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Authors:	Mandy Robbins and Leslie J. Francis
Article title:	The spiritual revolution and suicidal ideation: an empirical enquiry among 13- to 15-year-old adolescents in England and Wales
Year of publication:	2009
Link to published version:	<a href="http://dx.doi.org/10.1080/13644360903086539">http://dx.doi.org/10.1080/13644360903086539</a>
Publisher statement:	None

Running head: The spiritual revolution and suicidal ideation

**The spiritual revolution and suicidal ideation: an empirical enquiry among  
13- to 15-year-old adolescents in England and Wales**

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## Summary

The association between conventional religiosity and suicide inhibition has been well explored and documented since the pioneering work of Durkheim. Commentators like Heelas and Woodhead point to ways in which conventional religiosity is giving way in England and Wales to a range of alternative spiritualities, including renewed interest in paranormal phenomena. Taking a sample of 3,059 13-to 15-year-old adolescents, the present study examines the association between suicidal ideation and both conventional religiosity and paranormal beliefs, after controlling for individual differences in sex, age, and personality (extraversion, neuroticism, and psychoticism). The data demonstrate that, while conventional religiosity is slightly associated with lower levels of suicidal ideation, paranormal beliefs are strongly associated with higher levels of suicidal ideation.

Key words: psychology, religion, spirituality, suicidal ideation, personality, paranormal belief, attitude toward Christianity

## Introduction

Teenage suicides and attempted suicides present a matter of growing concern within contemporary societies. Williams (1997, p. 20) identified suicide to be the second most common course of death among young people, male and female, in Britain after motor-vehicle accidents. The consultation document, *National Suicide Prevention Strategy for England*, issued by the Department of Health (2002) began with the following statement:

Suicide is a major public health issue. Around 5000 people take their own lives in England every year. In the last 20 years or so, suicide rates have fallen in older men and women, but risen in younger men. The majority of suicides now occur in young adult males. In men under 35, suicide is the most common cause of death.

One research tradition that may be especially helpful in predicting individual differences in vulnerability to suicidal behaviour focuses on suicidal ideation, assessed either through psychometric instruments or through single-item measures (Salmons & Harrington, 1984; Crosby, Cheltenham, & Sacks, 1999; Kumar & Pradham, 2003; Eskin, 2004). The simple and straightforward single-item measure of suicidal ideation, 'I have sometimes considered taking my own life', has been routinely included in a number of surveys among young people, including the surveys reported by Francis (1982a, 1982b, 1984, 2001a), by Francis and Kay (1995) and by Francis and Robbins (2005). For example, in their study of 23,418 13- to 15-year-old adolescents living in urban areas, Francis and Robbins (2005) found that 27% had sometimes considered taking their own life.

Taking their analyses one step further, Francis and Robbins (2005) explored the different levels of suicidal ideation among well-defined groups of adolescents. For example, they found in response to the question 'I have sometimes considered taking my own life' significant differences according to sex (24% males and 31% females), geography (26% in the south of England and 28% in the north), paternal employment status (26% employed and 31%

unemployed), family structure (25% intact and 33% broken), type of school (28% non-denominational, 30% Anglican, 26% Catholic, 15% Independent Christian), and religious affiliation (28% none, 26% Christian, 30% Muslim, 19% Jewish, 27% Hindu, and 29% Sikh).

### *Suicidiology and religion*

There has been a long-established link between suicidiology and the study of sociological and psychological functions of religion, informed by the pioneering work of Durkheim (1897). In general religion is seen as an antidote or as an inhibitor of suicidal behaviour or suicidal ideation. For example, in a recent study, Kay and Francis (2006) demonstrated that, after taking personality variations into account, church attendance offered significant protection against suicidal ideation while the protective effects of team sports were insignificant. Similar links between various measures of religiosity, and lower levels of suicidal ideation have been reported by Hovey (1999), Marian and Range (2003), Schweitzer, Klayich and MacLean (1995), and Zhang and Jin (1996). On the other hand, no such link was found by Hills and Francis (2005) using a new measure of suicidal ideation and the Revised Religious Life Inventory developed by Hills, Francis and Robbins (2005). The research evidence, therefore, provides a far from simple account of this linkage and demonstrates variability according to the forms in which religiosity is accessed or measured.

