

Establishing and Validating Factor Structure of Bonding to God Scale

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The present study aimed to explore the psychometric properties and construct validity of Bonding to God (BTG) Scale by using Exploratory and Confirmatory Factor Analysis. The factor structure of the BTG scale is not confirmed in Pakistan. The data was collected from different areas of Rawalpindi and Islamabad from October 2016 to January 2017. The study included a total of 150 adults, 80 men (53.3%) and 70 women (46.7%) for exploratory factor analysis (EFA) and 291 adults, 154 men (52.9%) and 137 women (47.1%) to confirm the factor structure resulting from EFA using confirmatory factor analysis (CFA). An inclusion criterion was Muslim adults from any religious sect having minimum age of 18 years. Results from EFA revealed a four-factor solution with an accumulated 52.18% percent variance. As in the original scale out of the total 34 items, 7 items loaded on connection to God ($\alpha = .91$) 14 items constituted complaining attitude towards God ($\alpha = .83$) 8 items comprised of nearness to God ($\alpha = .87$) and 4 items loaded on level of content ($\alpha = .82$). Item 3 did not show loading on any factor and it was excluded from the scale as its estimates were also non-significant. Confirmatory Factor Analysis showed good indices of model fit. The 33 items bonding to God scale emerged as an internally valid and reliable scale for Muslim adults.

Keywords: Bonding to God, Nearness, Content, Complaining attitude, Connection, Validation

Bonding is the ability to establish an emotional attachment to someone. It is the ability to relate to someone on a deeper level. Hence,

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bonding to God refers to a person's emotional attachment with God, the Divine spirit. Bonding to God is a newly recognized aspect of religiosity (Miner, 2009).

It has been found that attachment theory (Kirkpatrick & Shaver, 1992) helps in explaining religious dynamics among those who relate to their personal God and also found that those who have a secure attachment with their close ones also have a corresponding attachment to God. Attachment theory has provided a huge amount of empirical research in the Psychology of religion (Granqvist, 2010) including the concept of Divine power. For instance, previous research has given a connection between secure attachment to parents with an affectionate image of God (Granqvist, Mikulincer, Gewirtz, & Shaver, 2012; Kirkpatrick, 1998; Kirkpatrick & Shaver, 1992; Reinert & Edwards, 2009). Contrary to this, an insecure interpersonal attachment with closed ones is linked to far away and controlling images of God. Moreover, it is inversely related to God's conceptualization as a loving being (Granqvist et al., 2012; Reinert & Edwards, 2009). According to Dickie et al. (2006), although bonding with the beloved ones is influenced by how people perceived God, it was a connection with the closed ones that was principally influenced by developing God concepts. A negative attitude towards God could also stem from much more personal, intense hurts, and disappointments (Zarzycka, 2016). In the wake of negative life events such as bereavement, illness, accidents, failures, or natural disasters, one potential response is to blame God (Pargament, Smith, Koenig, & Perez, 1998).

Different views are available in the psychological realm regarding religion. Positive thinkers address religion as having supreme power that can help individuals in dealing with dreadful situations (Ghobary Bonab, Miner, & Proctor, 2013; Younas, 2017). There is a positive association between mental health and positive perception of God and it is negatively associated with pathology. The negative perception of God has been linked with pathologies, both contributing as an influential concept of mental health (Khosravi, Pasdar, & Farahani, 2011; Koenig et al., 2001; Pirutinsky, Carp, & Rosmarin, 2017; Weber & Pargament, 2014).

Belief in God is considered as a chief intrinsic value of Muslims. It works as one of the milestones for the spiritual development of believers. This trait of relying on God is mentioned as a step towards spiritual development in Islam (Sabzvari, & Faghfoory, 2008). It also acts as a way to deal with stressful situations in the lives of Muslims. Muslims follow multiple religious and spiritual practices to cope with stressful situations of life; for instance, Khan, Aslam, and Younas (2018) found four major styles of approaching towards God i.e., visualization of God's names, recitation of Quranic chapters, memorization of Quranic verses, and performing different rituals and practices. These religious efforts support individuals in dealing with life stressors and bring feelings of being connected to God. Indeed dependence on God or trust (Tawakkul) in God proves to be the best method under threatening life situations (Bonab & Koohsar, 2011; Mottaghi, Esmaili, & Rohani, 2011; Khan et al., 2018). One's strong trust in God is mentioned in Holy Quran in these words, "And He will provide him from (sources) he never could imagine. And whosoever puts his trust in Allah, then He will suffice him" [Al-Quran, 65:3].

