

GENDER ROLE ORIENTATION AND ATTITUDE TOWARD CHRISTIANITY: A STUDY AMONG OLDER MEN AND WOMEN IN THE UNITED KINGDOM

LESLIE J. FRANCIS
University of Wales

A sample of 496 older men and women in England, mainly in their sixties and seventies, completed the Bem Sex Role Inventory together with the Francis Scale of Attitude toward Christianity. The data demonstrated that psychological femininity is key to individual differences in religiosity (as assessed by attitude toward Christianity) within the sexes and that, after taking gender role orientation into account, biological sex conveyed no additional predictive power in respect of individual differences in religiosity (as assessed by attitude toward Christianity). This finding is explained in terms of Eysenck's biologically-based dimensional model of personality which construes psychological masculinity and femininity as one of the seven constituent components of one of the three major dimensions of personality (psychoticism). This psychologically-based theory renders redundant sociologically-based socialization theories designed to account for differences in religiosity between the sexes.

According to Argyle and Beit-Hallahmi (1975) the conclusion that women are more religious than men is one of the best attested findings in the psychology of religion. More recent reviews generally confirm this finding, often in the non-Christian world as well as in the Christian world (Stark, 2002), although some studies like Loewenthal, MacLeod, and Cinnirella (2001) caution against unguarded generalisation beyond the Christian and post-Christian contexts. The real major source of controversy, however, is not con-

cerned with establishing the *empirical* grounds for the observation that women are more religious than men (especially in the Christian and post-Christian contexts), but with establishing a satisfactory *theoretical* basis to provide an adequate account of the reasons for the observed differences.

Sociologically grounded theories have attempted to account for the well-established gender differences in religiosity in terms of the different experiences of males and females in society. Such theories can be broadly divided into two categories: gender role socialisation theories, and structural location theories. Gender role socialisation theories begin not from individual differences in the psychological experiences of males and females but from the differences in their social experiences. Mol (1985), for example, provides a classic description of gender role socialisation theories when he argues that:

males of all classes in modern western society are socialised into thinking and believing that drive and aggressiveness are positive orientations. They learn to cope with conflict and play it often as an institutional game. Specific goals are primary and conflict resolution secondary Both the emphasis on accomplishment and the consequent playing of the rough conflict game need legitimation. The source of this legitimation of the male ethos in our culture is secular rather than religious because steely neutrality rather than emotional surrender (love) serves its purpose. (p. 74)

By contrast, the socialisation of females is said to emphasise conflict resolution, submission, gentleness, nurturance, and other expressive values that are congruent with religious emphases.

Structural location theories also begin from a sociological rather than a psychological basis. There are two main forms of structural location theory advanced to account for greater religiosity among women. The first form emphasises the child rearing

Correspondence concerning this article may be sent to Leslie J. Francis, PhD, Welsh National Centre for Religious Education, University of Wales, Bangor, Meirion, Normal Site, Bangor, Gwynedd, LL57 2PZ, Wales, UK. Email: l.j.francis@bangor.ac.uk

role for women. For example, Moberg (1962) argues that the family-centered role of women encourages dependence on personal influences and that religion, which deals with personality, is therefore more appreciated by women than by men. Martin (1967) argues that parents feel that the church is good for their children. As the primary caretakers mothers attend church to encourage their children's involvement. The second form of structural location theory advanced to account for the greater religiosity of women emphasizes the different place of women in the workforce. One strand of this argument is a development of the classic secularisation thesis, as illustrated by Lenski (1953) and Luckman (1967). According to this argument, religious involvement declines with participation in the modern secular world. Since women are less likely to be fully part of the ongoing secular world, at least in terms of outside-the-home employment, they are also likely to be less secularized than men. A second strand of this argument suggests that women seek social support from religion to alleviate the greater isolation they experience as a consequence of not benefiting from the social contacts of the workplace (Moberg, 1962); that women seek comfort from religion to compensate for not benefiting from the more socially valued role of the wage earner (Yinger, 1970). A third strand of this argument suggests that women are more likely than men to avoid the conflicts between the competitiveness of the workplace and the essence of Christian values which in turn leads to a greater distance from the churches (De Vaus, 1984). A fourth strand of this argument simply suggests that lower commitment to the workplace releases more time for women to devote to the church (Glock, Ringer, & Babbie, 1967).