### *Changing religious landscape*

It is this established linkage between suicidiology and religion that raises a key research question regarding the implications of the changing religious landscape in England and Wales. Varying accounts continue to flourish regarding the religious and spiritual climate of England and Wales. What is not in doubt is the highly visible decline in public church attendance, as charted, for example, in a series of reports by Brierley (1997, 1999, 2001, 2003, 2005) and as celebrated in startling titles like *The Making of Post-Christian Britain* (Gilbert, 1980) and *The Death of Christian Britain* (Brown, 2001). There is much less agreement,

however, regarding what has taken the place of traditional religiosity in the lives (and souls) of those living during the twenty-first century in England and Wales. For some commentators, traditional religiosity has given way to growing secularism (Bruce, 2002), while for others disappearing explicit religiosity has opened the way for implicit religion (Bailey, 1997).

One intriguing and important perspective on the changing religious and spiritual landscape of England has been provided by Heelas and Woodhead (2005) in their study *The Spiritual Revolution* examining expressions of contemporary spirituality in the town of Kendall, near the Lake District in the north-west region of England. Heelas and Woodhead distinguished between what might be described as traditional religiosity (defined as ‘the congregational domain’) and what might be described as emerging or alternative spiritualities (defined as ‘forms of holistic milieu activities’). The holistic milieu activities include both associational activities and the activities of spiritual one-on-one practitioners. The combined list of these activities presented in appendix three (pp. 156-157) included a wide range of physical therapies (acupuncture, chiropractic, homeopathy, osteopathy), therapeutic techniques (aromatherapy, art therapy, counselling, flower essence therapy, nutritional therapy, play therapy, rebirthing), relaxation techniques (massage, relaxation therapy), self-help networks (Cancer Care), faith-based groups (Buddhist, inter-faith, Iona, Sea of Faith, Taizé), recreational pursuits (circle dancing, yoga), and paranormal phenomena (astrology, pagan activities, palm readings, psychotherapy, tarot card reading).

An important question is raised by *The Spiritual Revolution* for the field of suicidology in general and for the study of individual differences in suicidal ideation in particular: do these emerging and alternative spiritualities fulfil similar functions to those fulfilled by conventional religiosity? In other words, are alternative spiritualities functioning as inhibitors to suicidal ideation in ways similar to conventional religiosity?

Given the relatively amorphous nature of the notion of emerging and alternative spiritualities, for research purposes it is necessary to narrow the field

by concentrating on a recognisable and coherent aspect of this broad field. The one aspect of the wide range of alternative spiritualities included in appendix three of Heelas and Woodhead's (2005, pp 156-157) discussion of the spiritual revolution that has received considerable attention in recent years concerns paranormal beliefs (Lester, 1993; Willgling & Lester, 1997; Francis & Williams, 2007, 2009, in press; Francis, Williams, & Robbins, in press; Robbins, Francis, & Williams, in press). Although the construct 'paranormal beliefs' is not specifically named in Heelas and Woodhead's discussion of 'the spiritual revolution', they list a range of paranormal phenomena within their domain of the holistic milieu. Given the impossibility of capturing empirically ill-defined and wide ranging constructs, it is sensible to begin the exploration of the empirical correlates of the spiritual revolution by focusing on those specific aspects of the spiritual revolution that have been clearly captured by careful definition and tested operationalisation.

*Measuring conventional religiosity and paranormal belief*

The measurement of conventional religiosity in England and Wales raises a number of complex problems. In a series of studies from the late 1970s Francis has argued for the primacy of the attitudinal dimension of religiosity over other dimensions (like belief, affiliation and practice) as accessing the most fundamental and stable expression of religiosity within contemporary society (Francis, 1978, 1979; Kay & Francis, 1996). Following this position, the Francis Scale of Attitude toward Christianity (Francis, Lewis, Philipchalk, Brown, & Lester, 1995) has now been used in over 200 independent studies designed to map the correlates, antecedents and consequences of individual differences in attitude towards Christianity, including recent studies concerned with: abortion-related attitudes (Fawcett, Andrews, & Lester, 2000), conservatism (Lewis & Maltby, 2000), dissociation (Dorahy & Lewis, 2001), dogmatism (Francis, 2001b; Francis & Robbins, 2003), general health (Francis, Robbins, Lewis, Quigley, & Wheeler, 2004), happiness (Francis & Robbins, 2000; Francis, Ziebertz, & Lewis, 2003a), personality (Francis & Kerr, 2003; Francis, Ziebertz, & Lewis, 2003b),

