Creating and Validating the Faith Inventory for Students at Islamic Azad University of Ahvaz

Solmaz Choheili (1)
Reza Pasha (2)
Gholam Hossein Maktabi (3)
Ehsan Moheb (4)

(1) MA in Educational Psychology, Department of Psychology, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran
(2) Department of Psychology, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran
(3) Department of Psychology, Shahid Chamran University of Ahvaz, Ahvaz, Iran
(4) Phd in Educational Psychology, Department of Educational Psychology, Shahre-kord Branch, Islamic Azad University, Shahre-kord, Iran

Corresponding author:
Reza Pasha
Department of Psychology,
Ahvaz Branch, Islamic Azad University,
Ahvaz, Iran
Email: g.rpasha@yahoo.com

Abstract

This study aimed to develop and validate the faith inventory. A sample of 736 students of Islamic Azad University of Ahvaz was selected by multi-stage random sampling method and a faith inventory with 100 items was used to measure their faith. Each item was based on the five-point Likert scale from Not fully used to Fully used. After collecting data, the correlation of each item with the total score was calculated. The Cronbach's Alpha coefficient for the 100-item set was 0.967; after eliminating 10 items for a set of 90 questions, it was 0.996. Factor analysis was used to verify the construct validity of the inventory; the KMO value as a measure of sampling adequacy was 0.958 and the significance of the Bartlett's sphere test indicated that there were suitable conditions for implementing factor analysis. After removal of inappropriate questions with a factor load of less than 0.3, based on the analysis of principal components and varimax rotation, according to the factor matrix, gradient diagram and the percentage of variance explained, four factors were extracted from a set of 90 questions, explaining 44.87% of the total variance among the variables. The first factor with 57 items and the special value of 30.97 covers about 69.02% of the total variance of the variables and is an indicator of belief/certainty; the second factor with 14 items indicates justice, the third factor with nine items, shows the Jihad and the fourth factor with 10 items measures the patience.

Key words: Faith, Validity, Inventory, Narration

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Introduction

Faith and religious beliefs in Iranian society are considered as the main pillars of life and over the three last decades, religious teachings have been particularly emphasized (1). Faith refers to any type of principle, guidance, belief, certainty or tendency that makes life meaningful and purposeful (2). No decent psycho-inventoryist - even a non-religious one - can ignore the importance of religion, faith, and religious beliefs in the process of psychotherapy, mental health, meaningfulness of life, psycho-inventoryical well-being, and so on (3). The results of psychoinventoryical studies have shown that children who have been trained by strongly religious teachings before adolescence and adulthood, question their religious beliefs and nearby people in their adulthood. This is due to the fact that human thinking grows, and rapid cognitive development makes it easier for them to judge on matters of value and religion and to react more precisely and complicatedly to these issues (4, 5). Adults are at the highest risk of poverty and neglect of human values and diminished faith and should be placed as priority in psychological studies of value and religion. Considering that until now, research on recognition of the faith periods based on the stages of development have been less considered, conducting a study that can providea scientific basis for the design and examination of the concept of faith of people in a particular cultural area based on the process of transforming concepts, is seriously needed. This first and foremost requires the need for accurate, valid and reliable tools for obtaining strong results.

Fowler (6) does not present a comprehensive definition of faith and only summarizes some of the characteristics of faith: “Faith is an inclusive thing in all human beings. We have been equipped with the capacity of faith from birth”. He focuses on the two characteristics of faith: universality and fundamentality: “Faith is so fundamental that no human being can live well without having it for a long time, and it is so comprehensive, namely when we slowly present symbols, slogans, or moral patterns, we express our faith. Clear faith is the only common phenomenon in all religions, the Christians, Marxists, Hindus, and Dinka (Ekman, 1995). Fowler (6) regards faith as a general conception and states: “Faith is a puzzle that is not easy to understand.”

