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Adaptation of a Muslim Spiritual Attachment Scale (God attachment) for Turkish Muslims: a validity and reliability study

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ABSTRACT

Despite the importance of a believer's attachment relationship with God for mental health, there are few measures relevant to Muslims, and little work on cross-cultural validation of such measures. The objective of the present study was to examine the validity and reliability of the Muslim Spiritual Attachment Scale (M-SAS) in Turkish Muslim samples. In analyzing the data, three different samples of college students ($N=525$, $N=341$, and $N=47$ respectively) were used. The validity and reliability of M-SAS were examined through exploratory factor analysis, confirmatory factor analysis, the internal consistency coefficient and the split-half reliability coefficient. Results supported a three-factor model of M-SAS with good reliability for the factors, and convergence with an alternative God Attachment measure. As a result, it may be concluded that M-SAS can be used as a valid and reliable measurement instrument in Turkish Muslim samples. The results are discussed in the light of the relevant literature.

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Attachment; attachment to God; Turkish Muslims; reliability; validity

It is now well-established that Christian and Muslim believers can experience an attachment relationship with God (Ghobary-Bonab, Miner, & Proctor, 2013; Granqvist & Kirkpatrick, 2013; Kirkpatrick, 1992). Further, just as human attachment relationships are associated with various indicators of psychological adjustment and mental health, so too, attachment to God is associated with indicators of religious adjustment, psychological well-being and mental health. For example, in a review of the effects of early human relationships on mental health, Cassidy, Jones, and Shaver (2013, p. 1423) stated: "In sum, the answer to the question 'Is early attachment status related to later mental health difficulties?' is a resounding yes, but the precise nature of the connections remains unclear." In a review of research on attachment to God, Granqvist and Kirkpatrick (2013, p. 150) also demonstrated connections between secure attachment and psychological adjustment, with insecure attachment to God associated with "higher loneliness, depression, anxiety, neuroticism, and physical illness; and lower general life satisfaction". However, they discuss limitations in the research on attachment to God, including the lack of studies in countries outside the Western world, and reliance on measures developed in

Western (Christian) countries. This paper seeks to address this gap by (a) outlining how attachment to God theoretically should affect adjustment and mental health in non-Western, Muslim countries; (b) critically examining existing measures of attachment to God for Muslim populations and (c) testing the construct validity of a new measure of attachment to God developed specifically for Muslim populations.

Attachment to God and mental health

The theory of attachment which is proposed by Bowlby (1973) is important to understand the quality of an individual's close relationships. Although Bowlby tested the theory on infant-caregiver attachment relationships, it has been reported in several previous studies that the relationship or attachment of an individual to a mother or a caregiver during the first years of development affects the quality of subsequent relationships that the individual has such as those with a romantic partner or God (Granqvist & Kirkpatrick, 2013; Mikulincer & Shaver, 2007). In this context, many studies showed that the theory of attachment can also be applied to attachment to God.

According to Bowlby (1973), individuals form mental representations of the world and themselves: these internal working models shape expectations and help individuals make future plans. Critical for the social world are representations of the other, the attachment figure, as able and willing to nurture. Critical for representations of the self is whether the self is perceived as worthy of the attachment figure's care. Based on the two types of representations (other and self), and the possibility of positive and negative representations of each, four different attachment styles were proposed (Bartholomew & Horowitz, 1991). In the first one, the secure attachment style, the individual has positive evaluations for both themselves and the other; in the second, the pre-occupied attachment style, the individual evaluates themselves negatively and the other positively; in the third, the avoidant style, the individual evaluates themselves positively and the other negatively; and in the fourth, the fearful style, the individual evaluates both themselves and the other negatively (Bartholomew & Horowitz, 1991, p. 227). In the case of attachment to God, four styles are suggested according to evaluations of God (the Other) as able and willing to nurture the individual, and of the individual as worthy of care.

In addition to working models of attachment, attachment behaviours have been identified. These attachment behaviours are activated at times of threat or distress. Attachment behaviours comprise seeking proximity to the attachment figure, seeking the solace of the attachment figure as a safe haven, referring back to the attachment figure as a secure base when venturing away from the attachment figure, and protesting separation from the attachment figure (Ainsworth, Blehar, Waters, & Wall, 1978). As Kirkpatrick (1992; Granqvist & Kirkpatrick, 2013) argued, believers in God demonstrate behaviours that correspond to infant-caregiver attachment. People commonly seek closeness to God through prayer in stressful situations; they perceive God to be a refuge and consolation, the safe haven during suffering; the unfailing presence of God is a secure base from which to encounter the vicissitudes of life; and when the individual perceives the absence of God, they show separation protest. Miner, Ghobary-Bonab, and Dowson (2017) used the full set of attachment dimensions comprising both attachment behaviours and working models—proximity seeking, safe haven, secure base, separation protest, positive model of self and positive

model of other (God)-in their development of a comprehensive measure of attachment to God.