pre-marital sex (Francis, 2006), prosocial values (Schludermann, Schludermann, & Haynh, 2000), psychological health (Francis, Lewis, & Ng, 2003), psychological type (Francis, Jones, & Craig, 2004), science-related attitudes (Francis & Greer, 2001), and schizotypy (Joseph & Diduca, 2001). The present study plans, therefore, to build on this research tradition by employing the Francis Scale of Attitude towards Christianity.

The measurement of paranormal beliefs is somewhat more problematic. Paranormal belief has been assessed in a number of studies by the Tobacyk Revised Paranormal Belief Scale (Tobacyk, 1988), including recent research on: childhood physical abuse (Perkins & Allen, 2006), consumer behaviour (Mowen & Carlson, 2003), dissociative experiences (Wolfradt, 1997), emotional intelligence (Rogers, Qualter, Phelps, & Gardner, 2006), locus of control (Newby & Davis, 2004), narcissism (Roe & Morgan, 2002), optimism (Rudski, 2004), psychopathology (Dag, 1999), and risk perception (Sjöberg & af Wåhlberg, 2002). However, in recent years this scale has come under significant scrutiny (Lawrence 1995; Hartman, 1999; Lange, Irwin, & Houran, 2000) that demonstrates inconsistencies in the number of constructs present within the scale, potential confusion regarding areas that paranormalists and conventional religionists hold in common, and differential item functioning for age and gender. The present study plans, therefore, to employ a new index of paranormal belief, the Williams-Francis Paranormal Belief Scale. The items selected for inclusion in this instrument were specifically selected to minimise overlap between assessment of paranormal belief and assessment of traditional religiosity. For example, an item concerning belief in life after death was not included in this scale, since such an item could attract agreement from traditional religionists as well as from paranormalists.

### *Control variables*

Research concerned with the linkages between suicidal ideation, conventional religiosity, and paranormal belief needs to take into account the potentially contaminating effect of individual differences in personality. A model of



personality that has proved to be particularly fertile in these related fields of study is the three dimensional model proposed by Hans Eysenck and his associates and operationalised in a series of self-completion instruments for application both among adults, including the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975) and the Eysenck Personality Questionnaire Revised (Eysenck, Eysenck, & Barrett, 1985), and among young people, including the Junior Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975) and the Junior Eysenck Questionnaire Revised (Corulla, 1990).

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. 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.

In one recent review, Francis Quesnell, and Lewis (in press) demonstrated that previous studies have generally linked high levels of conventional religiosity with lower psychoticism scores (tendermindedness) and higher lie scale scores (great social conformity). In a second recent review, Francis and Williams (2009) demonstrated that previous studies have generally linked high levels of paranormal belief with higher psychoticism scores (toughmindedness) and lower

lie scale scores (lower social conformity). In a third review, Hills and Francis (2005) demonstrated that previous studies have generally linked high levels of suicidal ideation with higher psychoticism scores, higher neuroticism scores and lower extraversion scores.

### *Research agenda*

Against this background, the aim of the present study is to examine the association between suicidal ideation and both conventional religiosity and paranormal belief, after taking into account individual differences in sex, age, and personality, among a substantial sample of 13- to 15-year-old adolescents in England.

## Method

### *Sample*

The Teenage Values Survey was completed by a random sample of 3,059 13- to 15-year-old pupils (1,540 males, 1,547 females and 8 of undisclosed sex) attending year-nine and year-ten classes in 11 secondary schools in England and Wales. 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 dispatched to the University of Wales for analysis. The participants comprised 1,658 year-nine pupils and 1,437 year-ten pupils. The majority of the participants never attended church (58%), with 9% attending at least once a month and 33% attending less frequently than this.

