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The internal consistency reliability of the Santosh-Francis Scale of Attitude
toward Hinduism among Balinese Hindus

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Abstract

The present paper intends to make a contribution to the empirical psychology of religion among Hindus. The Santosh-Francis Scale of Attitude toward Hinduism was originally developed and tested among Hindu affiliates living in the United Kingdom and subsequently tested among Hindu affiliates from the Bunt caste in South India. In the present study this instrument was completed by 309 Balinese Hindus (159 males and 150 females). The data support the internal construct reliability of the scale in this context ($\alpha = .83$) and commend the instrument for wider application for research in the field of the psychology of religion within the Hindu community.

Introduction

Empirical quantitative studies within the psychology of religion remain largely concentrated within the Christian tradition, as has been well illustrated by recent reviews of the instruments on which such studies draw (Hill & Hood, 1999; Cutting & Walsh, 2008). Working within this framework, Francis (1978a, 1978b) introduced the Francis Scale of Attitude toward Christianity with an open invitation for colleagues to adopt this instrument as the basis for coordinating a range of disparate studies, and thereby for constructing a robust empirically-based body of knowledge. By the mid 1990s Kay and Francis (1996) were able to draw together findings from over a hundred studies that had used this instrument. A more recent review by Francis (2009) mapped the continuing development of this body of research, including translations of the Francis Scale of Attitude toward Christianity in 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), Portugese (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 order to extend this body of research within communities shaped by other faith traditions, the basic principles underpinning the Francis Scale of Attitude toward Christianity have been translated for application within Jewish contexts by the Katz-Francis Scale of Attitude toward Judaism (Francis & Katz, 2007), within Islamic contexts by the Sahin-Francis Scale of Attitude toward Islam (Sahin & Francis, 2002), and within Hindu contexts by the Santosh-Francis Scale of Attitude toward Hinduism (Francis, Santosh, Robbins, & Vij, 2008).

Francis, Santosh, Robbins, and Vij (2008) document how the Santosh-Francis Scale of Attitude toward Hinduism was developed and tested among 330 Hindu young people, between the ages of 12 and 35, attending the Hindu Youth Festival 2001 in London. According to this study, the internal consistency reliability of the scale was demonstrated by an alpha coefficient of 0.89, while the proportion of variance accounted for by the first factor proposed by principle components analysis was established at 33%. In a second study, Tiliopoulos, Francis, and Slattery (2010) checked the psychometric properties of the Santosh-Francis Scale of Attitude toward Hinduism among 100 Hindus from the Bunt caste in the South Indian State of Karnataka. According to this study, the internal consistency reliability of the scale was demonstrated by an alpha coefficient of 0.91, while the proportion of variance accounted for by the first factor proposed by principle component analysis was established at 42%.

Against this background, the aim of the present study is to assess the scale properties of the Santosh-Francis Scale of Attitude toward Hinduism in Bali, given the highly distinctive nature of Balinese Hinduism. This form of Hinduism, although it originates from India, was primarily developed in Java and has been largely influenced by Buddhism and the Balinese animistic pre-Hindu beliefs (Jensen & Suryani, 1992).

Method

Sample

A total of 309 Balinese Hindus participated in the study (150 females and 159 males), of whom 105 were university students and 204 were community based individuals. The sample's mean age was 22.7 years ($SD = 5.7$ years, range 14 to 43 years)

Measures

The Santosh-Francis Scale of Attitude toward Hinduism proposes 19 items concerned with an affective response toward the Hindu faith. Each item is assessed on a five-point Likert-type

scale: agree strongly, agree, not certain, disagree, disagree strongly. The instrument contains three reverse-scored items, with higher scores indicating more positive attitudes.

Frequency of prayer and frequency of temple attendance were measured separately on two six-point scales: never or almost never (1), through weekly but not every day (4), to three times per day (6).

Procedure

Sampling took place between August and December 2008. The community-based participants were recruited through snowball sampling; the university students were undergraduates in the faculties of Medicine, and Maths and Science at Udayana University in Denpasar. In order to be included in the study, participants had to identify themselves as Balinese Hindu and be proficient in English. Participants completed the survey in the presence of one of the study's authors who is a psychiatrist and a Balinese Hindu, and who was able to answer questions, as well as brief and debrief them about the aims of the study in Indonesian.