Reviewing the relevance of both groups of theories towards the end of the twentieth century, Francis (1997) concluded that their plausibility was beginning to wear thin. He argued that the strength of gender role socialisation theories to account for gender differences in religiosity was being eroded by societal trends which may encourage treating boys and girls in similar ways. Similarly, he argued that the strength of structural location theories to account for gender differences in religiosity was being eroded by social trends which may encourage providing similar opportunities for men and for women.

Psychologically grounded theories have attempted to account for the well-established gender differences in religiosity in terms of the different personality

profiles of men and women. In a pioneering study Thompson (1991) challenged existing explanations for sex differences in religiosity, based on structural location theories or differential socialisation theories, by arguing that religiosity should be affected more by gender orientation than by being female or male. According to this account, being religious is a consonant experience for *people* with a feminine orientation, while men as well as women can have a feminine orientation. This leads Thompson to the view that the observed sex differences in religiosity is not a real function of sex *per se*, but can be explained by the different proportions of women and men with a feminine worldview.

The notions of feminine and masculine orientations as personality constructs are developed, for example, by Bem (1981) in the refinement of the Bem Sex Role Inventory. According to this conceptualisation, masculinity and femininity are not bipolar descriptions of a unidimensional construct, but two orthogonal personality dimensions. Empirically the Bem Sex Role Inventory demonstrates considerable variations in both femininity and masculinity among both men and women. Although the very measurement of gender orientation is not without significant criticism (Maznah & Choo, 1986; Schenk & Heinisch, 1986; Archer, 1989), the usefulness of the theory to account for a wide range of individual differences remains widely supported in the literature.

Thompson (1991) proceeded to argue that, if being religious is a gender type attribute characterising women's lives in general, then multivariate analyses which control for the personality dimensions of masculinity and femininity should reveal that being female continues to have a significant effect on predicting religiosity. However, if being religious is a function of gender orientation, then multivariate analyses which control for the personality dimensions of masculinity and femininity should result in no additional variance explained by being female. Thompson's empirical analysis, using data from 358 undergraduate students in New England, who completed the Bem (1981) Sex Role Inventory together with five measures of religiosity, provided clear support for the view that being religious is a function of gender orientation.

Thompson's (1991) pioneering study in the United States of America was replicated by two studies in the United Kingdom. In the first of these studies, Francis and Wilcox (1996) explored Thompson's hypotheses, using data from 159 students in Wales

who completed the Bem (1981) Sex Role Inventory together with the Francis Scale of Attitude toward Christianity (Francis, Lewis, Philipchalk, Brown, & Lester, 1995). Like Thompson's original analysis, this study demonstrated that the significant relationship between religiosity and being female disappeared after controlling for individual differences in masculinity and femininity. In the second of these studies, Francis and Wilcox (1998) administered the Bem Sex Role Inventory together with the Francis Scale of Attitude toward Christianity to two samples of adolescents. The first sample comprised 340 males and 347 females between the ages of 13 and 15 years. The second sample comprised 59 males and 233 females between the ages of 16 and 18 years. Multiple regression analysis indicated that among the older group individual differences in gender orientation explained all the variance in attitude toward Christianity between males and females. Among the younger age group sex still explained additional variance in attitude toward Christianity after taking gender orientation into account.

All three studies reported by Thompson (1991), Francis and Wilcox (1996), and Francis and Wilcox (1998) affirmed the key role of psychological femininity in predicting individual differences in religiosity among both males and females. The limitation with these studies, however, is that all three concentrated on either school pupils or students. In a fourth study Thompson and Remmes (2002) argued that findings established among students could not be assumed to hold good later in life, especially among men, on the grounds that "neither gender orientation, gender ideology, nor religious involvement remain constant across the life span" (p. 522). To check the stability of the earlier findings among older men, Thompson and Remmes (2002) administered the Bem Sex Role Inventory alongside seven religiosity measures to a sample of 214 men between the ages of 60 and 92 in Massachusetts. Multiple regression analysis indicated that a feminine orientation was a significant determinant of the older men's religious participation, commitment and intrinsic orientation.