Bonding to God (BTG) scale (Saleem, 2004) is an indigenously developed scale that had been used to measure one's attachment with God. It consists of three factors, nearness to God, level of content, and connection with God. All the factors explain the positive relation of the individual with God. As per the theory of Bowlby, passive connection reveals an unaffectionate linkage between caretaker and child. In this relation of God and man, the scale gives an unequal representation of the whole relationship essence by including only positive features and kept silent on the unaffectionate bond between God and man. Furthermore, Younas and Kamal, (2019) validated *Piri-Muridi* scale and found a passionate connection of man with *Pir* (holy being). But this connection is present between two men; one is a common man and the other is a spiritual man. The relationship that is present between God and man is still not clear and the measures available do not capture the full context of this relationship (including positive and deteriorating, both relations). The factor structure of BTG is not confirmed in Pakistan. The previous research on "Bonding to God and emotional intelligence among students

of *Madaris*”, (Rehman, 2010) found a positive relationship between the two constructs and also used qualitative analysis to make findings more meaningful but the study had a limitation that it did not mention reliabilities of the subscales of BTG. This raises the question regarding the generalizability of the research findings, psychometric properties, and relationship among subscales of the scale which remains an untouched area. Similarly, another researcher (Khan, 2013) conducted on the relationship between Bonding to God and Locus of control among Muslim and Christian adults in Pakistan and found a significant relationship between strong attachment to God and internal locus of control. Khan, (2013) did not report any reliability indices of the subscales of BTG to make relationships among variables more clear. Further, as per our knowledge, none of the previous studies worked on establishing convergent and discriminant validities of the scale. So, the present study also aimed to establish the criterion validity of BTG.

Moreover, none of the previous researchers worked on finding the factor structure of this scale (Hassan, 2007; Khan, 2014; Rehman, 2010). This raises a question on its factor structure for credible use in Pakistani culture. So, there was a dire need to explore and validate the factor structure indigenously so it can be applied to a diverse group of population. This is the first attempt to investigate the psychometric properties of the BTG scale and also to validate the construct validity of the scale by using exploratory factor analysis and confirmatory factor analysis in Pakistan.

Method

Study I

The objectives of the study were to develop the factor structure of the Bonding to God scale and to psychometrically validate the instrument to confirm its effectiveness in our culture.

Participants

The sample included 150 adults, 80 men (53.3%) and 70 women (46.7%) for exploratory factor analysis. The sample was drawn through a convenient sampling technique from three provinces of Pakistan; Punjab ($n = 71$), Khyber Pakhtunkhwa ($n = 30$), Sindh ($n = 9$), and also from AJK

nationals ($n = 40$). They had different educational criteria, diverse age categories, and belonged from diverse religious sects and professions. The detail of demographics has been summarized in Table 1.

Table 1

Frequencies and Percentages along with Demographic Variables (N = 150).

Demographics	<i>f</i>	%
Age (in years)		
Young adults (18-25)	76	50.7
Middle aged adults (26-35)	50	33.3
Late aged adults (45-60)	24	16
Education		
Upto Matric	31	20.7
Intermediate and Bachelors	39	26.0
Masters and above	80	53.3
Gender		
Men	80	53.3
Women	70	46.7
Marital status		
Married	64	42.7
Unmarried	86	57.3
Religious sect		
<i>Ahly Sunnat Brelwi</i>	43	28.7
<i>Ahly Sunnat Deobandi</i>	53	34.4
<i>Ahlay Hadees</i>	43	28.7
<i>Ahly Tashee</i>	6	4.0
Missing	5	3.3

f = frequency, % = Percentage

Bonding to God Scale

It is a 5 point Likert scale that measures one's attachment with God, in terms of the scores of respondents on an indigenously developed bonding to God scale (Saleem, 2004). High scores mean strong bonding whereas low scores mean weak bonding. It comprised of 34 items in which 19 items (1, 2, 6, 10, 14, 16, 17, 19, 21, 23, 25, 26, 27, 28, 29, 30, 32, 33, 34) were comprised of positive statements. And 15 items (3, 4, 5,

