entry regression model in which purpose in life is the dependent variable and the independent variables are entered in the order of personal factors (sex and school year), personality factors (extraversion, neuroticism, and psychoticism), religious factors (Christian affiliation and church attendance) and finally prayer frequency. The increase in  $r^2$  confirms that prayer frequency accounts for additional variance in purpose in life after all other variables have been taken into account. The beta weights demonstrate that within the total system of these predictor variables prayer frequency is the strongest predictor of purpose in life.

### **Discussion and conclusion**

This study drew on the Young People's Attitudes to Religious Diversity project to

build on and to extend two earlier studies reported by Robbins and Francis (2005) and Francis and Robbins (2009) in order to test the persistence of the association between frequency of prayer and purpose in life among young people after taking into account the effect of personal factors (sex and school year), personality factors (extraversion, neuroticism and psychoticism) and religious factors (Christian affiliation and church attendance). Data were provided by 10,792 13- to 15-year-old students from England, Northern Ireland, Scotland, Wales and London. Three main conclusions emerge from the new data.

First, purpose in life (as assessed by a single-item measure) is associated both with sex differences and with personality differences. In terms of sex differences, females record a higher sense of purpose in life compared with males. Previous empirical research has demonstrated that while among older adults males tend to report a higher sense of purpose in life (Francis, Jewell, & Robbins, 2010; Nygren, Alèx, Jonsèn, Gustafson, Norberg, & Lundman, 2005), among school-aged students females tend to record higher purpose in life scores than males (Francis & Burton, 1994). A further group of studies among school-aged students have reported no significant sex differences in levels of perceived purpose in life (Francis & Evans, 1996; Francis, 2005; Robbins & Francis, 2005; Francis & Robbins, 2006, 2009). In terms of personality differences, purpose in life is positively associated with extraversion and negatively associated with both neuroticism and psychoticism. This basic pattern is repeated in other studies among young people (Francis, 2005; Robbins & Francis, 2000, 2005; Francis & Robbins, 2006, 2009). There are clear implications from these findings for the design of future research, highlighting the need to control for individual differences in sex and personality before examining the correlation between purpose in life and other variables.

Second, purpose in life is associated with all three religious variables included in the study. Higher levels of purpose in life are associated with self-identification as Christian,

with greater frequency of church attendance and with greater frequency of personal prayer. This is consistent with the findings from a number of studies conducted since the mid-1970s that have examined the relationship between scores recorded on the Purpose in Life Test (Crumbaugh, 1968; Crumbaugh & Maholick, 1969) and a range of different conceptualisations and operationalisations of religiosity. The most consistently reported association concerns the positive relationship between purpose in life and intrinsic religiosity (assessed by various instruments), including studies among students (Bolt, 1975; Crandall & Rasmussen, 1975; Soderstrom & Wright, 1977; Paloutzian, Jackson, & Crandall, 1978), undergraduates (Byrd, Hageman, & Isle, 2007; Hui & Fung, 2009), and adults (Chamberlain & Zika, 1988; Weinstein & Cleanthous, 1996; Dezutter, Soenens, & Hutsebaut, 2006; Francis, Jewell, & Robbins, 2010; Blazek & Besta, 2012). A positive association with purpose in life has also been reported by studies utilising other conceptualisations of religiosity, including measures of: church attendance (Jackson & Coursey, 1988), conservative religious belief (Dufton & Perlman, 1986), experience of religious conversion (Paloutzian, 1981), general religiosity (Gladding, Lewis, & Adkins, 1981), membership to religiously orientated groups (Stones & Philbrick, 1980; Stones, 1981), prayer experience (Richards, 1991), spiritual practice (Carroll, 1993), spiritual satisfaction (Gerwood, LeBlanc, & Piazza, 1998), spiritual transcendence (Piedmont & Leach, 2002), and spiritual wellbeing (Paloutzian & Ellison, 1982). There are clear implications from these findings for the design of future research concerned with modelling individual differences in purpose in life. Studies that fail to take religious variables into account provide an inadequate model of salient factors.