Although attachment theory has been applied to adult romantic relationships and adult friendships (Brennan, Clark, & Shaver, 1998), attachment to God is understood to be most similar to attachment processes in childhood. Because God is omnipresent and powerful, believers consider God as an ultimate attachment figure (Homan, 2014) in Christianity (Kirkpatrick & Shaver, 1990) as well as in Islam. It can not be presumed that there is an equal level of relationship between God and an individual, as occurs in friendships and romantic partnerships. The individual is weak, powerless and needy whereas God is all-powerful and in need of nothing. Throughout an individual's life, they are faced with countless situations that make their position feel weak and helpless. In such situations, the securely attached believer primarily sees God as a secure base and safe haven. Such a perspective is also consistent with most orthodox Christian theologies of God (Miner, 2007).

This perspective is also valid for Islam (Ghobary-Bonab et al., 2013). In the Qur'an, God (Allah) frequently recommends and prescribes that believers take refuge in Him and get closer to Him. God leads people specifically in how to cope with situations where they feel helpless, insecure and distressed [for example, in the Qur'an: Al-Falaq (The Daybreak), 1–4; An-Nahl (The Bee), 98; Maryam (Mary), 18]. In the following verses of the Qur'an: "(He is) the Lord of the East and the West; there is no deity except Him, so take Him as Disposer of (your) affairs" [Al-Muzzammil (The Enshrouded one), 9] and "and whoever relies upon Allah-then He is sufficient for him" [At-Talaq (The Divorce), 3], Allah notes that he is the only entity to be sheltered by and trusted. While Allah warns with the following verse of the Qur'an "and We are closer to him than (his) jugular vein" [Qaf (The Letter), 16], with the following verses of the Qur'an, Allah praises the believers who approach him and take refuge with him "and upon their Lord they rely" [Al-Anfal (The Spoils of War), 2] and "and when you have decided, then rely upon Allah". Indeed, Allah loves those who rely (upon Him) [Ali Imran (Family of Imran), 159]. Otherwise, for those who are moving away from Allah, with the following verses of the Qur'an Allah warns them that they will be in a great harm "(Noah) said, 'My Lord, I seek refuge in You from asking that of which I have no knowledge. And unless You forgive me and have mercy upon me, I will be among the losers'" (Hud, 47). To summarise, in the context of the aforementioned verses of the Qur'an, turning to God as a "safe attachment base" by a Muslim person is a natural process and a necessity of faith. Therefore, it is not expected for a Muslim to think otherwise.

From studies of Christian populations it would appear that a secure attachment relationship with God impacts adjustment and mental health by providing a safe haven for emotional regulation and a secure base for using healthy ways of coping with difficulty (Belavich & Pargament, 2002). In an extensive review of religious coping Gall and Guirguis-Younger (2013) concluded that positive forms of religious coping are linked to reduced distress and psychological symptoms, as well as indicators of adjustment and well-being. Positive spiritual coping includes an experienced connection with the transcendent, whereas negative spiritual coping includes a spiritual struggle with the transcendent. People with insecure spiritual attachment systems respond to psychological threats (such as serious illness, death of a loved one) with hyperactivation of the attachment system and a desperate attempt to use religious coping to regulate their emotion although such religious coping is negative in form (Pollard, Riggs, & Hook,

2014) and thus likely to decrease mental health and well-being. On the other hand, people with secure spiritual attachment use positive coping associated with intrinsic religiosity to achieve better adjustment (Miner, 2009).

