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Assessing the affective dimension of religion within Muslim societies: the Sahin–Francis Scale of Attitude toward Islam, short form

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Abstract

This study developed and tested a Turkish translation of the 23-item Sahin–Francis Scale of Attitude toward Islam (containing six negatively-voiced items) on data provided by 493 participants (191 school students and 302 undergraduate students). Two research questions were tested on these data. First, exploratory factor analyses suggested that negatively-voiced items were not performing well and so confirmed the judgement against employing such items in Muslim societies. Second, reliability analyses identified the best performing items to propose a seven-item short form of the Sahin–Francis Scale of Attitude toward Islam. This measure displayed good properties of internal consistency reliability ($\alpha = .86$) and of construct validity against a measure of prayer frequency.

Keywords Religious affect · Muslim students · Psychometrics · Sahin–Francis Scale of Attitude toward Islam

1 Introduction

The Sahin–Francis Scale of Attitude toward Islam was designed by Sahin and Francis (2002) to provide a reliable measure of religious affect within Muslim communities that was consistent with the measure of religious affect operationalised by the Francis Scale of Attitude toward Christianity, originally developed by Francis (1978a, 1978b). Since the Francis Scale of Attitude toward Christianity had been employed to coordinate a body of research within the empirical psychology of religion and empirical theology within Christian and post-Christian societies (see Francis, 2009), the Sahin–Francis Scale of Attitude toward Islam was conceived as an instrument connecting that body of research with similar

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research in Muslim societies. Similar ventures have also been undertaken in connection with other faith traditions by the Katz–Francis Scale of Attitude toward Judaism (Francis & Katz, 2007), the Santosh–Francis Scale of Attitude toward Hinduism (Francis et al., 2008), and the Athwal–Francis Scale of Attitude toward Sikhism (Francis et al., 2020).

The Francis Scale of Attitude toward Christianity was first published for use among children and adolescents by Francis (1978a, 1978b) and developed by Francis and Stubbs (1987) for measuring attitude toward Christianity from childhood into adulthood. The instrument was designed to assess religious affect in relation to five accessible components of Christianity, namely God, Jesus, Bible, prayer and church, by means of 24 short and clear items rated on a five-point Likert scale. Following the wisdom of scale construction prevalent in the 1970s the 24-item scale was designed to include eight negatively-voiced items in order to detect response setting among the participants.

The scientific basis for confidence in the assertion that studies conducted in different contexts could be considered together rested on the demonstration that the instrument functioned with comparable degrees of reliability and validity among different age groups, among different denominational groups and in different countries. This programme of establishing the reliability and validity of the Francis Scale of Attitude toward Christianity began in English-speaking contexts. The reliability and validity of the scale have been supported by studies among school students in England (Adamson et al., 2000; Francis, 1987, 1988, 1989; Francis et al., 2017; Lewis et al., 2006, 2007), Kenya (Fulljames & Francis, 1987), Nigeria (Francis & McCarron, 1989), Northern Ireland (Francis & Greer, 1990; Greer & Francis, 1991), Scotland (Gibson, 1989; Gibson & Francis, 1989), and Wales (Robbins et al., 2003). Another series of studies has supported the reliability and validity of the scale among adults in Australia (Hancock et al., 2010), Australia and Canada (Francis et al., 1995a, 1995b), England (Francis & Stubbs, 1987; Francis, 1992a), the Republic of Ireland (Maltby, 1994), Northern Ireland (Lewis & Maltby, 1997; Lewis et al., 2005), South Africa (Francis et al., 2005), and the USA (Lewis & Maltby, 1995).

In order to facilitate further cross-cultural studies within the psychology of religion, the Francis Scale of Attitude toward Christianity has also been translated into a number of different languages, including: Arabic (Munayer, 2000), Chinese (Francis, Lewis, et al., 2002; Tiliopoulos et al., 2013), Czech (Francis et al., 2010), Dutch (Francis & Hermans, 2000), Estonian (Elken et al., 2010), French (Lewis & Francis, 2003, 2004), German (Francis & Kwiran, 1999; Francis, Ziebertz, et al., 2002), Greek (Nazar, 2019; Youtika et al., 1999), Italian (Crea et al., 2014), Norwegian (Francis & Enger, 2002), Portugese (Ferreira & Neto, 2002), Romanian (Francis et al., 2009), Serbian (Flere et al., 2011), Slovakian (Lewis et al., 2008), Slovenian (Flere et al., 2008), Spanish (Campo-Arias et al., 2006), Swedish (Eek, 2001), and Welsh (Evans & Francis, 1996; Francis & Thomas, 2003).