7, 8, 9, 11, 12, 13, 15, 18, 20, 22, 24, 31) were comprised of negative or reverse score items. Bonding to God Scale comprised of three factors. Nearness to God ($\alpha = .90$), comprised of initially 16 items (1, 2, 10, 16, 17, 19, 21, 23, 25, 26, 27, 28, 30, 32, 33, and 34) level of Content ($\alpha = .80$) comprised of 11 items (5, 8, 11, 12, 13, 15, 18, 20, 22, 24, and 31) and level of Commitment ($\alpha = .70$) consisted of 7 items (3, 4, 6, 7, 9, 14, and 29). These factors were established by the author (Saleem, 2004) 14 years ago. Due to the advancement in socio-cultural and religious life, there can be the possibility of changing perceptions of people; therefore the existing factors were required to be confirmed through Confirmatory Factor Analysis.

Procedure

The participants ($N = 150$) were approached through the Convenient Sampling Technique. They were briefed about the purpose of the research. Informed consent was taken and participants were administered with a self-report measure of Bonding to God Scale. The researcher instructed the participants about how to fill the questionnaire. Confidentiality was ensured and participants had the right to withdraw from participation any time if they do not feel comfortable. Data was entered into SPSS version 21.

Results

In the present study, the researcher did Confirmatory Factor Analysis (CFA) through AMOS for Bonding to God scale but the estimation of indices showed a poor model fit. The values for default model were (AGFI = .71; GFI = .75; IFI = .73; TLI = .71; CFI = .72). After adding 17 error co-variances, even then the model remain unfit (AGFI = .74; GFI = .78; IFI = .74; TLI = .74; CFI = .76). So, it was necessary to look into the factor structure of the Bonding to God Scale.

Top-down Approach

Starting from the top-down approach (qualitative analysis), in the initial part of the study, all thirty-four items of the Bonding to God Scale were evaluated concerning their face validity for measuring nearness to God,

level of content, and level of commitment. The items were presented to five SMEs (subject matter experts) who had proficiency in the scale development and well oriented to the pertinent literature. SMEs without knowing which item belongs to nearness, content, or commitment constructs were asked to categorize the items and give the most suitable title to each cluster of items. Four SME’s categorized the items into four categories (i) *nearness to God/closeness/connection with God*, (ii) *contentment with God*, (iii) *commitment with God*, (iv) *wrath/ harsh nature/complaining attitude/insecure attachment with God* and one SME categorized them into two categories i.e., (i) *secured connection with God* and (ii) *insecure connection with God*. None of the SME categorized the items into three factors as categorized by the original author. The qualitative analysis of the indicators recommended reorganization of the constructs. In the next phase of the study, the experts' opinion was assessed by using a bottom-up approach i.e., exploratory factor analysis.

Exploratory Factor Analysis

While conducting the Exploratory Factor Analysis, the Maximum Likelihood Method was used as the method of extraction as it is the most suitable method when the researcher’s goal is to proceed with Confirmatory Factor Analysis (CFA) at the next level (Nunnally, 1978).

Kaiser-Meyer-Olkin Measure of Sampling Adequacy showed the suitability of data for factor analysis and its value came out to be .82 which is not only acceptable but also considered as superb (Field, 2009) whereas significance ($p < .0001$) of barlett’s test of sphericity $\chi^2(508) = 991.88$ indicated that sample is adequate for exploratory factor analysis.

Table 2
Factor Loadings for Exploratory factor Analysis with Varimax Rotation of Bonding to God Scale (N = 150).

Items	Factor I	Factor II	Factor III	Factor IV	Factor V
Connection with God (CWG)					
28	.785				
34	.784		.34		
33	.780		.34		

Items	Factor I	Factor II	Factor III	Factor IV	Factor V
30	.705		.31		
25	.675		.31		
26	.660				
27	.592				
					.52
Complaining attitude towards God (CAG)					
4		.659			
15		.648			
					.57
18		.623			
					.67
7		.595			
31		.547			
9		.545			
8		.506			
5		.503			
24		.493			
13		.427			
					.33
22		.425			
12		.370			
11		.370			
20		.364			
Nearness to God (NTG)					
1	.45		.651		
23	.48		.648		
19	.36		.647		
16			.636		
17			.601		
					.40
2	.44		.588		
10			.582		
21			.563		
Level of Content (LOC)					
6				.754	
32				.728	
14				.616	
29				.520	