There is little research on relationships between attachment to God and adjustment or mental health amongst Muslims. Ghorbani, Watson, Omidbeiki, and Chen (2016) reported that insecure attachment to God was associated with the psychological maladjustment of Iranian Muslims, but also associated with religious adjustment, in both cases considering relevant religious mediating variables. Using an Australian Muslim sample, Miner et al. (2017) found significant associations between attachment working models, attachment behaviours, and psychological symptoms. Erdoğan-Korkmaz (2012) examined the relationship between secure/anxious attachment to God and psychological well-being among Turkish Muslim samples. The results of the study showed that there was a positive association between secure attachment to God and psychological well-being and a negative association between anxious attachment to God and psychological well-being. These studies used different measures of attachment to God as well as samples from different cultures, and thus it is difficult to compare the results. Further, there are very few scales of attachment to God translated into languages other than English. This deficit is a problem for researchers who wish to survey non-English speaking populations.

Review of Scales of attachment to God for Muslim populations

When reviewing the available literature, it is obvious that God attachment scales are scarce. The existing scales that have been used to measure God attachment in Turkey may be summarised as follows:

The Attachment to God Inventory was developed by Beck and McDonald (2004). This inventory was originally developed based on the Experiences in Close Relationships Scale of Brennan et al. (1998) and adapted to Turkish language by Subaşı (2012). The adapted version of the inventory consists of 23 items and three dimensions (secure/avoidant/anxious attachment).

The Attachment to God Scale was developed based on Kirkpatrick and Shaver's (1992) and Hazan and Shaver's (1987) Adult Attachment Scale. This is a categorical scale that was developed by changing the original format of the scale in relation to attachment to God. The scale consists of three paragraphs which indicate secure/anxious/avoidant attachment.

Tanrı'ya Bağlanma Ölçeği (TBO) (Attachment to God Scale) was developed by Erdoğan-Korkmaz (2012). This scale consists of 24 items and two dimensions (secure/anxious attachment). In the development phase of this scale, in order to determine the emotions, thoughts, and attitudes of the individuals related to God, five basic open-ended questions were asked to a limited number of participants. A total of 113 items were written expressing the emotions, thoughts, and attitudes towards God attachment by examining the responses of the participants. Furthermore, with items from Christian God perception scales (Beck & McDonald, 2004; Kirkpatrick & Shaver, 1990; Rowatt & Kirkpatrick, 2002) and adult attachment scales, an item pool was created. Later, these items were evaluated and those with similar or very close in meaning were united or eliminated and the item pool was reduced to 60 items. After EFA, the scale consists of 24 items and

two dimensions. It was written in the Turkish language and is the only scale in the Turkish language designed to measure attachment to God amongst Turkish Muslims.

As it may be seen from the listing above, only two scales developed for Christians have been translated into the Turkish language and more recently a scale developed for Turkish samples has limited dimensions. Using Christian-based scales amongst Muslims is problematic on theological, religious and cultural grounds (Miner et al., 2017) and the only Turkish scale has limited dimensions that were not based on the full range of theoretically relevant domains. Hence, there is a need for a religiously and culturally sensitive, theoretically based, multidimensional scale of attachment to God for use with Muslim people in Turkey. As mentioned above, Miner et al. (2017) developed a brief but multidimensional, Muslim attachment to God scale based on the theoretical considerations discussed in the first section of this paper. The M-SAS comprises dimensions representing cognitive working models of self and God as an attachment figure, and attachment behaviours. The M-SAS was developed using Australian Muslim participants. Its construct validity was assessed by confirmatory factor analysis, and four factors were retained: models of self and God, and attachment behaviours of proximity seeking and separation protest. The dimensions of safe haven and secure base were not treated as separate from proximity seeking by these Muslims. The validity of the M-SAS was also assessed by the use of Structural Equation Modelling to assess relationships between the M-SAS dimensions and psychological symptoms as measured by the Depression Anxiety and Stress Scale (DASS; Lovibond & Lovibond, 1995). Findings that model of other predicted symptoms through the mediation of proximity seeking and separation protest were consistent with attachment theory and attested to the importance of including a measure of attachment behaviours. The study also established that M-SAS scores were correlated with scores on a recognised Attachment to God Inventory for Christians (AGI–Beck & McDonald, 2004) but the M-SAS had incremental validity beyond the effects of the AGI. For these reasons, the M-SAS is a promising tool for the measurement of attachment to God amongst Muslims.

From the explanations above, it is clear that there is a lack of a well-established, religiously and culturally sensitive, multidimensional God attachment measure in the local literature. The M-SAS is a promising measure but it has not been tested across Muslim samples other than Australian Muslims. Therefore, the aim of this study is to examine the validity and reliability of the M-SAS in Turkish Muslim samples.