Working from the 24 items employed by the Francis Scale of Attitude toward Christianity, Sahin and Francis (2002) described how these items ‘were carefully scrutinised and debated by several Muslim scholars of Islam until agreement was reached on 23 items which mapped closely onto the area assessed by the parent instrument’ (p. 40). Following the model proposed by the parent instrument, six of the 23 items proposed for the Sahin–Francis Scale of Attitude toward Islam were negatively-voiced. In the foundation study the scaling properties of these 23 items were tested on data provided by 381 Muslim adolescents attending three sixth-form colleges in Birmingham. The sample comprised 164 females and 217 males; in terms of age 50 were 16, 90 were 17, 123 were 18, 98 were 19, and 20 were 20. Of the total sample, 24% prayed five times daily, 18% prayed several times a week, 11% prayed every Friday, 41% prayed sometimes, and 7% never prayed. The respondents were mainly from Pakistani and Bangladeshi family backgrounds. According

to these data, the 23 items comprised a scale characterised by homogeneity, unidimensionality, and internal consistency reliability. The alpha coefficient was established as .90, while the proportion of variance accounted for by the first factor proposed by the unrotated solution generated by principal component analysis was 36%. Attitude scores correlated with personal prayer/salāt ($r = .24, p < .001$). This statistic supports the construct validity of the attitude scale in the light of the theory that attitudes should predict behaviour but in a complex and subtle manner. The correlation of this magnitude indicated that, although significantly correlated, attitude toward Islam and the practice of personal prayer accessed different aspects of religiosity.

Khan and Watson (2006) tested the newly developed Sahin–Francis Scale of Attitude toward Islam on data provided by 150 English-speaking students (75 male and 75 female) from the University of Karachi in Pakistan. They employed principal axis factoring with varimax rotation to extract a three factor rotated solution. This rotated solution defined what they described as ‘experiential relevance of beliefs’ (nine items on factor one), ‘a personal commitment to Allah/God’ (six items), and ‘a behavioural engagement in Muslim practices dimension’ (three items). A further three items listed in their table load on none of three rotated factors. What is not explained in their paper is why two of the original items have been omitted from the table: ‘Prayer/salāt helps me a lot’ and ‘I feel that I am very close to Allah/God’. Although the rotated solution identified three factors, the total scale generated an alpha coefficient of .82. Khan and Watson (2006) concluded that ‘correlations observed for the factors essentially mirrored those for the full scale, so, no evidence suggested that multidimensionality presented noteworthy interpretative challenges’ (p. 234).

1.1 Negatively-voiced items

The foundation study reported by Sahin and Francis (2002) was conducted among Muslim students in Birmingham. The first indication that negatively-voiced items may cause problems in Muslim societies was reported by Francis et al. (2006) when they set out to test the instrument in Kuwait. Their initial pilot tests indicated that some of the negatively phrased items acceptable in England were less acceptable in a predominantly Islamic culture. For this reason, the original item ‘Allah/God doesn’t mean anything to me’ was replaced by the positively phrased item ‘Allah/God means everything to me’. The original item ‘I find it hard to believe in Allah/God’ was replaced by the positively phrased item ‘I do not find it hard to believe in Allah/God’.

The resulting 23-item Arabic version of the Sahin–Francis Scale of Attitude toward Islam (now containing four negatively-voiced items) was tested on data provided by 1199 secondary school students (603 males and 596 females) from six educational districts in Kuwait. In terms of age 812 were 17 and 387 were 18. The majority of these participants were highly religious, with 80% practising the obligatory prayers. These data generated from the 23-item measure an alpha coefficient of .85, with the first factor extracted by principal component analysis accounting for 29% of the variance. On the first factor only five items recorded a loading below .45, and all four of the remaining negatively-voiced items were among these five.

The debate regarding the performance of the negatively-voiced items of the Sahin–Francis Scale of Attitude toward Islam within Muslim societies was brought into clear focus by Musharraf et al. (2014) during their translation of the instrument into Urdu. The body of experts commissioned to oversee the translation determined that all six negatively-phrased