### *Measures*

*Personality* was assessed by the abbreviated-form Junior Eysenck Personality Questionnaire Revised (Francis, 1996). 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'.

*Conventional religiosity* was assessed by the short form of the Francis Scale of Attitude toward Christianity (Francis, Lewis, Philipchalk, Lester and Brown, 1995). This is a seven-item index concerned with affective responses to God, Jesus, bible, prayer and church which provides a good predictor of scores recorded on the original longer version of the instrument. Each item is rated on a five-point Likert-type scale: 'agree strongly', 'agree', 'not certain', 'disagree' and 'disagree strongly'.

*Paranormal belief* was assessed by a five-item index concerned with belief in contacting the spirits of the dead, in ghosts, in fate, in horoscopes, and in tarot cards. Each item is rated on a five-point Likert-type scale: 'agree strongly', 'agree', 'not certain', 'disagree' and 'disagree strongly'.

*Suicidal ideation* as assessed by the single item, 'I have sometimes considered taking my own life', rated on a five-point Likert-type scale: agree strongly, agree, not certain, disagree, disagree strongly.

### *Analyses*

The data were analysed by the SPSS statistical package using the frequencies, reliability, Pearson correlation and regression routines

### Results

In response to the key question, 'I have sometimes considered taking my own life', 10% of the adolescents agreed strongly and a further 15% agreed; 46% disagreed strongly and a further 13% disagreed; the remaining 16% checked the 'not certain' category. At their simplest reading, these statistics indicate that one in four of this sample of adolescents had experienced suicidal thoughts.

Step two of the data analysis examines the scale properties of the six psychological measures employed in the study, namely the scales of attitude

toward Christianity, paranormal belief, extraversion, neuroticism, psychoticism, and the lie scale. These data are presented in table 1 in terms of the alpha coefficient (Cronbach, 1951), the means and standard deviations.

-insert table 1 about here-

Step three of the data analysis examines the bivariate association between suicidal ideation, paranormal belief, sex, school year and the four Eysenckian variables (extraversion, neuroticism, psychoticism, and the lie scale). The correlation co-efficients presented in table 2 confirm the complex pattern of associations between the variables and indicate that attitude toward Christianity and paranormal belief are related to suicidal ideation in different ways. At this stage the suggestion is that attitude toward Christianity is unrelated to suicidal ideation, while paranormal belief is associated with higher levels of suicidal ideation.

-insert table 2 about here-

In view of the complex pattern of correlations between the variables, table 3 introduces a regression model based on suicidal ideation as the dependent variable. Step-wise modelling entered sex and age (accessed via school year) first since these variables are clearly independent. The four Eysenckian variables were entered into the model in the fixed order of neuroticism, psychoticism, extraversion and the lie scale on the basis of the size of the correlations with suicidal ideation reported in the correlation matrix. Then finally attitude toward Christianity and paranormal belief were entered into the equation. These data demonstrate that neuroticism scores and psychoticism scores are both strong predictors of individual differences in suicidal ideation: those who record high scores on neuroticism and on psychoticism (after controlling for sex and age differences) also record higher levels of suicidal ideation. The data also demonstrate that (after controlling for sex, age, and personality differences) those who record high scores on the index of paranormal belief record higher

levels of suicidal ideation, while those who record high scores on the index of conventional religiosity record slightly lower levels of suicidal ideation.

### Conclusion

Building on a tradition of research, pioneered by Durkheim's (1897) classic theories, regarding the linkage between suicide and religion, the present study set out to test whether the alternative spiritualities emerging as part of the spiritual revolution served to reduce suicidal ideation in ways similar to conventional religiosity, after properly taking into account the influences of appropriate control variables. Four main conclusions emerge from the data generated by a sample of 3,059 13- to 15-year olds.

The first conclusion concerns the overall level of suicidal ideation experienced by this group of adolescence. As many as one in four (25%) admitted that they had sometimes entertained suicidal thoughts. This figure is broadly in line with other recent surveys conducted among the same age group (Francis and Robbins, 2005) and serves to emphasize the importance of schools taking appropriate initiatives to identify and to help those pupils most at risk.

