



University of Warwick institutional repository: <http://go.warwick.ac.uk/wrap>

This paper is made available online in accordance with publisher policies. Please scroll down to view the document itself. Please refer to the repository record for this item and our policy information available from the repository home page for further information.

To see the final version of this paper please visit the publisher's website. Access to the published version may require a subscription.

Author(s): Flere, Sergej; Francis, Leslie; Robbins, Mandy

Article Title: The psychometric properties of the Serbian translation of the Francis Scale of Attitude toward Christianity: A study among Eastern Orthodox students.

Year of publication: 2011

Link to published article:

<http://dx.doi.org/10.1007/s11089-010-0327-2>

Publisher statement: The original publication is available at www.springerlink.com

The psychometric properties of the Serbian translation of the Francis Scale of Attitude
toward Christianity: a study among Eastern Orthodox students.

Sergej Flere

University of Maribor, Slovenia

Leslie J Francis

University of Warwick

Mandy Robbins

Glyndŵr University, Wales

* Corresponding author. Tel: 024 7652 2539

e-mail: leslie.francis@warwick.ac.uk

Abstract

The Serbian translation of the Francis Scale of Attitude toward Christianity was developed and tested among a sample of 222 students attending Niš University who self-identified as Eastern Orthodox. The data supported the internal consistency reliability and construct validity of this instrument, and commended it for further use in contributing to comparative empirical research within the psychology of religion.

Keywords: psychology, religion, attitudes, Serbia, students.

Introduction

Comparative research in the psychology of religion across linguistic communities could be greatly facilitated by the careful translation of established psychometric tests and the systematic evaluation of such translation. Given the importance of the precise connotation of each individual item within the theory and practice of psychological measurement, translation itself is an exacting process, often best facilitated by the principle of back-translation and comparison of the back-translated and the original forms.

Within the psychology of religion, the well-established Francis Scale of Attitude toward Christianity, first introduced in its English language form by Francis (1978a, 1978b) and tested among secondary school pupils (Francis, 1987), primary school pupils (Francis, 1989), and adults (Francis, Lewis, Philipchalk, Brown, & Lester, 1995) has now been tested within a range of languages, including Arabic (Munayer, 2000), Czech (Francis, Quesnell, & Lewis, in press), Chinese (Francis, Lewis, & Ng, 2002), Dutch (Francis & Hermans, 2000), French (Lewis & Francis, 2003), German (Francis & Kwiran, 1999; Francis, Ziebertz, & Lewis, 2002), Greek (Youtika, Joseph, & Diduca, 1999), Norwegian (Francis & Enger, 2002), Portuguese (Ferreira & Neto, 2002), Romanian (Francis, Ispas, Robbins, Ilie, & Iliescu, 2009), Slovenian (Flere, Klanjsek, Francis, & Robbins, 2008), Spanish (Campo-Arias, Oviedo, Dtaz, & Cogollo, 2006), Swedish (Eek, 2001), and Welsh (Evans & Francis, 1996; Francis & Thomas, 2003).

In its original form, the Francis Scale of Attitude toward Christianity comprised 24 items concerned with affective responses toward God, Jesus, bible, prayer, and church, each assessed on a five-point Likert scale ranging from 'agree strongly,' through 'not certain' to 'disagree strongly'. Subsequently a seven-item

short form was developed and tested among secondary school pupils (Francis, Greer, & Gibson, 1991), primary school pupils (Francis, 1992), and adults (Francis, Lewis, Philipchalk, Lester, & Brown, 1995). This short form is now also available in Chinese (Lewis, Francis, & Ng, 2003), Dutch (Lewis & Hermans, 2003), French (Lewis & Francis, 2004), Norwegian (Lewis, Francis, & Enger, 2003), and Welsh (Lewis & Francis, 2002).

The attitudinal dimension of religion captured by the Francis Scale of Attitude toward Christianity has also been operationalised within the context of other faith traditions by the Sahin-Francis Scale of Attitude toward Christianity (Sahin & Francis, 2002), the Katz-Francis Scale Attitude toward Judaism (Francis & Katz, 2007), and the Santosh-Francis Scale of Attitude toward Hinduism (Francis, Santosh, Robbins, & Vij, 2008).

In a recent overview of the contribution to knowledge generated by this family of instruments, Francis (2009) rehearsed the four key attractions of focusing empirical research around the attitudinal dimension of religion. First, at a conceptual level, social psychologists have developed a sophisticated and well-established understanding of attitude as a deep-seated and relatively stable and enduring covert predisposition, in contrast with more volatile surface behaviours and opinions. To access attitude toward religion is to get close to the heart of religion in an individual's life.