Items	Factor I	Factor II	Factor III	Factor IV	Factor V
3				-.34	
Eigen value	9.82	4.00	2.17	1.75	1.53
% variance	28.90	11.76	6.39	5.10	4.51
Cumulative %	28.90	40.63	47.08	52.18	56.69
α	.91	.80	.88	.81	.50

Table 2 represents factor loadings of items on a four-factor solution extracted by the maximum likelihood method (Matsunaga, 2015). The four-factor solution gave the same results as the researcher suggests after the face validity of the items. All items grouped in a factor showed adequate face validity except item no 3 (*Ma baaz oqaat Allah ko bhul jata hun*) which show negative loading (-.34) on factor 4 though its reverse coding had already been done during data entry. Further items with factor loading less than .25 or with a minus are recommended to delete (Yong, & Pearce, 2013). So, item 3 was discarded based on its non-relevance to the overall scale after the results of EFA.

It was evident from the results of EFA that some negative score items like item no 3, 18, 11, 12, 5, 20, 15, 18, 31, 22, and 24 which were originally part of “Level of Content” loaded on a new factor. Some items which were originally in the Level of Commitment i.e., item no 4 (*Ma sirf zroorat kay waqt Allah ko yaad karta hun*), item no 7 (*Mujhay mehsoos hota ha kay Allah mujh se kisi baat pr naraz ha*), item no 9 (*Mera Allah se ta’luq zyada mazboot nhin ha*) also loaded on this new factor. Similarly, some items which were part of “Nearness to God” also showed separate loading. These items are item no 28, (*Allah ki ibadat karnay se mujhay khushi mehsoos hoti ha*), item no. 34 (*Allah ne meri pareshanion aur takleefon ko dour kiya ha*), item no 33, (*Allah ne hamesha meri rehnumae ki ha*), item no 30, (*Mujhay Allah se muhabat ha*), item no. 25, (*Allah meri zindagi ki awaleen tarjee ha*). Item no 26 (*Allah ki mujoodge kay ehsaas se ma khud ko mehfooz mehsoos karta hn*) item no 27 (*Ma jb bhi pareshan hota hun to sirf Allah se madad mangta*

hun). Moreover, four items (14, 6, 32, and 29) clustered on one factor. Among them item no 32 (*Allah ne hamesha meri rehnumae ki ha*) was originally part of “Nearness to God” but now it loaded with items of this new factor.

Figure 1. Scree Plot for Four Factor Solution of Bonding to God Scale(N=150)

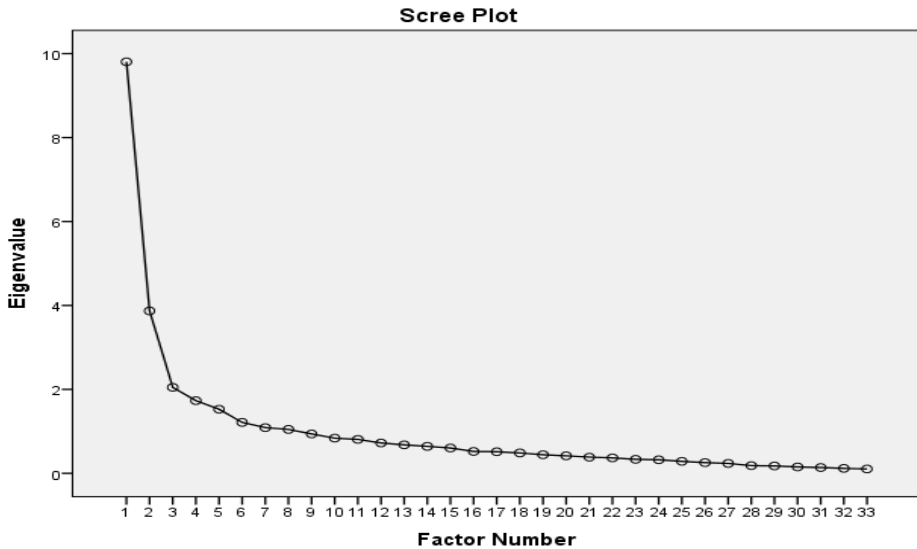


Figure 1 presents a scree plot for the four-factor solution of BTGS, as the Eigenvalues of all factors is very close to 1, so the scree plot showed a steep curve, followed by a bend and then a horizontal line. Although the closer look of the scree plot separates the five factors from one another the rotated component matrix does not support the five-factor solution rather suggests the four-factor solution. And it is highly recommended not to make a decision based on merely a single criterion. Referring to Table 1, the fifth factor includes only those items that were overlapping and reveal poor alpha value i.e., .50. Moreover, both the items were not equal in face value so, it was decided to retain a four factors solution that properly represents a cluster of items with the adequate alpha value.