Man’s orientation or reaction to himself, others, and the universe is called belief (7). Faith reflects human talent in seeing and feeling; the transcendent dimension and corresponding behavior reflects its capacity in the perception of meaning beyond materiality. In other words, faith is any kind of principle and guidance, belief and certainty, which gives meaning to one’s life and directs it and as a way of life originates from human nature (Mohammadzadeh, 2005).

Fowler (6) presents theory of faith, with a perceptual model about the effects of faith. This theory has raised the concept of faith, its relation to life, the goals of humanity, and the sense of creating meaning in life. According to Fowler (8), the theory of faith shows the way people understand faith throughout life.

The development of measurement methods and new psychometric theories have led to the emergence of new scholarly methods for assessing the talents, abilities and other psychometric characteristics of individuals that have been considered by the instructors, consultants, psychologists and other behavioral science experts. Although a number of instruments have been developed for measurement of religious tendencies and similar subjects, limited research has been carried out on the measurement of faith due to its newness. Because this tool (inventory) is designed to measure students’ faith, it is necessary to measure its validity and reliability among the students. Considering that the subject under study has an exploratory aspect, it is also necessary to provide an answer to the following questions:

1. Is there enough internal consistency between the set of questions that are presented to assess the students’ faith?
2. Is the set of questions designed to measure the students’ faith sufficiently valid?
3. What are the underlying components of faith inventory for students and how much are they saturated?

Method

The statistical population in this study consists of all 736 students of Islamic Azad University of Ahvaz in the academic year of 2016-2017. A multi-stage sampling method was used to determine the sample size. To this end, the population of each faculty was determined and divided into four faculties (Faculty of Agriculture, Faculty of Midwifery and Nursing, Faculty of Engineering and Faculty of Humanities) and participants who were randomly selected by lot from all four faculties in proportion to the population of each district based on sex. The faith inventory is designed to be applicable to all meta-religious areas with visible faith and implications. Therefore, the questions are designed to show people’s faith beyond religious orientations.

The main collection consists of 100 items. Initially, the content validity of the questions was approved by a number of professors, psychologists and counselors to ensure that the items are understandable and applicable to the student groups. After this stage, the items was administered for a group of 736 students from Islamic Azad University of Ahvaz. The initial validity coefficient of the inventory for the set of 100 questions was rtt = 966.0. For the second time, the validity of the inventory was calculated after the removal of other questions with factor load less than 0.3. The validity coefficient after the elimination of questions 3-10-31-35-38-39-41-58-59-93 for the 90-item set was recalculated and was rtt = 0.969. In the present study, the KMO value is 0.958 and the Bartlett test was 30853.115, which is significant at 0.0001. Thus, in addition to the sampling adequacy, the implementation of the factor analysis based on the understudy matrix can also be justified.