The second conclusion concerns the importance of fundamental personality variables in predicting the predisposition for suicidal ideation. After sex, age, neuroticism and psychoticism have been taken into account, 42% of the variance in suicidal ideation has been account for. This finding serves to illustrate how useful routine personality testing could be in helping to identify those pupils most at risk.

The third conclusion concerns the weak association between the measure of conventional religiosity (attitude toward Christianity) and lower levels of suicidal ideation. This finding suggests that, in the environment of the spiritual revolution in England, conventional religiosity may be losing its former power in suicide inhibition.

The fourth conclusion concerns the relatively strong association between the measure of alternative spiritualities (paranormal belief) and higher levels of

suicidal ideation. This findings suggests not only that paranormal beliefs do not serve the same function as conventional religiosity in the lives of young people, but that in some senses they may serve very opposite functions. While conventional religiosity may inhibit suicidal ideation, paranormal beliefs may encourage suicidal ideation. The positive association between paranormal beliefs and suicidal ideation draws attention to the way in which the beliefs young people hold about the transcendent are far from irrelevant in shaping key aspects of their lives. In this case such beliefs may tip the balance between life and death.

The present study represents a pioneering enquiry regarding the implications of different spiritualities and different conceptions of the transcendent for the levels of suicidal ideation experienced by adolescents. The study is, nonetheless, limited in a number of important ways that need to be addressed by future projects. First, since there are clear benefits from continuing to conceptualise traditional religiosity in terms of the attitudinal dimension, future research should consider employing the full 24-item form of the Francis Scale of Attitude toward Christianity as a more robust instrument than the seven-item short form. Second, since there is a clear interest in conceptualising paranormal belief as one aspect of alternative spiritualities, future research should consider developing a richer and fuller index of paranormal belief. Third, since paranormal belief is but one aspect of the wider field of alternative spiritualities identified by Heelas and Woodhead (2005) within the contemporary spiritual revolution, future research should consider operationalising measures of other aspects of what Heelas and Woodhead describe as 'holistic milieu activities'. Fourth, since Eysenck's dimensional model of personality is proving to be a helpful heuristic framework within which to distinguish between different forms of spirituality, future research should consider employing the larger and more robust forms of the Eysenckian personality measure. Fifth, since it cannot be assumed that patterns of relationships established among 14- to 16-year-old adolescents in England are necessarily reproduced among other age groups and in other cultural contexts, future research should consider extending the present study

among other age groups and in other cultural settings.

References

- Bailey, E. I. (1997). *Implicit religion in contemporary society*. Kampen, Netherlands: Kok Pharos.
- Brierley, P. (Ed.) (1997). *UK Christian handbook: Religious trends 1, 1998/1999*. London: Christian Research.
- Brierley, P. (Ed.) (1999). *UK Christian handbook: Religious trends 2, 2000/2001*. London: Christian Research.
- Brierley, P. (Ed.) (2001). *UK Christian handbook: Religious trends 3, 2002/2003*. London: Christian Research.
- Brierley, P. (Ed.) (2003). *UK Christian handbook: Religious trends 4, 2003/2004*. London: Christian Research.
- Brierley, P. (Ed.) (2005). *UK Christian handbook: Religious trends 5, 2004/2005*. London: Christian Research.
- Brown, C. G. (2001). *The death of Christian Britain*. London: Routledge.
- Bruce, S. (2002). *God is dead: Secularisation in the west*. Oxford: Blackwell.
- Corulla, W.J. (1990). A revised version of the psychoticism scale for children. *Personality and Individual Differences, 11*, 65-76.
- Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*, 297-334.
- Crosby, A.E., Cheltenham, M.P., & Sacks, J.J. (1999). Incidence of suicidal ideation and behaviour in the United States, 1994. *Suicide and Life Threatening Behaviour, 29*, 131-140.
- Dag, I. (1999). The relationship among paranormal beliefs, locus of control and psychopathology in a Turkish college sample. *Personality and Individual Differences, 26*, 723-737.
- Department of Health, (2002). National suicide prevention strategy for England: Consultation documents. London: Department of Health.
- Dorahy, M. J., & Lewis, C. A. (2001). The relationship between dissociation and religiosity: An empirical evaluation of Schumaker's theory. *Journal for the Scientific Study of Religion, 40*, 317-324.