After finalizing the four-factor solution, the next step was to name them. For that purpose, statements of all factors were written on a plain page with the instruction, “Kindly suggest a suitable title for every subscale”. Ten Ph. D and M.Phil scholars were contacted and requested

to fill this form. After collecting all the forms back, the following titles for every subscale were finalized by a committee approach which comprised of a Professor and researcher herself.

1. Connection with God (CWG)
2. Complaining attitude towards God (CAG)
3. Nearness to God (NTG)
4. Level of Content (LOC)

Connection with God. People have a feeling of closeness to God and they are connected by a strong bond of association in which they found religious support from God. It includes seven items; item no 28, 34, 33, 30, 25, 26, and 27.

Complaining attitude towards God. People have a sense of hopelessness from God. They have a complaining attitude and are dissatisfied with their relationship with God. It includes 14 items; item no 4, 15, 18, 7, 31, 9, 8, 5, 24, 13, 22, 12, 11, and 20.

Nearness to God. Nearness to God refers to one's beliefs that God is always close and near. They found happiness and a sense of security by remembering God. People also view God as strong support for them at times of crisis. It includes 8 items; item no 1, 23, 19, 16, 17, 2, 10, and 21.

Level of content. Level of content refers to one's feelings of satisfaction which they feel in their relationship with God. People spend quite enough time in remembrance of God. It includes four items; item no 6, 32, 14, and 29.

Conclusion

The qualitative analysis and Exploratory Factor Analysis of the indicators recommended reorganization of the constructs particularly for Pakistani Muslims. To confirm the factor structure explored through EFA, Confirmatory Factor Analysis becomes essential. So in the next chapter, the factor structure resulting from EFA was confirmed through CFA by using AMOS 22.

Study II

To investigate and address the construct validity of the Bonding to God (BTG) scale within the Pakistani context and to psychometrically validate the instrument, a second study was conducted on an independent sample. This study also aimed to assess the internal consistency and convergent and discriminant validity of the BTG scale with that of the Religious Orientation scale.

Participants

The independent sample for study II comprised 291 adults 154 men (52.9%) and 137 women (47.1%) on which confirmatory factor analysis was conducted. The sample was again drawn through Convenient Sampling. Participant's aged ranged from 18-50 years ($M = 30.43$, $SD = 10.45$). Married individuals were 146 (50.2%) and unmarried were (145 (49.9%).

Instruments

Modified Bonding to God Scale (BTG). The measure that was used for study II was the one that resulted through the findings of EFA in study I. The scale is 5 point Likert which measures one's attachment with God, in terms of the scores of respondents on an indigenously modified Bonding to God Scale. The scale consisted of four factors. The first factor, Connection with God comprised of 8 items, i.e., 28, 34, 33, 30, 25, 26, and 27. Items no. 4, 15, 18, 7, 31, 9, 8, 5, 24, 13, 22, 12, 11, and 20 constituted of the second factor, Complaining attitude towards God. The third factor, Nearness to God consisted of Items no 1, 23, 19, 16, 17, 2, 10, and 21. The final factor, Level of Content, comprised of items 6, 32, 14, and 29.

Religious Orientation Scale (ROS). Religious Orientation Scale (ROS) was developed by Gorsuch and Mc Pherson, 1989; translated and adapted by Khan, Ghous & Malik, (2016) to check one's orientation to religion. It is a five-point Likert scale and consists of a total of 14 items. The possible score range is 0-70. A higher score shows a stronger religious orientation. Alpha reliability is 0.7. The scale consists of two subscales;

extrinsic and intrinsic religious orientation. Extrinsic Religious Orientation consists of items (2, 3, 10, 11, 13, and 14). The alpha coefficient of this subscale was .80. Intrinsic Religious Orientation consists of 1, 4, 5, 6, 7, 8, 9, and 12 and its alpha reliability was reported to be .66. The reverse-scored items are 3, 10, and 14.

