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The psychometric properties of the Slovenian translation of the Francis Scale of Attitude  
toward Christianity: A study among Roman Catholic undergraduate students

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### Abstract

In order to contribute to a growing international research programme concerned with the correlations, antecedents and consequences of individual differences in attitude toward religion, the Francis Scale of Attitude toward Christianity was translated into Slovenian. Data provided by a sample of 808 undergraduate students affiliated with the Roman Catholic Church supported the internal consistency reliability and construct validity of this instrument and commended it for further use in studies conducted in Slovenia.

The psychometric properties of the Slovenian translation of the Francis Scale of Attitude toward Christianity: A study among Roman Catholic undergraduate students

Great advances have been made in the empirically-based psychology of religion between the publication of the review of the field provided by Argyle (1958) and the much more recent overview provided by Spilka, Hood, Hunsberger, and Gorsuch (2003). In spite of these advances, synthesis of empirical research in the psychology of religion is still hindered by the basic lack of agreement among researchers regarding the definition and operationalisation of religiosity. It is difficult to integrate findings from studies that employ different measures of religion and that may be accessing different aspects of that multifaceted construct. The extent of the problem has been nicely illustrated by Hill and Hood's (1999) authoritative review of existing scales of religiosity that have known properties of reliability and validity. In that review they provided detailed critique of 126 instruments. In their more recent review of available scales of religiosity, Cutting and Walsh (in press) identified a further 51 instruments either overlooked in Hill and Hood's thorough review or added to the literature after the review went to press.

Recognising back in the 1970s the advantages of independent studies in the psychology of religion being integrated through common instrumentation, in a paper entitled 'Measurement reapplied', Francis (1978) introduced his 24-item Scale of Attitude toward Christianity and invited other researchers to employ this instrument to map the correlates, antecedents and consequences of individual differences in attitudes towards religion within predominantly Christian or post-Christian cultures. By the mid 1990s, Kay and Francis (1996) were able to review and integrate over a hundred studies that had employed the Francis Scale of Attitude toward Christianity within a variety of contexts. The number of studies using this instrument within English-speaking Christian and post-Christian contexts

has continued to grow. For example, recent studies were published on attitude toward Christianity and abortion-related attitudes (Fawcett, Andrews, & Lester, 2000), alcohol-related attitudes (Francis, Fearn, & Lewis, 2005), Catholic schools (Flynn & Mok, 2002); conservatism (Lewis & Maltby, 2000), disassociation (Dorahy & Lewis, 2001), dogmatism (Francis, 2001), gender role orientation (Francis, 2005), general health (O'Connor, Cobb, & O'Connor, 2003), happiness (Francis, Jones & Wilcox, 2000), music (Bourke, 2000), personality (Bourke, Francis, & Robbins, 2005), pre-marital sex (Francis, 2006), psychological health (Francis & Burton, 2007), psychological type (Fearn, Francis, & Wilcox, 2001), religious experience (Francis, ap Siôn, Lewis, Robbins, & Barnes, 2006), and science-related attitudes (Francis & Greer, 2001).

Two major limitations with Francis' original invitation to colleagues concerned the restriction of the interrelated research studies to Christian and post-Christian contexts and the restriction of these studies to English-speaking environments. Subsequent research has tried to address both issues. Addressing the first issue, the basic construct underlying the Francis Scale of Attitude toward Christianity has been reapplied within other faith traditions, leading to the Katz-Francis Scale of Attitude toward Judaism (Francis & Katz, 2002, 2007; Francis, Katz, Yablon, & Robbins, 2004), the Sahin-Francis Scale of Attitude toward Islam (Sahin & Francis, 2002; Francis, Sahin, & Al-Ansari, in press; Francis, Sahin, & Al-Failakawi, in press), and the Santosh-Francis Scale of Attitude toward Hinduism (Francis, Robbins, Santosh, & Vij, in press; Francis, Santosh, Robbins, & Vij, in press; Tiliopoulos & Francis, in press).

Addressing the second issue, the Francis Scale of Attitude toward Christianity has been translated into a number of different languages. Given the problematic nature of translating psychological tests from one language to another, it has been important that sound reliability and validity studies have been produced for the various language editions that are

currently available. These include Arabic (Munayer, 2000), Chinese (Francis, Lewis, & Ng, 2002; Lewis, Francis, & Ng, 2003), Dutch (Francis & Hermans, 2000; Lewis & Hermans, 2003), French (Lewis & Francis, 2003, 2004), German (Francis & Kwiran, 1999; Francis, Ziebertz, & Lewis, 2002), Greek (Youtika, Joseph, & Diduca, 1999), Norwegian (Francis & Enger, 2002; Lewis, Francis, & Enger, 2003), Portuguese (Ferreira & Neto, 2002), Spanish (Campo-Arias, Oviedo, Dtaz, & Cogollo, 2006), Swedish (Eek, 2001), and Welsh (Evans & Francis, 1996; Francis & Thomas, 2003; Lewis & Francis, 2002).

Against this background, the aim of the present study is to extend this field of research by developing and testing the Slovenian translation of the Francis Scale of Attitude toward Christianity. Slovenia supports a religiously diverse culture, with the majority identifying with the Roman Catholic Church.

## Method

### *Sample*

A sample of 808 undergraduate students attending the University of Maribor, Slovenia, who self-identified themselves as affiliated to the Roman Catholic Church, participated in the project. Of the total respondents, 505 were female, 299 were male and 4 failed to disclose their sex; 125 were 18 or 19 years of age, 372 were 20 or 21, 242 were 22 or 23, 57 were 24 or 25, 9 were over the age of 25, and 3 failed to disclose their age.