- Durkheim, E. (1897). *Le suicide*. Paris: Felix Alcan.
- Eskin, M. (2004). The effects of religious versus secular education on suicide ideation and suicidal attitudes in adolescents in Turkey. *Social Psychiatry and Psychiatric Epidemiology*, 39, 536-542.
- Eysenck, H. J., & Eysenck, S. B. G. (1975). *Manual of the Eysenck Personality Questionnaire (adult and junior)*. London: Hodder and Stoughton.
- Eysenck, S. B. G., Eysenck, H. J., & Barrett, P. (1985). A revised version of the psychoticism scale. *Personality and Individual Differences*, 6, 21-29.
- Fawcett, J., Andrews, V., & Lester D. (2000). Religiosity and attitudes about abortion. *Psychological Reports*, 87, 980.
- Francis, L. J. (1978). Measurement reapplied: Research into the child's attitude towards religion. *British Journal of Religious Education*, 1, 45-51.
- Francis, L. J. (1979). The child's attitude towards religion: A review of research. *Educational Research*, 21, 103-108.
- Francis, L.J. (1982a). *Youth in transit: A profile of 16-25 year olds*. Aldershot: Gower.
- Francis, L.J. (1982b). *Experience of adulthood: A profile of 26-39 year olds*. Aldershot: Gower.
- Francis, L.J. (1984). *Teenagers and the church: A profile of church-going youth in the 1980s*. London: Collins Liturgical Publications.
- Francis, L. J. (1996). The development of an abbreviated form of the Revised Eysenck Personality Questionnaire (JEPQR-A) among 13-15 year olds. *Personality and Individual Differences*, 21, 835-844.
- Francis, L.J. (2001a). *The values debate: A voice from the pupils*. London: Woburn Press.
- Francis, L. J. (2001b). Christianity and dogmatism revisited: A study among fifteen and sixteen year olds in the UK. *Religious Education*, 96, 211-226.
- Francis, L. J. (2006). Attitude toward Christianity and premarital sex. *Psychological Reports*, 98, 140.
- Francis, L. J., & Greer, J. E. (2001). Shaping adolescents' attitudes toward

- science and religion in Northern Ireland: The role of scientism, creationism and denominational schools. *Research in Science and Technological Education, 19*, 39-53.
- Francis, L. J., Jones, S. H., & Craig, C. L. (2004). Personality and religion: The relationship between psychological type and attitude towards Christianity. *Archiv für Religionspsychologie, 26*, 15-33.
- Francis, L.J., & Kay, W.K. (1995). *Teenage religion and values*. Leominster: Gracewing.
- Francis, L. J., & Kerr, S. (2003). Personality and religion among secondary school pupils in South Africa in the early 1990s. *Religion and Theology: A journal of contemporary religious discourse, 10*, 224-236.
- Francis, L. J., Lewis, C. A., & Ng, P. (2003). Psychological health and attitude toward Christianity among secondary school pupils in Hong Kong. *Journal of Psychology in Chinese Societies, 4*, 231-245.
- Francis, L. J., Lewis, J. M., Philipchalk, R., Brown, L. B., & Lester, D. (1995). The internal consistency reliability and construct validity of the Francis Scale of Attitude toward Christianity (adult) among undergraduate students in the UK, USA, Australia and Canada. *Personality and Individual Differences, 19*, 949-953.
- Francis, L. J., Lewis, J. M., Philipchalk, R., Lester, D., & Brown, L. B. (1995). Reliability and validity of a short scale of attitude toward Christianity among students in the UK, USA, Australia and Canada. *Psychological Reports, 77*, 431-434.
- Francis, L.J., Quesnell, M., & Lewis, C.A. (in press). Assessing attitude toward Christianity among adolescents in the Czech Republic: The Francis Scale. *Irish Journal of Psychology*.
- Francis, L. J., & Robbins, M. (2000). Religion and happiness: A study in empirical theology. *Transpersonal Psychology Review, 4* (2), 17-22.
- Francis, L. J., & Robbins, M. (2003). Christianity and dogmatism among undergraduate students. *Journal of Beliefs and Values, 24*, 89-95.