Method

Participants

Three samples were used: the first in a study using exploratory factor analysis, the second in a study using confirmatory factor analysis of the M-SAS, and the third in a study using the relation between M-SAS and TBO (Attachment to God Scale). In this research participants were selected with convenience sampling which is a nonprobability sampling technique. With this sampling technique the researchers can easily access the participants (Aziz, 2014). Three independent samples also allow some greater generalisation of results. For exploratory factor analysis, 525 college students voluntarily participated in this study. Most of the participants were women (68.70%). Income levels of participants were

25.97% low, 67.44% middle and 6.59% high income. The mean age of the participants was 20.27 years and the standard deviation was 2.37. The age range was between 18 and 48. For confirmatory factor analysis, 341 college students voluntarily participated in this study. Most of the participants were women (58.90%). Income levels of participants were 23.51% low, 70.24% middle and 6.25% high income. The mean age of the participants was 19.92 years and the standard deviation was 1.91. The age range was between 18 and 36. For the relation between the M-SAS and TBO, 47 college students voluntarily participated online in this study. Most of the participants were women (66%). Income levels of participants were 25.5% low, 61.7% middle and 12.8% high income. The mean age of the participants was 22.55 years and the standard deviation was 2.74. The age range was between 19 and 35. It can be assumed that all participants in the study were Muslim: 99.2% of Turkish citizens are Muslims and Islam is a dominant religion in Turkey (DIB, 2014).

Measures

In this study, two scales and one demographic information form were used to collect the data. A five point Likert type scale ranging from 1 ("strongly disagree") to 5 ("strongly agree") was used in this study. The detailed information about data collection tools may be seen below:

Muslim Spiritual Attachment Scale (M-SAS)

The Muslim Spiritual Attachment Scale (M-SAS; Miner et al., 2017) consists of 16 items and four factors (proximity, positive model of God, positive model of self and separation protest). Each factor consists of 4 items. In Miner et al.'s (2017) study internal consistency coefficients were respectively .88 (proximity), .85 (positive model of God), .80 (positive model of self) and .78 (separation protest). For internal consistency coefficients of this study see Table 6. Some of the items of this scale can be listed as: 'My confidence in God's closeness and responsiveness encourages me to call on Him.', 'God has taken my burdens when I have been overwhelmed.' and 'God's love for me is unconditional.'

Tanrı'ya Bağlanma Ölçeği (TBO) (Attachment to God Scale)

This scale was developed by Erdoğruca-Korkmaz (2012) due to the need of a religious-cultural sensitive God attachment scale. It consists of 24 items and two factors (secure/insecure-anxious attachment). The first factor consists of 11 items and the second consists of 13 items. In Erdoğruca-Korkmaz's (2012) study internal consistency coefficients were respectively .95 and .90. In this study internal consistency coefficients were respectively, .96 and .93. The split-half reliability coefficients were respectively, .90 and .83. Some of the items of this scale are: 'Allah'ın sevgisini kaybetmekten korkarım.' (I fear to lose God's love), 'Allah'ın rızasını kazanmak benim için önemlidir.' (It's important for me to get the approval of God) and 'Allah'ın adaleti konusunda şüphelerim var.' (I have some doubts about the justice of God).

Procedure

The original version of the M-SAS Scale was translated into the Turkish language by three English language experts and two field experts with an excellent knowledge of the English

language. The experts independently translated the M-SAS into the Turkish language. From these five translations, some corrections were made. This corrected translated version was sent to the five field experts. After getting the field experts' opinions, some necessary corrections were made. The translated version of the scale was sent to three Turkish language experts to check the understandability of the items and suitability of them for the Turkish language.

Before data collection, necessary permissions after ethical scrutiny were obtained from the university. The data were collected both via the internet and the paper-pencil method. The participants were informed about the nature of the study. Participation in the study was voluntary. The participants were asked to respond to the questionnaires with their first and natural responses. The questionnaires which were applied to the students during college hours were completed individually.

As mentioned above, three different samples were used in this study. For the first two samples, the data were collected via the paper-pencil method and for the third via an online method. In the third sample the M-SASS and TBO items were interchanged to prevent ordering effects.

Data analysis

In the analysis process, firstly Exploratory Factor Analysis (EFA- using SPSS version 22) and then confirmatory factor analysis (CFA- using AMOS version 23) were performed. Lastly, the validity, reliability and correlation analyses were conducted.