Table 1: KMO size and results of Bartlett's test of faith inventory

KMO	Bartlett's test	Sig
0.958	30853.115	0.0001

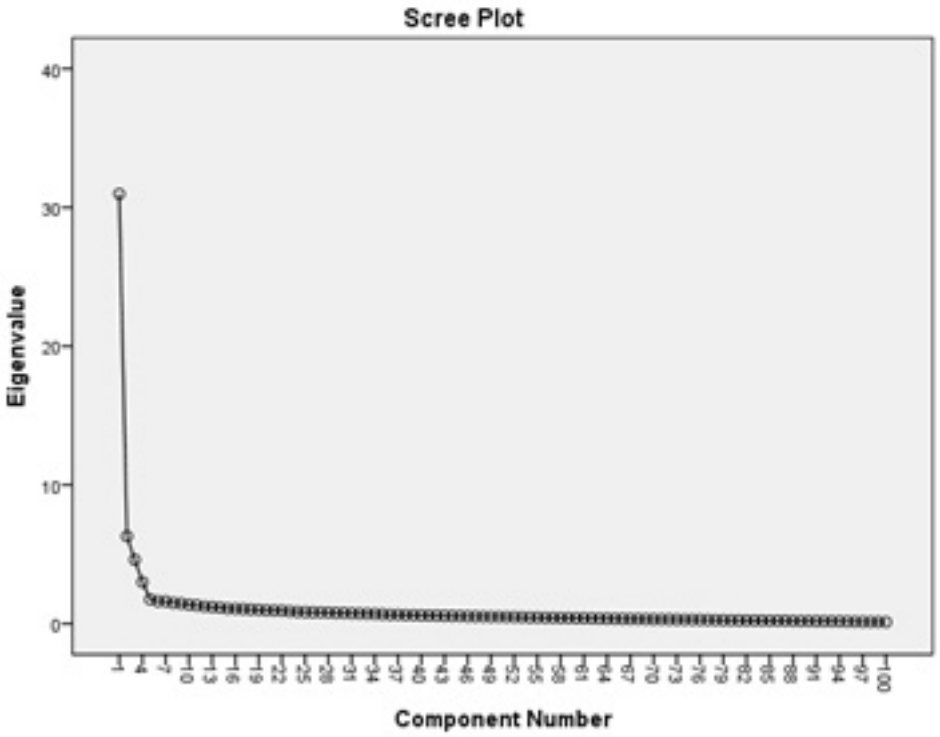
Table 2 shows the initial statistical characteristics that were obtained by the analysis of the main components, with a special value of 4 factors higher than 1, and the extent of explaining the common variance of variables for these four factors is equal to 44.887% of the total variance of variables.

Table 2: Primary statistical characteristics of a 100-question inventory

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	30.973	30.973	30.973	30.973	30.973	30.973	24.217	24.217	24.217
2	6.298	6.298	37.271	6.298	6.298	37.271	9.056	9.056	33.273
3	4.608	4.608	41.879	4.608	4.608	41.879	6.031	6.031	39.304
4	2.997	2.997	44.876	2.997	2.997	44.876	5.571	5.571	44.876

The slope design, which is a graph of the special values of a 100-item faith inventory, is shown in Figure (1).

Figure 1: Slope design



The slope design indicates that the contribution of the first factor in the variance of all variables is significant and differs from the contribution of other factors. In the next step, based on the special value, the percentage of variance and the slope design, four factors were considered as the basis for determining the final characteristics. Here, it is worth noting that some researchers in order to investigate the nature of relationships between variables and finding definitions of factors state that coefficients above 0.30 and coefficients higher than 0.40 are significant in the definition of factors and the coefficients below this limit are considered to be zero (random factor). For example, Jones (1954) used the lowest coefficient of 0.3, Houman (1988) used 0.35 and Reynold et al. (1981) used 0.4 values. In the present study, this coefficient is equal to 0.40.

Given that variables in factors 5 and 6 have a factor load, but the number of questions in these factors is less than 3, so according to the relevant theories, sometimes four questions and sometimes 10 questions are at least needed to form a factor. In this study, at least 4 questions were considered for the formation of the factor. Based on the results of factor analysis and the above-mentioned indicators, four factors were extracted from all questions and the special value of four factors/ fourth factor explain the value higher than 44.87. The first factor is a special value of 30.97 and

and ultimately the fourth factor justifies a special value of 2.99. After ensuring that the sampling is adequate and that the correlation matrix, which is the basis of the factor analysis, is not equal to zero in population, factor analysis was performed.

The special values of these four factors, the percentage of explanation of variance and the condensation percentage of the explained variance are shown in Table 3.

Table 3: Special value of the percentage of the explanation of the condensation variance of the four factors

Final Statistics			
Factor	Eigenvalue	Pct of Var	Cum Pct
1	30.97	30.97	30.97
2	6.29	6.29	37.27
3	4.60	4.60	41.87
4	2.99	2.99	44.87

The extracted factors were transferred to new axes using the varimax rotation method. The main matrix after the varimax rotation, which was obtained after 8 repetitions, is shown in Table 4 - next page

Discussion and Conclusion

To investigate the construct validity and answer the question that considers the number of the factors that saturate the faith inventory, the Principal Component Analysis (PC) method was used. Before performing factor analysis, sampling adequacy was proved using Kaisel Mager Olking (KMO) size, and also rejecting the null hypothesis by the Bartlett Sphericity test that the identity matrix is correct in the population; this shows that factor analysis is justifiable.