Procedure

In procession with the statistical analysis plan, a second confirmatory factor analysis (Alternative Model, Mi) was conducted to verify whether the new factor structure that was based on the results of exploratory factor analysis either fit the data for the population in this study. The alternative model was inspected on an independent sample ($N = 291$; age = 18-50 years; $M = 30.43$, $SD = 10.45$). The same data collection procedure was followed as given in study I. In AMOS, visual paths were manually drawn on the graphic window, and analyses were performed.

Confirmatory Factor Analysis for Modified Bonding to God Scale. CFA specifically, relies on several statistical tests to determine the adequacy of model fit to the data. The model that resulted from CFA showed excellent fit to the data with χ^2 (df) = 991.886 (508), CFI = .901, IF = .902, RMSEA = .05 and RMR = .06. All the items were scrutinized based on the initial criteria of factor loading $> .3$ (Field, 2009). Items loading below .30 were eliminated as per set criteria. It was found that all items were in acceptable loadings i.e. ($\lambda = .33$ to $\lambda = .88$).

Table 3
CFA of Bonding to God Scale ($N = 291$).

	χ^2 (df)	$\chi^2/$ df	IFI	TLI	FI	MSEA	SRM R	χ^2 (df)	MR
Model 1	1392.488 (521)	2.6 7	.83	.82	.83	.07	.06		.07
Model 2	991.886 (508)	1.9 5	.90	.89	.90	.05	.05	400.60 2 (13)	.06

Note. MI = default Model of CFA for Bonding to God Scale with 4 factors

M2 = MI after adding covariance within factors

To check whether the model exactly holds in the population, chi-square statistics were assessed. The chi-square value being significant suggested a poor fit, χ^2 (df) = 991.886 (508) $p < .05$, yet the CMIN/df value (CMIN/DF = 1.953) appeared in recommended range. The value of χ^2 being insignificant is the most desirable index but it must be noted that it is greatly affected by sample size. The majority of the researchers ignore this indicator if the sample size goes above 200 and other indices indicate that model is satisfactory. So, it is suggested to evade decision-making based on this measure with a larger sample (Sharma et al, 2005). The loadings that appeared after the result of CFA are shown in table 5.

Table 4

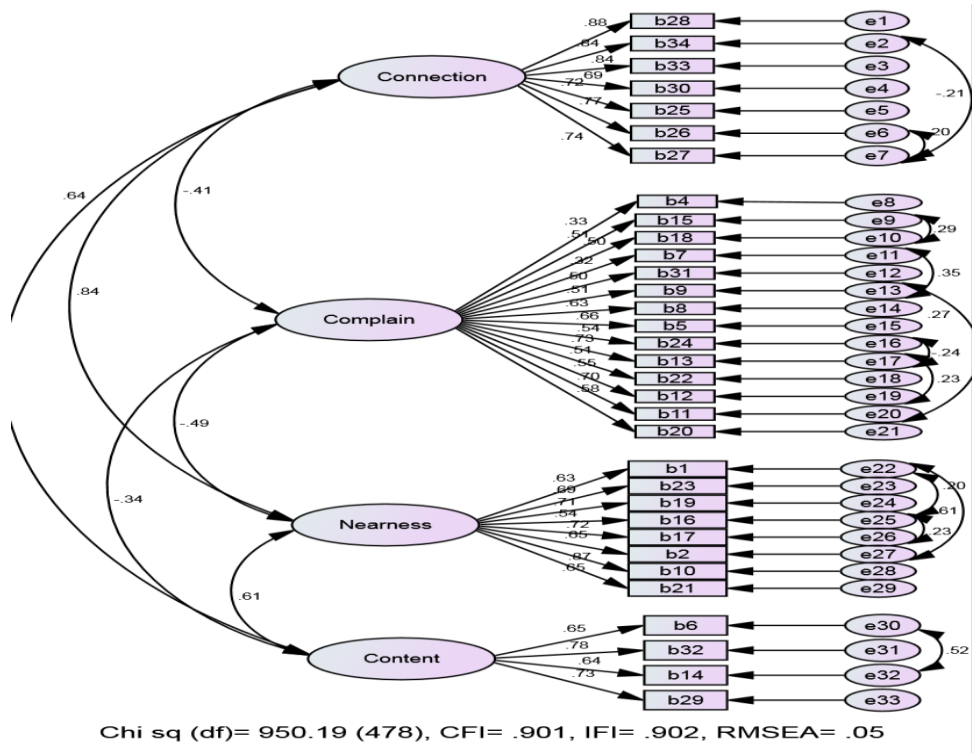
Confirmatory Factor Analysis and Chronbach alpha Values for Modified Bonding to God Scale (N = 291).