- Francis, L.J., & Robbins, M. (2005). *Urban hope and spiritual health: The adolescent voice*. Peterborough: Epworth.
- Francis, L. J., Robbins, M., Lewis, C. A., Quigley, C. F., & Wheeler, C. (2004). Religiosity and general health among undergraduate students: A response to O'Connor, Cobb and O'Connor (2003). *Personality and Individual Differences*, 37, 485-494.
- Francis, L.J., & Williams, E. (2007). Drawing back the veil: Paranormal belief among adolescents. *Christian Parapsychologist*, 17, 170-185.
- Francis, L.J., & Williams, E. (2009). Alternative spiritualities: Different personalities? An empirical enquiry concerning paranormal beliefs and traditional religiosity among 14-to 16-year-old students.
- Francis, L. J., & Williams, E. (in press). Contacting the spirits of the dead: Paranormal belief and the teenage worldview.
- Francis, L. J., Williams, E., & Robbins, M. (in press). Personality, conventional Christian belief and unconventional paranormal belief: A study among teenagers. *British Journal of Religious Education*.
- Francis, L. J., Ziebertz, H.-G., & Lewis, C. A. (2003a). The relationship between religion and happiness among German students. *Pastoral Psychology*, 51, 273-281.
- Francis, L.J., Ziebertz, H.-G., & Lewis, C. A. (2003b). The relationship between personality and religion among undergraduate students in Germany. *Archiv für Religionspsychologie*, 24, 121-127.
- Gilbert, A. D. (1980). *The making of post-Christian Britain*. London: Longman.
- Hartman, S. E. (1999). Another view of the paranormal belief scale. *Journal of Parapsychology*, 63, 131-141.
- Heelas, P., & Woodhead, L. (2005). *The spiritual revolution: Why religion is giving way to spirituality*. Oxford: Blackwell.
- Hills, P., & Francis, L.J. (2005). The relationship of religiosity and personality with suicidal ideation. *Mortality*, 10, 286-293.
- Hills, P., Francis, L.J., & Robbins, M. (2005). The development of the Revised

- Religious Life Inventory (RLI-R) by explanatory and confirmatory factor analysis. *Personality and Individual Differences*, 38, 1389-1399.
- Hovey, J.D. (1999). Religion and suicidal ideation in a sample of Latin American immigrants. *Psychological Reports*, 85, 171-177.
- Joseph, S., & Diduca, D. (2001). Schizotypy and religiosity in 13-18 year old school pupils. *Mental Health, Religion and Culture*, 4, 63-69.
- Kay, W. K., & Francis, L. J. (1996). *Drift from the churches: Attitude toward Christianity during childhood and adolescence*. Cardiff: University of Wales Press.
- Kay, W.K., & Francis, L.J. (2006). Suicidal ideation among young people in the UK: Churchgoing as an inhibitory influence? *Mental Health, Religion and Culture*, 9, 127-140.
- Kumar, U., & Pradhan, R.K. (2003). Correlates of suicide ideation: A factor analytic study. *Social Science International*, 19, 36-43.
- Lange, R., Irwin, H. J., & Houran, J. (2000). Top-down purification of Tobacyk's Revised Paranormal Belief Scale. *Personality and Individual Differences*, 29, 131-156.
- Lawrence, T. R. (1995). How many factors of paranormal belief are there? A critique of the Paranormal Belief Scale, *Journal of Parapsychology*, 59, 3-25.
- Lester, D. (1993). Paranormal beliefs and psychoticism. *Personality and Individual Differences*, 14, 739.
- Lewis, C. A., & Maltby, J. (2000). Conservatism and attitude toward Christianity. *Personality and Individual Differences*, 29, 793-798.
- Marion, M.S., & Range, L.M. (2003). African American college women's suicide buffers. *Suicide and Life Threatening Behaviour*, 33, 33-43.
- Perkins, S. L., & Allen, R. (2006). Childhood physical abuse and differential development of paranormal beliefs. *Journal of Nervous and Mental Diseases*, 194, 349-355.
- Mowen, J. C., & Carlson, B. (2003). Exploring the antecedents and consumer