Second, following the pioneering analysis of Fishbein and Ajzen (1975), attitudes are conceptualised as concerned primarily with accessing the affective dimension of religiosity, as distinguished from the cognitive dimension (concerned with beliefs) and from the behavioural dimension (concerned with practice). The affective dimension is able to transcend the divisions between denominational

perspectives, while beliefs tend to polarise such divisions. The affective dimension is less likely to be distorted by personal and contextual factors, while practice tends to be subject to all kinds of personal or social constraints.

Third, the affective dimension of religiosity can be accessed by instruments which can function in a comparatively stable manner over a wide age range. While the sophistication with which beliefs are formulated and tested clearly develops over the life span (see, for example, Fowler, 1981), attitudinal statements concerned with positive and negative affect can be formulated in ways which are equally acceptable during childhood, adolescence, and adulthood.

Fourth, at an operational level, social psychologists have developed a range of sophisticated and well-established techniques for assessing and scaling attitudes, including the pioneering work of Thurstone (1928), Likert (1932), Guttman (1944), Edwards (1957), and Osgood, Suci, and Tannenbaum (1957). By testing the performance of these various methods among different age groups, Francis (1978a, 1978b) identified the Likert technique as providing the most reliable and consistent scaling properties from the age of eight upwards through childhood and adolescence into adulthood.

Against this background, the aim of the present study is to extend this field of research by developing and testing the Serbian translation of the Francis Scale of Attitude toward Christianity among a sample of university students self-identifying with Eastern Orthodox strands of the Church. The decision to focus on Orthodox adherents is intended to complement the study reported by Francis, Ispas, Robbins Ilie, & Iliescu (2009) among Orthodox students in Romania.

Method

A total of 235 students attending Niš University participated in the survey as part of their regular course work. Of these participants, 222 self-identified as affiliated with Eastern Orthodox Churches. The remaining 13 participants were excluded from the analysis. Of the 222 Orthodox participants 65 were male, 156 were female and one failed to identify sex; 28 were aged 18 years, 138 were aged 19 years, 40 were aged 20 years, 15 were aged 21 or over, and one failed to identify age.

Measures

The Francis Scale of Attitude toward Christianity is a 24-item Likert-type instrument concerned with affective responses toward God, bible, Jesus, prayer, and church. The items had been translated into Serbian and then back-translated into English in order to test for inaccuracies and ambiguities. Each item is assessed on a five-point scale: *agree strongly, agree, not certain, disagree, and disagree strongly*.

Church attendance was assessed on a five-point scale: *once every week, once a month, occasionally, special occasions, and never*. Personal prayer and meditation outside religious services was assessed on a six-point scale: *almost everyday, once every week, once a month, occasionally, special occasions, and never*. Belief in God was assessed on a five-point scale ranging from *not at all* to *absolutely*. Self-assessed religiosity was assessed on a five-point scale: *very religious, predominantly religious, moderately religious, predominantly non-religious, and non-religious*.

Data Analysis

The data were analysed by the SPSS statistical package, using the frequency, reliability, factor, correlation, and t-test routines.

Results

In terms of public religious practice, the data demonstrated that 3% of the participants attended church weekly, and a further 10% attended monthly. The majority attended occasionally (46%) or on special occasions (34%), leaving 8% who never attended. In terms of personal religious practice, 22% of the participants engaged in prayer or meditation outside religious services almost every day; a further 8% did so once a week and 4% once a month. The majority prayed or meditated occasionally (31%) or on special occasions (21%), leaving 15% who never did so. In terms of belief, 60% professed absolute belief in God, compared with 1% who denied all belief in God. The remaining 39% occupied the middle territory between these extremes. In terms of self-assessed religiosity, 8% described themselves as very religious, 29% as predominantly religious, 48% as moderately religious, 12% as predominantly non-religious, and 5% as non-religious.

[Insert table 1 about here]

Table 1 examines the internal structure of the Serbian translation of the Francis Scale of Attitude toward Christianity. In the first column of statistics, table 1 presents the item-rest-of-test correlation coefficients in respect of all 24 items, together with the alpha coefficient. In the second column of statistics, table 1 presents the loadings on the first factor of the unrotated solution proposed by principal component analysis, together with the percentage of variance explained. Both sets of statistics support the conclusion that the scale is characterised by homogeneity, unidimensionality and internal consistency reliability within the sample. The alpha coefficient is established as 0.95, while the proportion of variance accounted for by the first factor is established as 49%.