With EFA, factor structure is determined by eigenvalues. According to O'Connor (2000) the traditional eigenvalues method is not enough to determine the factor structure. In addition to EFA, parallel analysis should be conducted. Parallel analysis is particularly helpful in cases where the raw data is not normally distributed: it uses tetrachoric and polychoric correlations rather than product moment correlations. Principal component analysis is used in EFA. It is aimed to extract the highest variance from the data set with the principal component analysis. With this analysis, a large number of variables are gathered under fewer components (Tabachnick & Fidell, 2001). As a result of principal component analysis, a large number of items are grouped under more than one factor (i.e., overlapping). Therefore, the varimax rotation technique is then used in order to derive factors that are independent of each other and thus make interpretation easier.

In this study both parallel analysis and principal components analysis with varimax rotation were used with the first sample, followed by CFA with the second sample and then correlation analysis with the third sample.

Results

The parallel analysis results showed that the scale consists of three factors (please see Table 1).

The basic rule of determining the number of factors in the Monte Carlo Parallel Test technique is that the value of raw data should be greater than means. The eigen values for the first three factors based on using raw data in the parallel analysis were greater than the corresponding means based on eigen values derived from computer generated random numbers. Table 1 clearly indicates that there are three factors in this scale.

Table 1. Monte Carlo parallel test results.

Factors	Raw data	Means	95%
1	8.20	1.31	1.37
2	1.46	1.24	1.29
3	1.23	1.19	1.23
4	.69	1.15	1.19

Exploratory factor analysis of the sixteen M-SAS items indicated very good sampling adequacy and strong relationships amongst the items. The KMO is .942. Bartlett's test of sphericity χ^2 is 5379.90; $df = 120$ and $sig. = .000$. The results of exploratory factor analysis are presented in Table 2.

Table 2 indicates that one item of original M-SAS is problematic, namely item 14. The problem is that item 14 has high factor loadings both on factor 1 (.495) and factor 3

Table 2. Exploratory factor analysis of Turkish M-SAS.

Items	n	M	S	Cronbach alpha if item deleted	Item-total correlation	Factors		
						1	2	3
Item1: In times of difficulty I seek out God through prayer or reading sacred texts.	529	4.05	1.00	.92	.63	.69		
Item2: My confidence in God's closeness and responsiveness encourages me to call on Him.	529	4.51	.84	.92	.74	.81		
Item3: I reach out to God in times of distress.	529	4.56	.81	.92	.74	.81		
Item4: When times are tough I seek proximity to Allah in every prayer and ritual.	529	4.40	.92	.92	.69	.75		
Item5: God has fulfilled His promise to be with me in my distress.	529	4.57	.93	.92	.67	.80		
Item6: God has taken my burdens when I have been overwhelmed.	529	4.40	.91	.92	.78	.76		
Item7: God helps me when I ask for help.	529	4.36	.91	.92	.77	.75		
Item8: God takes care of me during times of crisis.	529	4.17	1.06	.92	.68	.62		
Item9: When I do bad things I know God still loves me.	529	4.10	1.01	.92	.62		.62	
Item10: God's love for me is unconditional.	529	4.14	1.17	.92	.60		.80	
Item11: I am supported in times of difficulty by knowing God loves me unconditionally.	529	4.27	1.02	.92	.68		.75	
Item12: I know I'm not perfect but God loves me anyway.	529	4.12	1.11	.92	.57		.78	
Item13: When I feel God has left me I pray frantically for His return.	529	3.32	1.33	.93	.50			.78
Item15: I have cried out to God at times when He seems far away.	529	3.86	1.25	.92	.57			.84
Item16: I persist in crying out to God when God seems distant in my troubles.	529	3.94	1.15	.92	.65			.80
Eigenvalues						8.20	1.46	1.23
Explained variance						33.04%	17.72%	17.28%
Total explained variance						68.04%		

N: sample size; M: mean item endorsement; S: standard deviation of item endorsement; Factor 1: Secure relationship; Factor 2: Positive model of self; Factor 3: Separation protest.

Table 3. Factor distributions of the M-SAS.

Original classification	Original M-SAS	Turkish classification	Turkish M-SAS
Proximity*	1–4	Yakınlık ve Tanrı'nın Olumlu Modeli	1–8
Positive model of God*	5–8		
Positive model of self	9–12	Benliğin Olumlu Modeli	9–12
Separation protest	13–16	Ayrılma Protestosu	13,15,16

*Together these factors constitute a cognitive-behavioural representation of a secure attachment relationship and hence Factor 1 of the Turkish M-SAS is labelled Secure relationships.