Third, while purpose in life is associated with all three religious variables included in the study (self-assigned Christian affiliation, frequency of religious attendance, and frequency of prayer), prayer frequency emerges as the strongest of these religious predictors. This

finding is consistent with the initial study reported by Francis and Burton (1994) and with much of the subsequent work. There are clear implications for these findings both for future research concerned with exploring the association between religion and purpose in life and for interpreting the psychological function of prayer. In terms of future research, even within the kind of social surveys that are limited by the number and range of questions on religion that can be included, the routine inclusion of religious affiliation and religious attendance may be augmented (or even replaced) by a measure of prayer frequency.

In terms of a fuller interpretation of the psychological function of prayer, these findings prompt two questions and suggest two solutions. The first question asks why it is that prayer should be more strongly associated with purpose in life than church attendance. The suggested response is that prayer is much less subject to social constraints and much closer to the heart of an individual's religiosity. In this sense individual differences in prayer may serve as a more accurate indication of personal religiosity. The second question asks how it is that greater prayer frequency comes to be associated with an enhanced sense of purpose in life. The suggested response is to endorse the theoretical understanding of prayer proposed by Francis and Robbins (2006). This theory suggests that young people who pray are, consciously or unconsciously, acknowledging and relating to a transcendence beyond themselves. Acknowledging such a transcendence and relating to that transcendence through prayer places the whole of life into a wider context of meaning and purpose. The following psychological mechanism proposes a causal model according to which prayer may influence purpose in life. The practice of prayer implies both a cognitive and an affective component. The cognitive component assumes, at least, the possibility of a transcendent power. Such a belief system is likely to support a purposive view of the nature of the universe. The affective component assumes, at least, the possibility of that transcendent power being aware of and



taking an interest in the individual engaged in prayer. Such an affective system is likely to support a sense of value for the individual.

There are two clear limitations with the present study that could be addressed by future research. The first limitation concerns the reliance on a single-item measure of purpose in life. The 12-item Purpose in Life Scale proposed by Robbins and Francis (2000) has worked well among undergraduate students and with some minor modifications should prove appropriate for use among the age group who participated in the present study (13- to 15-year-old students). The second limitation concerns the reliance on assessing individual differences in prayer by means of a single item concerned with frequency. In two studies working among 11-year-old students and among 16-year-old students, Francis and Brown (1990, 1991) employed a seven-item attitudinal measure of prayer which should prove useful in future studies.

#### **Note**

Young People's Attitudes to Religious Diversity Project (AHRC Reference: AH/G014035/1) is a large scale mixed methods research project investigating the attitudes of 13- to 16-year-old students across the United Kingdom. Students from a variety of socio-economic, cultural, ethnic and religious backgrounds from different parts of England, Wales, Northern Ireland and Scotland, with the addition of London as a special case, took part in the study. Professor Robert Jackson was principal investigator and Professor Leslie J Francis was co-investigator. Together they led a team of qualitative and quantitative researchers based in the Warwick Religions and Education Research Unit, within the Institute of Education at the University of Warwick. The project was part of the AHRC/ESRC Religion and Society Programme, and ran from 2009-12.

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Table 1

*Correlation matrix*

	Purpose	Prayer	Church	C	P	N	E	Year
Sex	.06***	.08***	.07***	.06***	-.26***	.24**	.08***	.02*
School year	-.01	.00	.01	.02	-.00	.01	.04***	
Extraversion (E)	.08***	-.01	-.01	.03***	.13**	-.03**		
Neuroticism (N)	-.04***	.06***	.04***	.03***	.02*			
Psychoticism (P)	-.16***	-.12**	-.14***	-.10***				
Christian (C)	.24***	.45***	.52***					
Church attendance	.29***	.62***						
Prayer	.30***							

Note: \*,  $p < .05$ ; \*\*,  $p < .01$ ; \*\*\*,  $p < .001$

N = 10,792

Table 2

*Regression model*

	$r^2$	increase			Beta	$t$	$p <$
		$r^2$	F	$p <$			
Sex	.003	.003	32.3	.001	.003	0.3	NS
School year	.003	.000	0.4	NS	.002	0.2	NS
Extraversion	.009	.006	63.7	.001	.097	10.3	.001
Neuroticism	.012	.003	28.6	.001	-.055	-5.7	.001
Psychoticism	.038	.026	272.1	.001	-.125	-12.8	.001
Christian affiliation	.088	.050	558.2	.001	.086	7.8	.001
Church attendance	.120	.032	365.3	.001	.115	9.2	.001
Personal prayer	.140	.020	235.3	.001	.184	15.3	.001

Note: N = 10,792