Against this background, the aim of the present study is to extend Thompson and Remmes' (2002) study in two ways: first by obtaining a sample of older men in the United Kingdom, and second by complementing this sample of older men with a comparable sample of older women in the United Kingdom. In order to link with the two studies

conducted among younger people in the United Kingdom the present study will employ the same index of religiosity employed by Francis and Wilcox (1996) and by Francis and Wilcox (1998).

METHOD

Sample

The sample comprised 496 members of the University of the Third Age, a relatively informal educational network designed for older men and women in the United Kingdom. The questionnaires, mailed to all members of a branch in the south of England, received a 52% response rate. Of the respondents, 10% were in their fifties, 50% in their sixties, 34% in their seventies, and 6% were aged eighty or over; 66% were female and 34% were male. The largest Christian denominations represented were Anglican (46%), Methodist (8%), Roman Catholic (7%), Presbyterian (4%), and Baptist (4%). About one-quarter (24%) of the respondents claimed never to attend church, while 30% claimed to attend church weekly.

Instruments

Gender role orientation was assessed by the Bem Sex Role Inventory (Bem, 1981), a 60-item adjective checklist which contains 20 descriptors scored on the dimension of femininity and 20 descriptors scored on the dimension of masculinity, as well as 20 buffer items. Examples of items scored on the dimension of masculinity include: self-reliant, independent, assertive, forceful and analytical. Examples of items scored on the dimension of femininity include: yielding, shy, affectionate, loyal, sympathetic and understanding. After its original publication in 1974, the Bem Sex Role Inventory was subjected to a wide range of use and scrutiny (Lippa, 1985). In spite of the criticisms raised against the constructs and the instrument (Pedhazur & Tetenbaum, 1979; Myers & Gonda, 1982; Ward & Sethi, 1986), a number of studies support the reliability and validity of the Bem Sex Role Inventory in cultures as diverse as Australia (Rowland, 1977), Israel (Malony, Wilkof, & Dambrot, 1981), Mexico (Reed-Sanders, Dodder, & Webster, 1985), New Zealand (Hughes, 1979), Sweden (Carlsson & Magnusson, 1980), United States of America (Martin & Ramanaiah, 1988), and Zimbabwe (Wilson, McMaster, Greenspan, Mboyi, Ncube, & Sibanda, 1990).

Religiosity was assessed by the Francis Scale of Attitude toward Christianity (Francis & Stubbs,

TABLE 1
Multiple regression significance test

	R^2	Increase R^2	F	$P <$	Beta	t	$P <$
Femininity	.0733	.0733	38.8	.001	+0.2721	+6.1	.001
Masculinity	.0763	.0030	1.6	NS	-0.0654	-1.4	NS
Sex	.0775	.0012	0.6	NS	-0.0373	-0.8	NS

1987). This is a 24-item Likert-type instrument, employing a five point response scale ranging from *agree strongly*, through *agree, not certain*, and *disagree*, to *disagree strongly*. The individual items assess the respondents' affective response to five key components of the Christian faith: God, Jesus, Bible, church, and prayer. Previous studies have reported on the reliability and validity of this instrument in Australia, Canada and the United Kingdom (Francis, Lewis, Philipchalk, Brown, & Lester, 1995), France (Lewis & Francis, 2003), Germany (Francis, Ziebertz, & Lewis, 2002), Hong Kong (Francis, Lewis, & Ng, 2002), Ireland (Maltby, 1994), Kenya (Fulljames & Francis, 1987), Netherlands (Francis & Hermans, 2000), Nigeria (Francis & McCarron, 1989), Norway (Francis & Enger, 2002), Portugal (Ferreira & Neto, 2002), Scotland (Gibson, 1989), United States (Lewis & Maltby, 1995), and Wales (Evans & Francis, 1996).