Results and discussion

Table 1 presents the item-rest-of-test correlations and the factor loadings on the unrotated solution proposed by principle component analysis for the 19 items of the Santosh-Francis Scale of Attitude toward Hinduism, together with the alpha coefficient and the percentage of variance explained by the factor. 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 0.83, while the proportion of variance accounted for by the first factor is established as 31%.

- Insert table 1 about here -

These indices of homogeneity are, however, somewhat lower than those recorded by the two earlier studies conducted in England and in India. Closer inspection of the individual items indicates that in this study the three reverse-scored items detract from the performance

of the scale. Given the high alpha coefficient it is nevertheless worth retaining these items in order to retain comparability with the application of the instrument in other contexts.

Table 2 presents the correlations between scores recorded on the Santosh-Francis Scale of Attitude toward Hinduism, frequency of prayer, frequency of attendance at temple, sex, age and marital status. The positive correlation between attitude scores and prayer frequency supports the construct validity of the attitude scale on the grounds that a positive attitude supports personal religious practice. The independence of attitude scores and frequency of temple attendance is consistent with the views that within Balinese Hinduism the temple tends largely to serve a social function (extrinsic religiosity) rather than as intrinsically religious function and that the attitudinal dimension of religion is associated with intrinsic religiosity, rather than with extrinsic religiosity (Francis & Orchard, 1999; Hills & Francis, 2003; Lesmana & Tiliopoulos, 2009). The correlations between attitude scores and the

-Insert table 2 about here-

demographic variables demonstrate that among Balinese Hindus a more positive attitude toward their religion is associated with being female, being older, and being married.

Conclusion

The present study has explored the scale properties of the Santosh-Francis Scale of Attitude toward Hinduism among a sample of 309 Balinese Hindus, building on earlier studies that had already established the scale properties of this instrument in England (Francis, Santosh, Robbins, & Vij, 2008) and in India (Tiliopoulos, Francis, & Slattery, 2010). The data support the unidimensionality and internal consistency reliability of this instrument. The scale can, therefore, be recommended for further use in Bali and should lead to valuable cross-cultural comparisons in an empirical psychology of religion. A connected programme of empirical research employing this instrument within a range of Hindu contexts would be capable of building up a secure knowledge about the empirical correlates of attitude toward

Hinduism, comparable with the knowledge generated by the programme of research using Francis' original instrument within a Christian context, and the subsequent programmes of research established within Jewish and Islamic contexts.

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Table 1

Scale of attitude toward Hinduism: Item-rest-of-test correlations, factor loadings, and item endorsement

	r	factor loading	agree %
I find it hard to believe in God*	.11	.12	18
Spirituality is important in my life	.52	.68	95
I have a close relationship with God	.47	.53	70
I find it easy to understand Hinduism	.36	.41	67
I think Hindu rituals are a waste of time*	.27	.29	13
Knowing about the law of Karma helps me to lead a better life	.55	.61	95
I am happy to be a Hindu	.54	.65	97
My religion helps me to lead a better life	.66	.78	95
I find Hindu scriptures inspiring	.63	.73	78
It is easy to understand Hindu rituals	.41	.48	56
I benefit from attending services, prayer meetings or places of worship	.58	.69	80
Prayer helps me a lot	.59	.71	94
I am religious	.43	.50	72
Reincarnation gives me hope	.26	.33	80
It is important for me to practise my religion/spiritual beliefs	.63	.70	91
In my experience meditation does have a positive impact	.46	.58	77
I have noticed the benefits of practising yoga	.41	.52	58
I think Hindu scriptures are out of date*	.23	.23	7
Hinduism is relevant in the modern world	.53	.61	90
Alpha % variance	.83	31.4%	

Note * these items are reverse coded to compute the item-rest-of-test correlations and factor loadings.

Table 2

Correlation matrix

	sex	age	married	prayer	temple
Attitude	.15**	.32***	.19**	.35***	.06
Temple	.15**	-.21**	-.17**	.38***	
Prayer	.19***	-.01	-.05		
Married	.03	.75***			
Age	.04				

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