(.524). If an item has factor loadings of more than .320 on more than one factor and the difference between factor loadings is lower than .100 it is an overlapping item (Çokluk, Şekercioğlu, & Büyüköztürk, 2014). As a result of this overlapping, the researchers extracted item 14 from the scale. Unlike the original M-SAS, the Turkish version of the scale comprised three factors when subjected to EFA. The first and the second factor of the original scale are grouped under a single factor in the Turkish version. The eigenvalue of the first factor is 8.20 with the explained variance of 33.04%; the second factor is 1.46 with the explained variance of 17.72% and the third factor is 1.23 with the explained variance of 17.28%, in total with 68.04% explained variance.

The factor distribution of the M-SAS is given in Table 3.

As can be seen from Table 3, in the Turkish version of M-SAS the first and second factors were grouped under a single factor. The third factor was the same as the original version. Lastly, the fourth factor was nearly the same as the original version, except that item 14 was omitted.

The confirmatory factor analysis findings are given in Table 4.

Table 4 shows that all fit indices were within acceptable limits.

For criterion validity, the relationship between the adapted M-SAS and the TBO is examined. The results are shown in Table 5.

Table 4. Fit indices for the confirmatory factor analysis of the Turkish M-SAS.

Fit indices	<i>n</i>	Values	Good fit indices*	Acceptable fit indices*
CMIN/df	341	2.57	between 2 and 3	between 3 and 5
NFI	341	.938	>.95	>.90
RFI	341	.923	>.95	>.90
IFI	341	.961	>.95	>.90
TLI	341	.952	>.95	>.90
CFI	341	.961	>.95	>.90
RMSEA	341	.07	<.05	<.08

*Source: Arbuckle & ve Wothke, 1999; Brown, 2006; Byrne, 2010; McDonald & Moon – Ho, 2002; Schermelleh-Engel, Moosbrugger, & Müller, 2003; Tabachnick & Fidell, 2001; Thompson, 2004.

Table 5. Associations between the Turkish M-SAS and TBO.

Variables	<i>n</i>	1	2
1. TBO secure	47	–	–
2. TBO anxious	47	.76*	–
3. MSAS total	47	.94*	.74*
4. Secure relationship	47	.95*	.71*
5. Positive model of self	47	.75*	.59*
6. Separation protest	47	.81*	.71*

**p* < .05.

Table 6. Alpha and split half reliability indices for the Turkish M-SAS.

Variables	<i>n</i>	Cronbach's α	Split-Half
1. Secure relationship	525	.93	.88
2. Positive model of self	525	.83	.82
3. Separation protest	525	.82	.74
M-SAS	525	.92	.82

Table 7. The correlation coefficients between the factors of M-SAS.

	<i>n</i>	M	S	1	2	3
Factor 1 Secure relationship	529	4.38	.75	–		
Factor 2 Positive model of self	529	4.16	.88	.65*	–	
Factor 3 Separation protest	529	3.71	1.07	.54*	.49*	–

* $p < .05$.

Table 5 shows that there were significant correlations between secure/anxious attachment to God and M-SAS. In addition to this finding, there were also significant correlations between secure/anxious attachment to God and the factors of M-SAS. These findings indicate the criterion validity of the M-SAS.

The reliability indices are given below in Table 6.

As Table 6 indicates, both of the reliability values were within the expected limits (George & Mallery, 2010; Nunnally & Bernstein, 1994).

The correlations between the factors of the scale are given below in Table 7.

Table 7 shows that there were significant correlations between the factors of M-SAS. These correlations are not surprising given the factors were developed as theoretically based dimensions of attachment to God. Nonetheless, the factors are clearly separable and constitute related yet independent dimensions of attachment to God.

Discussion

In this study based on the assumption that the theory of attachment can also be applied to attachment to God (Granqvist & Kirkpatrick, 2013; Kirkpatrick & Shaver, 1992), it was aimed to test the validity and reliability of M-SAS in Turkish Muslim samples. The study is significant for research designed to assess the effects of attachment to God on mental health because it addresses foundational measurement issues. Overall, the results give qualified support to the usefulness of the M-SAS as a measure of attachment to God for Turkish Muslim samples.