Data analysis

The data were analysed by the SPSS statistical package, using correlation and stepwise multiple regression (SPSS Inc. 1988). Stepwise multiple regression was employed to control for individual differences in gender orientation before testing for the influence of sex on attitude toward Christianity.

RESULTS

All three scales demonstrated satisfactory internal consistency reliability and homogeneity, achieving the following alpha coefficients (Cronbach, 1951): attitude toward Christianity, 0.98; masculinity, 0.86; femininity, 0.76. The somewhat lower reliability of the femininity scale is consistent with the findings reported in the earlier studies by Francis and Wilcox (1996, 1998) and suggest that this construct may not be quite as robust as the masculinity scale. In

accordance with theoretical prediction, the men recorded higher scores on the masculinity scale ($r = -0.30, p < .001$) and the women recorded higher scores on the femininity scale ($r = +0.25, P < .001$). Partial correlations controlling for sex differences found a significant positive relationship between femininity and attitude toward Christianity ($r = +0.27, P < .001$), no significant relationship between masculinity and attitude toward Christianity ($r = -0.08, NS$) and no significant relationship between masculinity and femininity ($r = -0.05, NS$). Table 1 presents the results of the multiple regression equation which entered femininity, masculinity and sex as predictors of attitude toward Christianity in that fixed order. These data demonstrate that femininity scores are the main predictor of individual differences in religiosity (as assessed by attitude toward Christianity) and that after femininity scores have been taken into account neither masculinity scores nor biological sex provide any additional predictive power in respect of religiosity (as assessed by attitude toward Christianity).

DISCUSSION

The present study among older men and women, together with the study by Thompson and Remmes (2002) among older men, has built on the earlier studies by Thompson (1991) among undergraduate students in the United States of America, by Francis and Wilcox (1996) among undergraduate students in Wales, and by Francis and Wilcox (1998) among two samples of school pupils in England (13- to 15-year olds, and 16- to 18-year olds). Three main conclusions emerge from analyses conducted on these six data sets. First, gender role orientation has been shown to provide significant prediction of individual differences in religiosity. Second, femininity has generally emerged as a much stronger predictor than masculinity of individual differences in

religiosity. Third, with the exception of the study among 13- to 15-year olds, biological sex has not functioned as a predictor of individual differences in religiosity after gender role orientation has been taken into account.

At one level these findings appear clear and unambiguous. If psychologically-based theories regarding the nature and the assessment of gender role orientation are able to account for differences in religiosity not only between the sexes but also within the sexes, sociologically-based theories designed to account for differences between the sexes in religiosity become redundant and need to be dismissed as dealing with only part of the observed problem, ignoring the issue of differences within the sexes in religiosity.

At another level, however, these findings may seem simply to have reformulated the problem rather than provided an answer to it. In its reformulated form the problem now concerns why it should be the case that psychological femininity is so clearly associated with religiosity. The solution to this problem depends upon establishing the *level* of psychological data being accessed by measures of femininity and masculinity. One account proposes that these measures merely access surface traits which are themselves more a consequence of nurture than of nature. This is the view taken, for example, by Stark (2002) who argues that 'the most compelling results in favour of the socialisation explanation involved the use of a masculinity-femininity scale (*sic*) (p. 501).' This interpretation, however, is questioned by the research underpinning the alternative account.

This alternative account proposes that these measures of masculinity and femininity access deeper dimensions of personality which are themselves largely shaped by nature and are determinative of a wide range of individual differences. This view is supported, for example, by Eysenck's dimensional model of personality which conceives masculinity-femininity as comprising one of the seven constituent components of psychoticism (Eysenck, Barrett, Wilson, & Jackson, 1992) and which conceives the personality dimension of psychoticism as biologically based (Eysenck & Eysenck, 1976). This biological basis accounts both for the different levels of psychoticism recorded between the sexes and for the wide variation of levels of psychoticism recorded within the sexes. Moreover, studies like Francis and Wilcox (1999) confirm the correlation between

Eysenck's measure of psychoticism and the Bem Sex Role Inventory's measures of masculinity and femininity. According to this account being religious is consistent not so much with being female as with a distinctive personality profile characterised by low psychoticism scores in general and by high femininity scores in particular.