items in the original measure were ‘offensive to their faith and not appropriate for use in Pakistan, particularly in light of the current concerns over blasphemy’ (p. 28). It was also recognised that the three items mentioning the mosque needed revision since ‘in Pakistan the majority of Pakistani women seldom worship at a mosque’ (p. 28). As a consequence the following six items were replaced. The item ‘I think going to mosque is a waste of my time’ was replaced by the positively phrased item ‘I think going to mosque or religious gathering is not a waste of my time’. The item ‘I think mosque sermons/*Khutbah* are boring’ was replaced by the positively phrased item ‘I think mosque sermons/*Khutbah* or religious meetings/*deeni mehfilen* are not boring’. The item ‘I think the Qur’ān is out of date’ was replaced by the positively phrased item ‘I think the Qur’ān is up to date’. The item ‘Allah/God doesn’t mean anything to me’ was replaced as ‘Islam means a lot to me’. The change from Allah/God to Islam is because ‘Allah/God means everything to me’ already exist in the measure. The item ‘I think praying/*du ‘ā* does no good’ was rephrased as ‘praying/*du ‘ā* is beneficial’. The item ‘I find it hard to believe in Allah/God’ was replaced by the positively phrased item ‘I do not find it hard to believe in Allah/God’.

The resulting 23-item Urdu version of the Sahin–Francis Scale of Attitude toward Islam (now consisting of only positive items) was tested on data provided by 174 university students (81 males and 93 females), between the ages of 21 and 45, with a mean age of 25.5. These data generated from the 23-item measure an alpha coefficient of .89, with the first factor accounting for 31% of the variance. On the first factor five of the positively-voiced items recorded a loading below .45.

Reviewing the revised items proposed by Musharraf et al. (2014) for the Sahin–Francis Scale of Attitude toward Islam before employing the revised measure in Malaysia, Francis et al. (2016) proposed further revisions to avoid double negatives. Thus, ‘I think going to the mosque or religious gathering is not a waste of my time’ was rephrased as ‘Going to the mosque or religious gathering is a good use of my time’; ‘I think mosque sermons/*khutbah* or religious meetings/*deeni mehfilen* are not boring’ was rephrased as ‘Mosque sermons/*khutbah* or religious meetings/*deeni mehfilen* are interesting’.

This further revision of the 23-item Sahin–Francis Scale of Attitude toward Islam (now still consisting of only positive items) was tested on data provided by 189 students (41 males and 148 females), mainly within the age range 20 to 24 years, attending the International Islamic University in Kuala Lumpur, Malaysia. These students recorded a high level of religious commitment: 98% claimed to pray daily, 90% reported that they felt their life was being guided by God, and 62% said that they recited the Qur’ān daily. These data generated from the 23-item measure an alpha coefficient of .92, with the item rest-of-scale correlations ranging between .46 and .73. These statistics supported the conclusion that, with the negatively-voiced items revised, the revised instrument is characterised by homogeneity, unidimensionality, and internal consistency reliability.

Responding to the proposed further revision of this modified measure, Musharraf and Lewis (2016) accepted that rewording offered by Francis et al. (2016) and modified their Urdu translation accordingly. As yet, however, the application of this revision has not been tested.

Not all scholars, however, have accepted the wisdom of removing negatively-voiced items for use in Muslim societies. Hamid et al. (2016) reported on the performance of the original 23-item Sahin–Francis Scale of Attitude toward Islam (retaining six negatively-voiced items) among 729 English-speaking Pakistani students (45% male and 55% female), studying social science at Karachi University or medicine at the Aga Khan University. These data generated from the 23-item measure an alpha coefficient of .91, with the first factor accounting for 37% of the variance. Hamid et al. (2016) reported that they were

not studying a highly religious population. While 23% identified as Shia, 9% as Sunni, 3% as Ismaili, the largest group (62%) identified as having no religious affiliation. Nearly half (46%) of the females reported that they never attend the mosque, and so did 39% of the males. Commenting on the discrepancy between the findings offered by Francis et al. (2016), among highly religious students in Malaysia and by Hamid et al. (2016) among largely secular students in Pakistan, Lewis and Musharraf (2016) noted the key importance of the level of religiosity among participants in assessing the use of negatively-voiced items within predominantly Muslim societies.

1.2 Short form

A second potential problem with the Sahin–Francis Scale of Attitude toward Islam concerns the number of items within the measure. When a battery of measures is being applied, there are advantages in short forms of tests being available. In addition to the full 24-item form of the Francis Scale of Attitude toward Christianity, a seven-item short form has been developed and tested among primary school students (Francis, 1992b), secondary school students (Francis et al., 1991) and adults (Francis, 1993; Francis et al., 1995b; Lewis et al., 1998; Maltby & Lewis, 1997). Following the model of the 24-item scale, the seven-item scale included two negatively-voiced items. Currently no comparable short form has been developed for the Sahin–Francis Scale of Attitude toward Islam.