Items No.	Factor I	Factor II	Factor III	Factor IV
Connection with God				
28	.88			
34	.84			
33	.84			
30	.69			
25	.72			
26	.77			
27	.74			
Complaining attitude towards God				
4		.33		
15		.51		
18		.50		
7		.32		
31		.50		
9		.51		
8		.63		
5		.66		
24		.54		
13		.73		
22		.54		
12		.55		
11		.70		

Items No.	Factor I	Factor II	Factor III	Factor IV
20		.68		
Nearness to God				
1			.63	
23			.69	
19			.71	
16			.54	
17			.72	
2			.65	
10			.67	
21			.65	
Level of Content				
6				.65
32				.78
14				.64
29				.73
A	.91	.83	.87	.82

Table 5 shows respective loadings on four factors of the BTG scale. Moreover, it also reveals very good reliabilities. The alpha coefficient for the overall scale was found to be $\alpha = .80$ which is quite satisfactory. The first factor, Connection with God (7 items) showed $\alpha = .91$, the second-factor complaining attitude towards God which emerged as a new factor showed $\alpha = .83$, the third-factor nearness to God (8 items) showed $\alpha = .87$ and the fourth factor, Level of content (4 items) showed $\alpha = .82$. The model appeared after the result of CFA is shown in Figure 2.

Figure2. CFA of Bonding to God scale



Psychometric properties of Modified Bonding to God (BTG) Scale Sample

The detail of sample characteristics has been given in Table 2.

Assessment Measures

Modified Bonding to God (BTG) Scale and Religious Orientation Scale (ROS) were used for determining the construct validity.

Procedure

Two scales (modified BTG and ROS) were administered to participants and instructions were given in both written and oral form to read all the items carefully and respond genuinely. Confidentiality was ensured and at the end, participants were thanked for their cooperation.

Results

To achieve the objectives of the study, convergent and discriminant validity was assessed for the Bonding to God scale. Moreover, alpha reliabilities were also calculated.

Convergent Validity and Discriminant Validity. Estimates of correlation were established to obtain the convergent validity between the BTG subscales and the ROS subscales.

Table 5

Correlations among Scales and Subscales of BTG and ROS (N = 291).

Scales/ Subscales	BTG	CWG	CAG	NTG	LOC	ROS	IRO	ERO	M	SD
BTG	-	.74**	.22**	.72**	.57**	.07	.17**	-.05	103.28	11.86
CWG		-	-.31**	.75**	.49**	.02	.24**	-.19**	32.05	4.88
CAG			-	-.37**	-.30**	.11**	-.11	.27**	20.75	7.67
NTG				-	.49**	-.03	.21**	-.24**	35.76	5.87
LOC					-	.01	.12*	-.10	14.70	3.88
ROS						-	.71**	.76**	53.05	7.88
IRO							-	.09	36.32	5.07
ERO								-	16.73	5.55

Note. ** $p < .01$; * $p < .05$; BTG = Bonding to God, CWG = Connection with God, CAG = Complaining attitude towards God, NTG = Nearness to God, LOC = Level of Content; ROS = Religious Orientation Scale; IRO = Intrinsic Religious Orientation; ERO = Extrinsic Religious Orientation

All the correlation in Table 6 is exclusive of correlation between BTG and ROS. Correlations among the Bonding to God scale were also explored. It was found that Connection with God correlated significantly with Nearness to God and Level of Content with God whereas a negative correlation was found between Complaining attitude towards God, Nearness to God, Connection with God, and Level of Content with God. Significant positive correlations are observed with comparable scales (showing similar content) to support the convergent validity of the

indigenous measure. The results indicated that Intrinsic Religious Orientation (IRO) correlated strongly with Bonding to God and its subscales whereas Intrinsic Religious Orientation negatively correlated with the Complaining Attitude towards God showing evidence of discriminant validity. Moreover, Extrinsic Religious Orientation (ERO) positively correlated with the Complaining Attitude towards God showing evidence of convergent validity whereas negatively correlated with Connection with God, Nearness to God, and Level of Content with God which shows strong evidence of discriminant validity.