Construct validity of the scale of attitude toward Christianity was assessed in terms of its association with the other measures of personal religiosity included in the survey. It is reasonable to hypothesise that a more positive attitude is associated with higher levels of prayer, church attendance, belief and self-assessed religiosity. All four hypotheses were confirmed by the data that found positive correlates between scores as the scale of attitude toward Christianity and church attendance ($r = .56, p < .001$), prayer and meditation ($r = .61, p < .001$), belief in God ($r = .74, p < .001$), and self-assessed religiosity ($r = .69, p < .001$).

Table 2 presents the mean scale scores recorded on the Serbia edition of the Francis Scale of Attitude toward Christianity for males and for females separately. These data demonstrate that significantly higher scores were recorded by females ($t = 2.0, p < .05$). This finding is consistent with the general consensus in the psychology of religion that females report a more positive attitude toward religion than males (Francis, 1997).

Conclusion

The present study set out to examine the psychometric properties of the Serbian translation of the Francis Scale of Attitude toward Christianity among a sample of 222 Eastern Orthodox undergraduate students. The data support the unidimensionality, internal consistency reliability and construct validity of this translation. The instrument can, therefore, be commended for further use in Serbia in order to contribute to a developing international tradition of research in the empirical psychology of religion focusing on the attitudinal dimension of religiosity accessed by the family of instruments first introduced by Francis (1978b) in a paper entitled 'Measurement reapplied'.

References

- Campo-Arias, A., Oviedo, H. C., Dtaz, C. F., & Cogollo, Z. (2006). Internal consistency of a Spanish translation of the Francis Scale of Attitude toward Christianity short form. *Psychological Reports, 99*, 1008-1010.
- Edwards, A. L. (1957). *Techniques of attitude scale construction*. New York: Appleton-Century-Crofts.
- Eek, J. (2001), *Religious facilitation through intense liturgical participation: A quasi-experimental study of Swedish pilgrims to Taizé*. Lund: University of Lund Studies in Psychology of Religion.
- 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. 279-294). Leominster: Fowler Wright Books.
- Ferreira, V., & Neto, F. (2002). Psychometric properties of the Francis Scale of Attitude toward Christianity among Portugese university students. *Psychological Reports, 91*, 995-998.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behaviour: An introduction to theory and research*. Reading, Massachusetts: Addison-Wesley.
- Flere, S., Klanjsek, R., Francis, L.J., & Robbins, M. (2008). The psychometric properties of the Slovenian translation of the Francis scale of Attitude toward Christianity in a study among Roman Catholic undergraduate students. *Journal of Beliefs and Values, 29*, 313-319.
- Fowler, J. W. (1981). *Stages of faith: The psychology of human development and the quest for meaning*. San Francisco: Harper and Row.

- Francis, L. J. (1978a). Attitude and longitude: A study in measurement. *Character Potential*, 8, 119-130.
- Francis, L. J. (1978b). Measurement reapplied: Research into the child's attitude towards religion. *British Journal of Religious Education*, 1, 45-51.
- Francis, L. J. (1987). Measuring attitudes towards Christianity among 12- to 18-year-old pupils in Catholic schools. *Educational Research*, 29, 230-233.
- Francis, L. J. (1989). Measuring attitude towards Christianity during childhood and adolescence. *Personality and Individual Differences*, 10, 695-698.
- Francis, L.J. (1992). Reliability and validity of a short measure of attitude toward Christianity among nine to eleven year old pupils in England. *Collected Original Resources in Education*, 16 (1), fiche 3, AO2.
- Francis, L.J. (1997). The psychology of gender differences in religion: A review of empirical research, *Religion*, 27, 81-96.
- Francis, L.J. (2009). Comparative empirical research in religion: Conceptual and operational challenges within empirical theology, in L.J. Francis, M. Robbins, & J. Astley (eds). *Empirical theology in texts and tables: qualitative, quantitative and comparative perspectives* (pp 217-245). Leiden: Brill
- 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., Greer, J. E., & Gibson, H. M. (1991). Reliability and validity of a short measure of attitude towards Christianity among secondary school pupils in England, Scotland and Northern Ireland. *Collected Original Resources in Education*, 15(3), fiche 2, G09.