The validity and reliability studies were performed using three different samples of college students. The findings showed that although the four-factor model of M-SAS was not supported, the three-factor model was supported. Except one item, namely item 14, all of the items functioned as indicators of attachment to God in Turkish Muslim samples. The first and the second factors in the original M-SAS were grouped under a single factor in the Turkish version. Indeed, in the Australian M-SAS validation study the two factors, although separable, were highly correlated. Results from the Turkish Muslim sample extend the trend and suggest that respondents do not distinguish between seeking closeness to God and holding a positive working model of God as an ideal attachment figure. The distribution of the items for the second factor was the

same and that in the third factor was nearly the same as the original factor structure. This means that the items of the M-SAS worked similarly in Australian and Turkish samples.

Reasons for the lack of distinction between the first two factors as identified in the Australian sample can be suggested. According to the original version of M-SAS, in the first four items that constituted the proximity factor, it may be understood that the believer turns to God, or in other words, the direction of communication or attachment behaviour is from the believer to God. On the other hand, from the fifth to the eighth items that constituted a positive model of God, it may be considered that the direction of communication or attachment is from God to the believer. This means that the individual believes that God is with them and cares for them like an ideal parent. It is therefore remarkable that the two factors, namely Proximity and Positive Model of God, which have a mutual orientation and interdependence, are separated from each other in the original version of M-SAS. In fact, Miner et al. (2017) also mentioned that although seeking proximity, safe haven and secure base are theoretically separable, they are practically interrelated. They also mentioned that Muslim participants did not separate proximity, safe haven and secure base. This lack of separation between the perceived actions of God as an attachment figure is now extended to a synthesis of attachment behaviours and working model in relation to God. Put another way, a positive model of God as an attachment figure includes or presupposes behaviours of a securely attached individual, specifically seeking proximity, seeking a safe haven, and using the attachment figure as a secure base for subsequent activity in the world. Thus, the eight items comprising the first factor can be seen as a brief, direct measure of secure attachment to God amongst Turkish Muslims. Overall, the factorisation of the M-SAS items into three dimensions in the present study is fully explicable and does not compromise the construct validity of the measure.

The high mean scores of the Turkish Muslim sample on the first two factors indicate that the Muslim participants felt close to God or made an effort in this direction. This may be regarded to be based on their belief that God will respond them and the reflection of their positive image of God. The Qur'an also includes statements about such beliefs in the following verses: "And when My servants ask you, [O Muhammad], concerning Me – indeed I am near. I respond to the invocation of the supplicant when he calls upon Me." [Al-Baqarah (The Cow), 186] and "and whoever relies upon Allah – then He is sufficient for him" [At-Talaq (The Divorce), 3]. On the other hand, when a believer has doubts about the willingness of God to respond to their wish and prayer, a negative model of God will be formed. As a natural result of this situation, it will not be possible to speak about their proximity to God. According to Islamic belief, doubting that God will not respond, and hopelessness/despair are unfavourable attitudes in a Muslim [Yusuf (Joseph), 87]. It is expected from a Muslim that they always turn to God even when they are concerned about their sins and mistakes; they approach God with prayer and good behaviours; they must not despair about God's positive responses to these [Az-Zumar (The Troops), 53].

In addition to this theological argument, the difference between the findings of Miner et al.'s (2017) study and this study may be explained within the framework of the suggestions of Miner et al.'s (2017) research. Specifically, they suggested testing M-SAS outside Muslim groups who have a minority status in different religious and cultural contexts. This was because M-SAS could be influenced by these factors and different conclusions could be drawn. In this context, the present study was carried out in a Muslim-dominant

culture which may be considered as an important factor in the emergence of differences between the study of Miner et al. (2017) and this study.

Also, the cultural dimensions of Turkish participants play important roles in explaining different responses. As is well recognised, the behaviours of individuals are influenced by the culture. With cross cultural studies, researchers aim to examine the reliability and validity of an instrument across cultures. The best known dimension of cultural diversity is individualism and collectivism (Hofstede, 1980). Whereas members of the individualistic cultures see themselves as separate, sufficient and autonomous individuals, members of the collectivistic cultures see themselves as fundamentally connected with others (Kağıtçıbaşı, 2012; Markus & Kitayama, 1991). The basis for an individualistic perspective is to focus on autonomy, independence and self-actualization (Oyserman, Coon, & Kimmelmeier, 2002). On the other hand, collectivistics define themselves together with their groups (Matsumoto & Juang, 2004). It can be also said that in individualistic cultures, personal needs and goals are above other needs and objectives; in collectivistic cultures, individual needs are abandoned to satisfy the group (Kağıtçıbaşı, 2012; Matsumoto & Juang, 2004). It is obvious that individualism separates the western world from other cultures (namely, collectivists). The Individualism-Collectivism distinction imposes meaning to observed differences in behaviour (Kağıtçıbaşı, 2012). In general, we can say that Turkey has a collectivistic and Australia has an individualistic culture. In spite of these differences in cultures, the M-SAS, with the deletion of one item, can be used as a valid and reliable instrument in Turkey.