1.3 Research question

Against this background the aim of the present study was to propose a seven-item short form of the Sahin–Francis Scale of Attitude toward Islam suitable for use in Turkey, and to do so by employing the original set of 23 items proposed by Sahin and Francis (2002), including six negatively-voiced items. The performance of the data will be allowed to determine whether or not this short form includes negatively-voiced items.

2 Method

2.1 Procedure

Two different but complementary groups of participants were invited to complete a short battery of instruments, including the Sahin–Francis Scale of Attitude toward Islam. One group was drawn from secondary schools and the other from university undergraduate programmes. In both cases the battery of instruments was administered during class sessions. Participants were assured of confidentiality and anonymity, asked to complete the measures without conferring with others, and given the opportunity not to participate. Completed surveys were submitted by 493 participants.

2.2 Participants

The 493 participants comprised 191 school students (77 males and 114 females) and 302 undergraduate students (133 males, 168 females, and one undisclosed). In terms of age,

among the school students, 136 were 12–13 and 55 were 14–15; among the undergraduate students, 23 were 18–19, 167 were 20–21, 88 were 22–23, 20 were 24 or over, and four undisclosed.

2.3 Measures

Religious affect. The 23 items of the Sahin–Francis Scale of Attitude toward Islam (Sahin & Francis, 2002), developed originally for English-speaking Muslim adolescents in England, was translated into Turkish and back-translated in order to ensure accuracy. The 23 items were arranged for response on a five-point Likert scale: disagree strongly (1), disagree (2), not certain (3), agree (4), and agree strongly (5). The six negatively-voiced items were reverse coded to compute the scale score.

Prayer. Prayer frequency was rated on a five-point scale: never (1), occasionally (2), at least once a month (3), at least once a week (4), and nearly every day (5).

Sex. For statistical purposes sex was coded: male (1), female (2).

2.4 Analysis

The first stage of analysis was to test the factor structure of the full instrument on the whole sample. The aim was to test the dimensionality of the 23-item scale, and in particular to see if negatively-worded items grouped differently from the positively-worded ones. Exploratory Factor Analysis (EFA) was based on principal component extraction followed by varimax rotation using procedures in SPSS 28.

The second stage of analysis was to reduce items to form a unidimensional scale based on seven items. This was achieved by removing items that loaded poorly on the main factor until factor analysis indicated a unidimensional scale (of nine items). Excess items were then removed based on their loading to the main factor and/or face validity.

The third stage of analysis was to test the internal consistency reliability of the short scale using Cronbach's alpha.

3 Results

The initial EFA extracted four factors. The first two were each based on eight positively-worded items (Table 1). There was no obvious difference in the content of the two sets of items that would explain why they loaded on separate factors. The third factor was comprised of negatively worded items, confirming earlier reports that these may operate differently to positive items among some samples of Muslims. The fourth factor consisted of one negative item (item 7 “I think Mosque sermons/khutbah are boring”) and one positive item (item 13 “I feel that I am very close to Allah/God”). For the second EFA, items in factors 3 and 4 were removed, along with item 4 (“Attending the Mosque is very important to me”), which may not have distinguished those who attended from those who did not. The resulting analysis of 13 positively-worded items extracted two factors (Table 2). For the final scale, items loading on factor 2 were removed, along with two of the nine items in factor one which had the lowest factor loading (23 “I love to follow the life/sunnah of the Prophet”) or which referred to obedience rather than more affect-related constructs (6 “I want to obey Allah/God’s law/shar’ah in my life”).

Table 1 Exploratory factor analysis of the 23-item scale

#	Item wording (translated)	Factor			
		1	2	3	4
20	Belief in Allah/God means much to me	.72			
16	I believe that Allah/God listens to prayers/du 'ā'	.72			
18	Allah/God is very real to me	.70	.32		
22	I am happy to be a Muslim	.62			
10	Allah/God means a lot to me	.57	.54		
2	I know that Allah/God helps me	.56	.43		
11	I believe that Allah/God helps people	.51	.42		
3	Saying my prayers/du 'ā' helps me a lot	.47	.42		.31
1	I find it inspiring to listen to the Qur'ān		.72		
12	Prayer/salāt helps me a lot	.35	.68		
6	I want to obey Allah/God's law/shari'ah in my life		.66		
9	I like to learn about Allah/God very much	.36	.62		
8	Allah/God helps me to lead a better life	.34	.58		
4	Attending the Mosque is very important to me		.57		.52
14	I think praying/salāt is a good thing	.37	.54		
23	I love to follow the life/sunnah of the Prophet	.35	.43		
17	Allah/God doesn't mean anything to me*	– .31		.83	
5	I think going to the Mosque is a waste of my time*			.72	
19	I think praying/du 'ā' does no good*	– .37		.69	
15	I think the Qur'ān is out of date*		– .33	.64	.32
21	I find it hard to believe in Allah/God*	– .35		.58	
7	I think Mosque sermons/khutbah are boring*			.40	– .68
13	I feel that I am very close to Allah/God	.40			.62