- 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., Ispas, D., Robbins, M., Ilie, A., & Iliescu, D. (2009). The Romanian translation of the Francis Scale of Attitude toward Christianity: Internal consistency reliability, re-test reliability, and construct validity among undergraduate students within a Greek Orthodox culture. *Pastoral Psychology, 58*, 49-54.
- Francis, L. J., & Katz, Y. J. (2007). Measuring attitude toward Judaism: The internal consistency reliability of the Katz-Francis Scale of Attitude toward Judaism. *Mental Health, Religion and Culture, 10*, 309-324.
- Francis, L. J., & Kwiran, M. (1999). Werthaltungen (einstellungen) gegenüber dem christentum bei deutschen heranwachsenden: Die francis-skala. *Braunschweiger Beiträge, 89*(3), 50-54.
- 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, J. M., Philipchalk, R., Brown, L. B., & Lester, D. (1995). The internal consistency reliability and construct validity of the Francis scale of attitude towards 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., Santosh, R., Robbins, M., & Vij, S. (2008). Assessing attitude toward Hinduism: The Santosh-Francis Scale. *Mental Health, Religion and Culture*, 11, 609-621.
- Francis, L. J., & Thomas, E. M. (2003). The reliability and validity of the Francis Scale of Attitude toward Christianity among Welsh speaking 9-11 year olds. *The Psychologist in Wales*, 16, 9-14.
- 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.
- Guttman, L. (1944). A basis for scaling qualitative data. *American Sociological Review*, 9, 139-150.
- Lewis, C. A., & Francis, L. J. (2002). Reliability and validity of a Welsh translation of a short scale of attitude toward Christianity among 8-15 year olds. *Irish Journal of Psychology*, 23, 101-108.
- Lewis, C. A., & Francis, L. J. (2003). Evaluer l'attitude d'étudiantes universitaires françaises à l'égard du Christianisme: L'Echelle de Francis. *Sciences Pastorals*, 22, 179-190.
- Lewis, C. A., & Francis, L. J. (2004). Reliability and validity of a French translation of a short scale of attitude toward Christianity. *Pastoral Psychology*, 52, 459-464.

- Lewis, C. A., Francis, L. J., & Enger, T. (2003). Reliability and validity of a Norwegian translation of a short scale of attitude toward Christianity. *Individual Differences Research, 1*, 230-235.
- Lewis, C.A., Francis, L.J., & Ng, P. (2003). Reliability and validity of a Chinese translation of a short scale of attitude toward Christianity. *Journal of Personality and Clinical Studies, 19*, 195-200.
- Lewis, C. A., & Hermans, C. A. M. (2003). Reliability and validity of a Dutch translation of a short scale of attitude toward Christianity. *Journal of Beliefs and Values, 24*, 97-100.
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology, 140*, 1-55.
- Munayer, S. J. (2000). *The ethic identity of Palestinian Arab Christian adolescents in Israel*. Unpublished doctoral dissertation, University of Wales (Oxford Centre for Mission Studies).
- Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. (1957). *The measurement of meaning*. Urbana, Illinois: University of Illinois Press.
- Sahin, A. and Francis, L. J. (2002). Assessing attitude toward Islam among Muslim adolescents: The psychometric properties of the Sahin-Francis scale. *Muslim Education Quarterly, 19*(4), 35-47.
- Thurstone, L. L. (1928). Attitudes can be measured. *American Journal of Sociology, 33*, 529-554.
- Youtika, A., Joseph, S., & Diduca, D. (1999). Personality and religiosity in a Greek Christian Orthodox sample. *Mental Health, Religion and Culture, 2*, 71-74.

Table 1

Item rest of test correlations and factor loadings

Scale item	r	factor loading
I find it boring to listen to the bible*	.40	.42
I know that Jesus helps me	.77	.82
Saying my prayers helps me a lot	.80	.84
The church is very important to me	.75	.78
I think going to church is a waste of my time*	.53	.55
I want to love Jesus	.67	.70
I think church services are boring*	.42	.43
I think people who pray are stupid*	.29	.30
God helps me to lead a better life	.78	.82
I like to learn about God very much	.69	.72
God means a lot to me	.84	.87
I believe that God helps people	.81	.85
Prayer helps me a lot	.83	.86
I know that Jesus is very close to me	.78	.82
I think praying is a good thing	.78	.81
I think the bible is out of date*	.33	.33
I believe that God listens to prayers	.83	.86
Jesus doesn't mean anything to me*	.35	.36
God is very real to me	.38	.42
I think saying prayers does no good*	.44	.46
The idea of God means much to me	.74	.78
I believe that Jesus still helps people	.83	.86
I know that God helps me	.84	.88
I find it hard to believe in God*	.55	.57
alpha coefficient/% of variance	.95	49%

Note. * these negative items were reverse scored.

Table 2

Mean attitude scores by sex

	N	mean	sd
male	65	94.7	18.9
female	156	100.4	19.0