This conclusion concurs with the consensus derived from a considerable body of research concerning the relationship between personality and religion conducted between the publication of Argyle and Beit-Hallahmi's (1975) classic review in *The Social Psychology of Religion* and Beit-Hallahmi and Argyle's (1997) revised review in *The Psychology of Religious Behaviour, Belief and Experience*. In the first book they concluded that there was no consistent evidence for a relationship between personality and religion. In the second book they concluded that the most secure research evidence regarding the relationship between personality and religion pointed to a consistent negative association between psychoticism scores and religiosity scores. Evidence for this relationship has been provided by a number of reports, including studies in Australia and Canada (Francis, Lewis, Brown, Philipchalk, & Lester, 1995), France (Lewis & Francis, 2000), Germany (Francis & Kwaran, 1999), Greece (Youtika, Joseph, & Diduca, 1999), Hong Kong (Francis, Lewis, & Ng, 2003), Northern Ireland (Lewis, 1999, 2000, 2001; Lewis & Joseph, 1994), Republic of Ireland (Maltby, 1997; Maltby & Lewis, 1997), South Africa (Francis & Kerr, 2003), United Kingdom (Bourke & Francis, 2000; Carter, Kay, & Francis, 1996; Francis, 1991, 1992, 1999; Francis & Bennett, 1992), and United States (Lewis & Maltby, 1995; Roman & Lester, 1999).

The established association between low psychoticism scores, high femininity scores and high religiosity scores is explained by Eysenck's broader theory of social learning. According to this theory sexual and aggressive impulses are conditioned into tenderminded social attitudes, and the qualities associated both with femininity and with religiosity belong to this domain of tenderminded social attitudes (Eysenck, 1975, 1976). At the same time individuals who are high on psychoticism are more resistant to conditioning into tenderminded social attitudes (Francis, 1992). This conclusion is also consistent with the research traditions which linked rejection of religiosity with high levels of risk taking (Miller & Hoffmann, 1995; Miller & Stark, 2002),

and with criminality (Stark, 2002). Not only are risk taking and impulsivity established components of psychoticism (Eysenck & Eysenck, 1976), but psychoticism has been shown to be a key predictor of the criminal personality (Eysenck, 1977). Here, then, is a simple and elegant biologically-based theory which accounts not only for the observation that women are more religious than men but also for the observation that both men and women who record high scores on psychological femininity are more religious than men and women who record low scores on psychological femininity.

CONCLUSION

Thompson's (1991) pioneering insight that gender role orientation theory is capable of explaining individual differences in religiosity not only within the sexes but also between the sexes has now been extended in two ways. First, the studies reported by Francis and Wilcox (1996, 1998) and Thompson and Remmes (2002) together with the present study, have confirmed that Thompson's basic findings hold true among school pupils, undergraduate students and older adults, both in the United States of America and in the United Kingdom. Second, Thompson's basic finding that psychological femininity holds the key to individual differences in religiosity has now been linked firmly within a biologically-based dimensional model of personality. Within this context Thompson's finding can be explained as part of a coherent model of individual differences rooted in an understanding of nature rather than in an understanding of nurture.

Further research is now needed to build on these foundations in three main ways. First, the present findings grounded in a Christian understanding of religiosity remain limited to the United Kingdom and the United States of America. Wider replication in other Christian or post-Christian countries would help to test the generalisability of the findings. Second, this model of research grounded in a Christian understanding of religiosity could be extended to embrace other major religious traditions. Third, the present findings are all based on the model of gender role orientation proposed by Bem (1981). Given the somewhat dated conceptualisations of masculinity and femininity operationalised by this instrument it would be helpful to develop new studies utilising other operationalisations of these key (and controversial) constructs.