The factor matrix indicates that the first factor has the highest factor load and its contribution is also more significant than other factors. The results of factor analysis show that this scale has sufficient validity and is saturated with four factors. In order to simplify the extraction factors, the varimax rotation was used. After the interpretation and naming of the factors, the results are as follows: The largest factor load in the structure matrix is for question 36 (0. 797).

Questions 22-28-32-43-62-72-79-88-97-98-99 focus on two or three factors that are likely to be complicated questions.

The rest of the questions are very pure or their factor load in other factors other than the extracted clusters is negligible.

There is no question without factor load, and in each factor there are at least four variables.

A set of questions with a strong and meaningful correlation make up a piece of test that was extracted and named as follows.

1. From the 100 items of the faith inventory, 57 items are strongly correlated with the first factor marked as “certainty”.
2. The second factor with 14 items was marked “justice”.
3. The third factor with 9 items was marked as “jihad”.
4. The fourth factor measures “patience” and consists of 10 items.

References

1. Dadsetan, P. (2002). Evolution of ethical concepts and loving others among secondary school students. 18 papers on Psychology. Tehran: Samt Publication.
2. Robbins, A. (1990). Towards Prosperity. Translated by Mehdi Mojardazadeh 1994. Tehran: Motarjem Publication, Sixth Edition.
3. Akbari, R. (2005). Group faith. Qom: Islamic Center of Science and Culture.
4. Lotf Abadi, H. (2002). Ethical, value and religious development in adolescence and youth. Tehran: ISBN Publications.
5. Kaviani, M. (2004). Psychology of Religious Beliefs. Seminary and University Journal, No. 19.
6. Fowler, J.W.(1981).”Stages of faith the psychology of human. Development and the quest for meaning”. San Francisco: Harper & Row.
7. Smith, W.C. (1979). “Faith and belief. Princeton”. N, Princeton University Press.
8. Fowler, J.W.(2004). “Faith development at 30: Naming. The challenges of faith in a new millennium.”Religious Education. Vol. 99No.4.pp.405-421.

Table 4: Factor matrix after rotation

	Component			
	1	2	3	4
q36	.797			
q71	.787			
q60	.782			
q26	.776			
q8	.775			
q15	.761			
q69	.755			
q82	.752			
q11	.749			
q63	.744			
q77	.739			
q83	.734			
q84	.732			
q2	.729			
q52	.712			
q42	.698			
q34	.693			
q17	.689			
q56	.660			
q53	.650			
q7	.636			
q30	.622			
q81	.610			
q64	.609			
q37	.603			
q46	.603			
q5	.602			
q87	.590			
q90	.589			
q86	.587			
q47	.585			
q66	.581			
q49	.574			
q16	.573			
q57	.572			
q40	.570			
q54	.570			
q51	.560			
q28	.551	.424		
q61	.534			
q85	.533			
q98	.532	.435		
q97	.521	.437		
q13	.521			
q1	.521			
q12	.517			
q4	.499			
q62	.498	.436		
q95	.490			
q6	.478			
q32	.469	.443		
q55	.466			
q67	.465			
q79	.459	.414		
q73	.428			
q22	.426		.403	
q14	.422			
q29		.685		
q23		.654		
q24		.641		
q76		.630		
q21		.607		
q25		.566		
q88	.418	.541		
q50		.539		
q43	.494	.528		
q91		.514		
q72	.472	.507		
q44		.502		
q75		.453		
q45		.411		
q33			.573	
q100			.573	
q78			.561	
q27			.501	
q94			.491	
q48			.487	
q70			.476	
q99		.405	.467	
q65			.453	
q80				.771
q20				.754
q96				.742
q74				.737
q19				.706
q89				.676
q9				.657
q18				.647
q68				.606
q92				.417