The criterion validity results showed that there was a significant correlation between M-SAS and the TBO. A valid instrument must have an association with a conceptually related criterion (Maroof, 2012), as in this case. Further, M-SAS scores were significantly and positively associated with both secure and anxious dimensions of the TBO. This finding is consistent with research by Bulut and Yıldız (2018), who reported that Muslim respondents have both secure and anxious attachment to God. They interpreted this finding as not distrust or despair of a believer towards God but the believer directing themselves more to God and seeing God as a safe haven and secure base. This argument is also consistent with Iranian research by Ghorbani et al. (2016) where anxious and avoidant attachment to God were negatively correlated, and discussed by Miner, Ghobary-Bonab, Dowson, and Proctor (2014) to the effect that attachment anxiety reflects concerns about sin and Muslim believers are particularly vulnerable to attachment anxiety when they overcome avoidance and submit to God (Ghorbani et al., 2016).

Although the relationship between the M-SAS and TBO was strong, the different factorial compositions of the two scales suggest that the M-SAS is not redundant. Since attachment to God is a multidimensional construct in theory it is important to discern all dimensions that are meaningful to the populations under study. In this case, the Turkish sample responded to the M-SAS items in ways that provided more information than the TBO. Specifically, the M-SAS provides information about Model of Self and the attachment behaviour of Separation Protest amongst Turkish Muslims. Indeed, a study of mental health symptoms amongst Australian Muslims found that in the presence of secure working model of God as Other, the attachment behaviour of Separation Protest was a barrier to using the resources of secure relationship with God for symptom reduction (Miner et al., 2017). Hence, the testing of all theoretically relevant dimensions of attachment to God is critical for complete modelling of attachment to God and mental health.

Finally, the internal consistency and split-half reliability coefficients for the whole scale and for the three factors were within acceptable limits. According to George and Mallery (2010) reliability coefficients may be evaluated as $\alpha > .90$ "perfect"; $\alpha > .80$ "good"; $\alpha > .70$ "acceptable"; $\alpha > .60$ "inquirable"; $\alpha > .50$ "weak" and $\alpha < .50$ "not acceptable". Nunnally and Bernstein (1994) suggested that reliability coefficients must be above .70. The obtained reliability coefficients of between .82 and .93 are more than acceptable, and are good to very good.

A limitation of this study is that criterion validity of M-SAS is measured only by attachment to God scales. In future research, criterion validity of the M-SAS should be measured by a scale with which attachment to God is known to be related (e.g., an anxiety or depression scale). Both the M-SAS and TBO should be used to determine the incremental validity of M-SAS beyond the effects of the TBO. Including measures of mental health and psychological adjustment would also begin to address associations between attachment to God and psychological health amongst people other than Christians in places other than Western countries. Another limitation of this study is conducting it in a university students' sample: for external validity and greater generalisability of findings it should also be conducted in a community sample.

In conclusion, it may be stated that the M-SAS can be used in Turkish Muslim samples as both a religiously and culturally sensitive and valid and reliable instrument. The M-SAS has some strong associations with the TBO, the only existing measure of attachment to God for Turkish people, but it is not redundant with the TBO. The M-SAS provides a different theoretical basis by tapping into attachment behaviours as well as working models of attachment to God. Future studies should evaluate the strengths and limitations of both instruments for Turkish Muslims.

In future studies, it is recommended to conduct more research in different samples especially in Turkey and in other predominantly Muslim countries. It would be helpful to include Muslim samples in both majority and minority Muslim countries to test for any consistent contextual biases in responding. To investigate the development and outcomes of styles of attachment to God, it is also recommended to conduct longitudinal studies in which relevant consequences of secure and insecure attachment styles are assessed. A consequence of particular relevance is the mental health of Turkish and other Muslim populations. Hence, it is also recommended that future researchers examine relationships between M-SAS and mental health variables such as anxiety or depression.

Disclosure statement

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