REFERENCES

- Archer, J. (1989). The relationship between gender-role measures: a review. *British Journal of Social Psychology*, 28, 173-184.
- Argyle, M., & Beit-Hallahmi, B. (1975). *The Social Psychology of Religion*. London: Routledge and Kegan Paul.
- Beit-Hallahmi, B., & Argyle, M. (1997). *The Psychology of Religious Belief and Experience*. London: Routledge.
- Bem, S. L. (1981). *Bem Sex Role Inventory: Professional manual*. Palo Alto, CA: Consulting Psychologists Press.
- Bourke, R., & Francis, L. J. (2000). Personality and religion among music students. *Pastoral Psychology*, 48, 437-444.
- Carlsson, M., & Magnusson, E. (1980). Construct validation of the Bem Sex Role Inventory. *Scandinavian Journal of Psychology*, 21, 27-31.
- Carter, M., Kay, W. K., & Francis, L. J. (1996). Personality and attitude toward Christianity among committed adult Christians. *Personality and Individual Differences*, 20, 265-266.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334.
- De Vaus, D. A. (1984). Workforce participation and sex differences in church attendance. *Review of Religious Research*, 25, 247-256.
- Evans, T. E., & Francis, L. J. (1996). Measuring attitude toward Christianity through the medium of Welsh, in L. J. Francis, W. K. Kay, & W. S. Campbell (Eds), *Research in Religious Education*, pp 279-293. Leominster: Gracewing.
- Eysenck, H. J. (1975). The structure of social attitudes, *British Journal of Social and Clinical Psychology*, 14, 323-331.
- Eysenck, H. J. (1976). Structure of social attitudes. *Psychological Reports*, 39, 463-466.
- Eysenck, H. J. (1977). *Crime and Personality*, (3rd edition). St Albans: Paladin.
- Eysenck, H. J., Barrett, P., Wilson, G., & Jackson, C. (1992). Primary trait measurement of the 21 components of the PEN system. *European Journal of Psychological Assessment*, 8, 109-117.
- Eysenck, H. J., & Eysenck, S. B. G. (1976). *Psychoticism as a Dimension of Personality*. London: Hodder and Stoughton.
- Ferreira, A. V., & Neto, F. (2002). Psychometric properties of the Francis Scale of Attitude toward Christianity among Portuguese university students. *Psychological Reports*, 91, 995-998.
- Francis, L. J. (1991). Personality and attitude towards religion among adult churchgoers in England. *Psychological Reports*, 69, 791-794.
- Francis, L. J. (1992). Is psychoticism really a dimension of personality fundamental to religiosity? *Personality and Individual Differences*, 13, 645-652.
- Francis, L. J. (1997). The psychology of gender differences in religion: a review of empirical research. *Religion*, 27, 81-96.
- Francis, L. J. (1999). Personality and attitude toward Christianity among undergraduates. *Journal of Research on Christian Education*, 8, 179-195.