*Negatively-worded items. Loadings in bold indicate the factor on which an item loaded. Loadings of less than .30 are suppressed for readability

The final scale of seven items had an alpha reliability of .86 for the whole sample (Table 3), which is generally considered to indicate good or very good internal consistency (DeVellis, 2003). Testing separately on the two samples of 210 males and 282 females gave the same alpha score to the overall sample in each case. Scale scores showed no significant variation by sex or age, but were higher among those who reported praying weekly or more (mean (\pm SE) = 33.6 \pm .11) than among those who prayed less often (31.4 \pm .37, $t = 7.40$, $df = 491$, $p < .001$), a finding that supports the construct validity of a measure of religious affect (Francis, 2009). The concurrent validity of the short form was supported by a strong correlation with the parent measure ($r = .87$, $p < .001$) for the whole sample. Tested separately on the two samples of 210 males and 282 females similar results were found (for males $r = .87$, $p < .001$; for females $r = .88$, $p < .001$).

Table 2 Exploratory factor analysis of 13 positive items

#	Item wording (translated)	Factor	
		1	2
12	Prayer/salāt helps me a lot	.73	.37
9	I like to learn about Allah/God very much	.68	
8	Allah/God helps me to lead a better life	.68	
1	I find it inspiring to listen to the Qur'ān	.67	
6	I want to obey Allah/God's law/sharī'ah in my life	.65	
14	I think praying/salāt is a good thing	.63	.41
3	Saying my prayers/du 'ā' helps me a lot	.54	.43
11	I believe that Allah/God helps people	.53	.48
23	I love to follow the life/sunnah of the Prophet	.49	.36
20	Belief in Allah/God means much to me		.77
18	Allah/God is very real to me	.32	.77
16	I believe that Allah/God listens to prayers/du 'ā'		.75
22	I am happy to be a Muslim		.74

For explanation, see Table 1

Table 3 Attitude to Islam scale, short form

#	Item wording (translated)	CITC
1	I find it inspiring to listen to the Qur'ān	.53
3	Saying my prayers/du 'ā' helps me a lot	.61
8	Allah/God helps me to lead a better life	.62
9	I like to learn about Allah/God very much	.63
11	I believe that Allah/God helps people	.62
12	Prayer/salāt helps me a lot	.74
14	I think praying/salāt is a good thing	.67

Cronbach's Alpha = .86. *CITC* corrected item-total correlation

4 Conclusion

The present study proposed a Turkish translation of the 23-item Sahin–Francis Scale of Attitude toward Islam as originally published by Sahin and Francis (2002), including six negatively-voiced items. Data provided by 493 participants (191 school students and 302 undergraduate students) were analysed to address two distinct but interrelated research questions.

The first research question was shaped by the critique of this measure by Francis et al. (2006), Musharraf et al. (2014), and Francis et al. (2016) suggesting that negatively-voiced items are unhelpful within predominantly Muslim societies. The data from the present study adds further evidence to this critique. Exploratory factor analysis, based on principal component extraction followed by varimax rotation, separated out the negatively-voiced items, indicating that these items were operating differently among this sample of Muslim participants. The case was made for the elimination of negatively-voiced items for this constituency.

The second research question was shaped by the precedent initiated by Francis et al. (1991) who proposed a seven-item short form of the Francis Scale of Attitude toward

Christianity. The data from the present study has proposed a seven-item short form of the Sahin–Francis Scale of Attitude toward Islam that has shown good internal consistency reliability ($\alpha = .86$) and good construct validity against an independent measure of prayer frequency. This seven-item short form comprised only positively-voiced items. The case was made for commending the measure as a proxy for the longer parent instrument when other constraints make a shorter measure more desirable.

The present study has demonstrated the benefit of being able to address two key research questions with one set of data. This strength is also a limitation. Had the study began by accepting the 23 positively-voiced items of the Sahin–Francis Scale of Attitude toward Islam Revised, as proposed by Francis et al. (2016) there would have been a larger pool of viable items from which possibly a different subset of seven items may have emerged for the proposed short form. This possibility needs to be tested by future research.

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Data availability Data are available from the corresponding author on request.

Declarations

Conflict of interest No potential conflict of interest was reported by the authors.

Ethical approval Ethical approval was granted by the University of Warwick Centre for Education Studies (approval 01.12.2016).

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