- behaviour consequences of the trait of superstition. *Psychology and Marketing*, 20, 1045-1065.
- Newby, R. W., & Davis, J. B. (2004). Relationships between locus of control and paranormal beliefs. *Psychological Reports*, 94, 1261-1266.
- Robbins, M., Francis, L. J., & Williams, E. (in press). Conventional Christian belief and unconventional paranormal belief among teenagers in Northern Ireland: A personality and individual differences approach. *Irish Journal of Psychology*.
- Roe, C. A., & Morgan, C. L. (2002). Narcissism and belief in the paranormal. *Psychological Reports*, 90, 405-411.
- Rogers, P., Qualter, P., Phelps, G., & Gardner, K. (2006). Belief in the paranormal, coping and emotional intelligence. *Personality and Individual Differences*, 41, 1089-1105.
- Rudski, J. (2004). The illusion of control, superstitious belief, and optimism. *Current Psychology*, 22, 306-315.
- Salmons, P.H., & Harrington, R. (1984). Suicidal ideation in university students and other groups. *International Journal of Psychiatry*, 30, 201-205.
- Schludermann, E. H., Schludermann, S. M., & Huynh, C.-L. (2000). Religiosity, prosocial values, and adjustment among students in Catholic high schools in Canada. *Journal of Beliefs and Values*, 21, 99-115.
- Schweitzer, R., Klayich, M., & Maclean, J. (1995). Suicidal ideation and behaviours among university students in Australia. *Australian and New Zealand Journal of Psychiatry*, 29, 473-479.
- Sjöberg, L., & af Wåhlberg, A. (2002). Risk perception and new age beliefs. *Risk Analysis*, 22, 751-764.
- Tobacyk, J. (1988). *A revised Paranormal Belief Scale*. Unpublished manuscript, Louisiana Tech University, Ruston, Louisiana.
- Willging, B. T., & Lester, D. (1997). Paranormal beliefs and personality scores of high school students. *Perceptual and Motor Skills*, 85, 938.
- Williams, M. (1997). *Cry of pain: understanding suicide and self-harm*,

Harmondsworth, UK: Penguin.

Wolfradt, U. (1997). Dissociative experiences, trait anxiety and paranormal beliefs. *Personality and Individual Differences*, 23, 15-19.

Zhang, J., & Jin, S. (1996). Determinants of suicide ideation: A comparison of Chinese and American college students. *Adolescence*, 31, 451-467.

**Table 1: Scale properties**

	alpha	mean	sd
Francis Scale of Attitude toward Christianity	.90	16.96	6.65
Williams Revised Index of Paranormal Belief	.74	13.90	4.43
Eysenck extraversion scale (E)	.63	5.01	1.36
Eysenck neuroticism scale (N)	.72	2.77	1.87
Eysenck psychoticism scale (P)	.61	1.07	1.32
Eysenck lie scale (L)	.54	2.28	1.49

**Table 2: Correlation matrix**

	Attitude	Paranormal	E	N	P	L	school	sex
Suicidal ideation	-.00	.19***	-.07	.36***	.18***	-.04*	-.02	.05**
sex	.08***	.26**	.12***	.27***	-.28***	.07***	-.00	
school year	-.05**	.00	.02	.05*	.06***	-.06**		
Lie scale	.18***	.00	-.16***	.03	-.37***			
Psychoticism	-.17***	-.01	.06***	-.11***				
Neuroticism	.14***	.27***	-.19***					
Extraversion	-.07***	.04						
Paranormal Belief	.22***							

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



**Table 3: Multiple regression model**

	$r^2$	increase			beta	t	p<
		$r^2$	F	p<			
sex	.002	.002	6.8	.01	-.015	0.8	NS
school year	.003	.000	0.6	NS	-.044	2.5	.05
Neuroticism	.131	.128	402.1	.001	+.353	18.6	.001
Psychoticism	.178	.046	153.2	.001	+.220	11.3	.001
Extraversion	.178	.000	0.4	NS	-.016	0.9	NS
Lie scale	.178	.001	1.7	NS	+.030	1.6	NS
Paranormal Belief	.192	.014	47.7	.001	+.137	7.3	.001
Christianity	.195	.002	7.6	.01	-.050	2.8	.001