- Francis, L. J., & Bennett, G. A. (1992). Personality and religion among female drug misusers. *Drug and Alcohol Dependence*, 30, 27-31.
- Francis, L. J., & Enger, T. (2002). The Norwegian translation of the Francis Scale of Attitude toward Christianity. *Scandinavian Journal of Psychology*, 43, 363-367.
- Francis, L. J., & Hermans, C. A. M. (2000). Internal consistency reliability and construct validity of the Dutch translation of the Francis scale of Attitude toward Christianity among adolescents. *Psychological Reports*, 86, 301-307.
- Francis, L. J., & Kerr, S. (2003). Personality and religion among secondary school pupils in South Africa in the early 1990s. *Journal of Religion and Theology: A journal of contemporary religious discourse*, 10, 224-236.
- Francis, L. J., & Kwiran, M. (1999). Personality and religion among secondary pupils in Germany. *Panorama*, 11, 34-44.
- Francis, L. J., Lewis, J. M., Brown, L. B., Philipchalk, R., & Lester, D. (1995). Personality and religion among undergraduate students in the United Kingdom, United States, Australia and Canada. *Journal of Psychology and Christianity*, 14, 250-262.
- Francis, L. J., Lewis, C. A., & Ng, P. (2002). Assessing attitude toward Christianity among Chinese speaking adolescents in Hong Kong: the Francis Scale. *North American Journal of Psychology*, 4, 431-440.
- 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., & McCarron, M. M. (1989). Measurement of attitudes towards Christianity among Nigerian secondary school students. *Journal of Social Psychology*, 129, 569-571.
- Francis, L. J., & Stubbs, M. T. (1987). Measuring attitudes towards Christianity: From childhood into adulthood. *Personality and Individual Differences*, 8, 741-743.
- Francis, L. J., & Wilcox, C. (1996). Religion and gender orientation. *Personality and Individual Differences*, 20, 119-121.
- Francis, L. J., & Wilcox, C. (1998). Religiosity and femininity: do women really hold a more positive attitude toward Christianity? *Journal for the Scientific Study of Religion*, 37, 462-469.
- Francis, L. J., & Wilcox, C. (1999). Personality and sex role orientation among 17-19 year old females in England. *Irish Journal of Psychology*, 20, 172-178.
- Francis, L. J., Ziebertz, H.-G., & Lewis, C. A. (2002). The psychometric properties of the Francis Scale of Attitude toward Christianity among German students. *Panorama*, 14, 153-162.
- Fulljames, P., & Francis, L. J. (1987). The measurement of attitudes toward Christianity among Kenyan secondary school students. *Journal of Social Psychology*, 127, 407-409.
- Gibson, H.M. (1989). Measuring attitudes towards Christianity among 11-16 year old pupils in non-denominational schools in Scotland. *Educational Research*, 31, 221-227.
- Glock, C. Y., Ringer, B. B., & Babbie, E. R. (1967). *To Comfort and to Challenge*. Berkeley: University of California Press.
- Hughes, R. N. (1979). Bem Sex Role Inventory performance in students: Comparisons between New Zealand, Australian and American samples. *New Zealand Psychologist*, 8, 61-66.
- Lenski, G. E. (1953). Social correlates of religious interest. *American Sociological Review*, 18, 533-544.
- Lewis, C. A. (1999). Is the relationship between religiosity and personality 'contaminated' by social desirability as assessed by the lie scale? A methodological reply to Michael W. Eysenck (1998). *Mental Health, Religion and Culture*, 2, 105-114.
- Lewis, C. A. (2000). The religiosity-psychoticism relationship and the two factors of social desirability: A response to Michael W. Eysenck (1999). *Mental Health, Religion and Culture*, 3, 39-45.
- Lewis, C. A. (2001). Cultural stereotype of the effects of religion on mental health. *British Journal of Medical Psychology*, 74, 359-367.
- Lewis, C. A., & Francis, L. J. (2000). Personality and religion among female university students in France. *International Journal of Psychology*, 35, 229.
- Lewis, C. A., & Francis, L. J. (2003). Evaluer l'attitude d'étudiantes universitaires françaises à l'égard du Christianisme: l'Echelle de Francis. *Sciences Pastorales*, 22, 179-190.
- Lewis, C. A., & Joseph, S. (1994). Religiosity: psychoticism and obsessiveness in Northern Irish university students. *Personality and Individual Differences*, 17, 685-687.
- Lewis, C. A., & Maltby, J. (1995). The reliability and validity of the Francis scale of attitude towards Christianity among US adults. *Psychological Reports*, 76, 1243-1247.
- Lippa, R. (1985). Review of Bem Sex Role Inventory. *Buros Ninth Measurement Yearbook*, 1, 176-178.
- Loewenthal, K. M., MacLeod, A. K., & Cinnirella, M. (2001). Are women more religious than men? Gender differences in religious activity among different religious groups in the UK. *Personality and Individual Differences*, 32, 133-139.
- Luckman, T. (1967). *The Invisible Religion*. New York: Macmillan.
- Malony, P., Wilkof, J., & Dambrot, F. (1981). Androgyny across two cultures. *Journal of Cross Cultural Psychology*, 12, 95-101.
- Maltby, J. (1994). The reliability and validity of the Francis scale of attitude towards Christianity among Republic of Ireland adults. *Irish Journal of Psychology*, 15, 595-598.
- Maltby, J. (1997). Personality correlates of religiosity among adults in the Republic of Ireland. *Psychological Reports*, 81, 827-831.
- Maltby, J., & Lewis, C. A. (1997). The reliability and validity of a short scale of attitude toward Christianity among USA, English, Republic of Ireland and Northern Ireland adults. *Personality and Individual Differences*, 22, 649-654.
- Martin, D.A. (1967). *A Sociology of English Religion*. London: SCM.