### *Instruments*

The Francis Scale of Attitude toward Christianity is a 24-item Likert type instrument concerned with affective response toward God, Jesus, bible, prayer and church. The items had been translated into Slovenian 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: *never, rarely, sometimes, at least monthly, and at least weekly.*

Personal prayer was assessed on a six-point scale: *never, never but interest, used to but not now, less than monthly, at least monthly, and at least weekly.*

### *Data analysis*

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

## Results

In terms of public religious practice, the data demonstrated that 15% of the students attended church at least once weekly, 13% attended at least once monthly, 48% attended sometimes, 20% stated they attended only rarely, and 4% stated they never attended church. In terms of personal religious practice, 15% of the students prayed at least once weekly, 13% prayed at least once monthly, 17% prayed less than once monthly, 27% stated they had prayed previously but did so no longer, 2% stated they did not pray, although they have an interest to do so, and 15% stated they never prayed.

Table 1 examines the internal structure of the Slovenian 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

- insert table 1 about here -

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 0.96, while the proportion of variance accounted for by the first factor is established as 54%.

While the formal statistics of reliability are relatively easy to calculate for an attitude scale (Livingston, 1988), the question of assessing validity is more problematic (Ebel, 1961; Zeller, 1988). Steps towards examining the construct validity of this scale can be made by assessing the extent to which certain predictions about the theoretical variations in attitude scores are reflected empirically (Cronbach & Meehl, 1955; Orton, 1987). While attitudes alone may not be simple or direct predictors of behaviour (Ajzen, 1988; Eiser & van der Pligt, 1988), substantial evidence suggests a fairly close relationship between attitude towards religion and religious behaviour, as demonstrated by repeated studies using the Francis scale of attitude toward Christianity among children and adolescents (Francis, 1989). In the present study attitude scores correlated +0.58 ( $p < .001$ ) with church attendance and +0.66 ( $p < .001$ ) with personal prayer. These statistics support the construct validity of the attitude scale within the sample.

Table 2 presents the mean scale scores recorded on the Slovenian edition of the Francis Scale of Attitude toward Christianity for males and for females separately. In this

- insert table 2 about here -

sample, there is no significant sex differences in mean scale scores of attitude toward Christianity ( $t = 0.8$ , NS). Although the general consensus seems to expect females to record higher scores than males on indices related to Christian religiosity, that finding is by no means universal. The absence of a significant difference between the mean scale scores recorded by male and female students in Slovenia is consistent, for example, with the absence of sex differences recorded in the Francis Scale of Attitude toward Christianity among secondary school pupils in Germany (Francis & Kirwan, 1999) and among undergraduate

students in Germany (Francis, Ziebertz, & Lewis, 2002).

### Conclusion

The present study set out to examine the psychometric properties of the Slovenian translation of the Francis Scale of Attitude toward Christianity among a sample of 808 Roman Catholic 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 Slovenia 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 (1978) in a paper entitled 'Measurement reapplied'.

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Table 1

Item rest of test correlations and factor loadings

Scale item	r	factor loading
I find it boring to listen to the bible*	0.46	0.46
I know that Jesus helps me	0.78	0.82
Saying my prayers helps me a lot	0.78	0.81
The church is very important to me	0.73	0.76
I think going to church is a waste of my time*	0.53	0.52
I want to love Jesus	0.72	0.76
I think church services are boring*	0.38	0.38
I think people who pray are stupid*	0.32	0.31
God helps me to lead a better life	0.82	0.86
I like to learn about God very much	0.73	0.77
God means a lot to me	0.87	0.90
I believe that God helps people	0.82	0.86
Prayer helps me a lot	0.84	0.88
I know that Jesus is very close to me	0.83	0.87
I think praying is a good thing	0.72	0.75
I think the bible is out of date*	0.27	0.25
I believe that God listens to prayers	0.79	0.82
Jesus doesn't mean anything to me*	0.60	0.60
God is very real to me	0.77	0.80
I think saying prayers does no good*	0.56	0.56
The idea of God means much to me	0.79	0.83
I believe that Jesus still helps people	0.81	0.86
I know that God helps me	0.85	0.89
I find it hard to believe in God*	0.60	0.62
alpha coefficient/% of variance	0.96	0.54%

Note. \* these negative items were reverse scored.

Table 2

Mean attitude scores by sex

	N	mean	sd
male	299	77.1	20.0
female	505	76.0	20.1

Bibliography 290 acknowledgements. Abbreviations dda. University of Warwick institutional repository: <http://go.warwick.ac.uk/wrap>. A Thesis Submitted for the Degree of PhD at the University of Warwick <http://go.warwick.ac.uk/wrap/3937>. This thesis is made available online and is protected by original copyright. Please scroll down to view the document itself. Please refer to the repository record for this item for information to help you to cite it. Our policy information is available from the repository home page. Disabled people and employment: recovering histories and contemporary practices Warwick.ac.uk is tracked by us since April, 2011. Over the time it has been ranked as high as 7 689 in the world, while most of its traffic comes from United Kingdom, where it reached as high as 344 position. Wrap.warwick.ac.uk receives about 0.88% of its total traffic. It was owned by several entities, from university of warwick to Patrick Green of University of Warwick, it was hosted by Campus network for University of Warwick, University of Warwick and others. While was its first registrar, now it is moved to Nominet UK. Wrap.warwick has a high Google pagerank and bad results in terms of Ya University of Warwick, Coventry, United Kingdom. 111,657 likes Â· 218 talking about this. We've pushed boundaries and imagined the future for 50 yearsÂ The University of Warwick is one of the UKâ€™s leading universities with an acknowledged reputation fo See More. CommunitySee All. 111,657 people like this. 117,156 people follow this. 233,995 check-ins. AboutSee All.