Discussion

The present study attempted to adapt and validate the Bonding to God Scale (Saleem, 2004) on Pakistani Muslims. The CFA of the Bonding to God Scale revealed poor model fit and also previous researchers who used this scale did not mention reliabilities for its subscales. Hence, there was a dire need to look into the construct and evaluate it concerning the Pakistani Muslim community. The current study was aimed to explore the construct validity of the Bonding to God Scale to measure a valid and reliable construct.

Starting from the top-down approach, in the initial part of the study, all thirty-four items of the Bonding to God Scale were evaluated concerning their face validity for measuring nearness to God, level of content, and level of commitment. The items were presented to five SMEs (subject matter experts) who had proficiency in the scale development and well oriented to the pertinent literature. SMEs without knowing which item belongs to nearness, content, or commitment constructs were asked to categorize the items and give the most suitable title to each cluster of items. Four SMEs indicated a similar classification of the indicators (four factors) and only one indicated a two-factor solution. Items no. 4, 15, 18, 7, 31, 9, 8, 5, 24, 13, 22, 12, 11, and 20 were initially part of the level of content after EFA loaded on separate factor.

In the next phase of the study, the experts' opinion was assessed by using a bottom-up approach i.e., exploratory factor analysis. The exploratory factor analysis produced four factors solution for the scale. Fascinatingly, as indicated by SME's, Items no. 28, 34, 33, 30, 25, 26, and 27 which

were originally in the nearness to God loaded on separate factor and were named as Connection with God. Items no. 4, 15, 18, 7, 31, 9, 8, 5, 24, 13, 22, 12, 11, and 20 emerged as a new dimension and given the name Complaining attitude towards God. Items no 1, 23, 19, 16, 17, 2, 10, and 21 showed separate loading and named as Nearness to God as they most appropriately adjusted with conceptual and theoretical definitions of the construct. Finally, items no 6, 32, 14, and 29 emerged as a fourth factor and was titled as Level of content. All the factors were named after taking the expert's opinion.

In the final phase of the study, the new factor structure of the instrument which was derived from a top-down approach (i.e., qualitative examination) and bottom-up approach (i.e., exploratory factor analysis) was further confirmed by using the quantitative approach for theory testing i.e., confirmatory factor analysis. The confirmatory factor analysis yielded acceptable values on all fit indices and showed a good model fit to the current data. The factor loadings on each factor were significantly high.

The internal consistency of the 33 items Bonding to God (BTG) Scale was significantly high. The validity of the newly modified Bonding to God Scale was established by two subtypes of construct validity, i.e., convergent and discriminant. The convergent validity of BTG was well established as it depicts the significance of indigenous tools. Similarly, the results of discriminant validity further strengthen the self-modified Bonding to God Scale. Moreover, the reliability of the scale resulting from EFA and CFA was quite satisfactory and in the appropriate rang

The newly established factor structure of the scale provides strong evidence of the psychometric properties of the scale. It can be used in future researches with more confidence across adult Muslim samples. Moreover, the current scale must be used for Muslims of other countries to ensure its validation for cross cultures as well.

Conclusion

The convincing result of the study demonstrated that it has not only established psychometric properties of Bonding to God Scale but also presented deeper insight into Islam as a religion by under scrutinized

religious dimension and research insights. The bonding to God scale modified and validated in the present study is culturally relevant and is a valid and reliable instrument to measure people's bonding to God. This scale can contribute as an effective measurement tool in further researches on the same area.

Limitations and Suggestions

The current study utilized a convenient sampling technique and data collected from such a sample helped provide a baseline of Pakistani Muslims' religious inspiration, but this is not representative of the large Pakistani population. There is a need for extensive examination to make certain the representation of all provinces of Pakistan so that results could be more generalized. Bonding to God scale must be used for Muslims of other countries to ensure its validation for cross cultures as well. It is recommended that there must be a focus on cross-cultural researches to promote the discipline of the psychology of religion.

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