- Martin, H. J., & Ramanaiah, N. V. (1988). Confirmatory factor analysis of the Bem Sex Role Inventory. *Psychological Reports*, 62, 343-350.
- Maznah, I. R., & Choo, P. F. (1986). The factor structure of the Bem Sex Role Inventory. *International Journal of Psychology*, 21, 31-41.
- Miller, A. S., & Hoffmann, J. P. (1995). Risk and religion: An explanation of gender differences in religiosity. *Journal for the Scientific Study of Religion*, 34, 63-75.
- Miller, A. S., & Stark, R. (2002). Gender and religiousness: can socialization explanations be saved? *American Journal of Sociology*, 107, 1399-1423.
- Moberg, D. O. (1962). *The Church as a Social Institution*. Englewood Cliffs: Prentice-Hall.
- Mol, H. (1985). *The Faith of Australians*. Sydney: George Allen and Unwin.
- Myers, A. M., & Gonda, G. (1982). Utility of the masculinity-femininity construct: Comparison of traditional and androgyny approaches. *Journal of Personality and Social Psychology*, 43, 514-522.
- Pedhazur, E. J., & Tetenbaum, T. J. (1979). Bem Sex Role Inventory: a theoretical and methodological critique. *Journal of Personality and Social Psychology*, 37, 996-1016.
- Reed-Sanders, D., Dodder, R. A., & Webster, L. (1985). The Bem Sex Role Inventory across three cultures. *The Journal of Social Psychology*, 125, 523-525.
- Roman, R. E., & Lester, D. (1999). Religiosity and mental health. *Psychological Reports*, 85, 1088.
- Rowland, R. (1977). The Bem Sex Role Inventory. *Australian Psychologist*, 13, 41-50.
- Schenk, J., & Heinisch, R. (1986). Self-descriptions by means of sex-role scales and personality scales: a critical evaluation of recent masculinity and femininity scales. *Personality and Individual Differences*, 7, 161-168.
- SPSS Inc (1988). *SPSSX User's Guide*. New York: McGraw-Hill.
- Stark, R. (2002). Physiology and faith: addressing the 'universal' gender differences in religious commitment. *Journal for the Scientific Study of Religion*, 41, 495-507.
- Thompson, E. H. (1991). Beneath the status characteristics: gender variations in religiousness. *Journal for the Scientific Study of Religion*, 30, 381-394.
- Thompson, E. H., & Remmes, K. R. (2002). Does masculinity thwart being religious? An examination of older men's religiousness. *Journal for the Scientific Study of Religion*, 41, 521-532.
- Ward, C., & Sethi, R. R. (1986). Cross-cultural validation of the Bem Sex Role Inventory: Malaysian and South Indian research. *Journal of Cross Cultural Psychology*, 17, 300-314.
- Wilson, D., McMaster, J., Greenspan, R., Mboyi, L., Ncube, T., & Sibanda, B. (1990). Cross-cultural validation of the Bem Sex Role Inventory in Zimbabwe. *Personality and Individual Differences*, 11, 651-656.
- Yinger, J. M. (1970). *The Scientific Study of Religion*. New York: Macmillan.
- Youtika, A., Joseph, S., & Diduca, D. (1999). Personality and religiosity in a Greek Christian Orthodox sample. *Mental Health, Religion and Culture*, 2, 71-74.

AUTHOR

FRANCIS, LESLIE J: Address: Welsh National Centre for Religious Education, University of Wales, Bangor, Meirion, Normal Site, Bangor, Gwynedd, LL57 2PZ, Wales, UK. Title: Director of the Welsh National Centre for Religious Education and Professor of Practical Theology. Degrees: PhD (Cambridge), ScD (Cambridge), DD (Oxford). Specializations: empirical theology, psychology of religion, personality and religion, psychological type and religion.

Copyright of Journal of Psychology & Theology is the property of BIOLA University. The copyright in an individual article may be maintained by the author in certain cases. Content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.