

## Standardization of social intelligence questionnaire in male and female

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### Abstract

**Purpose:** The aim of this research the Normalization Social Intelligence Scale in Iranian Males and Females. 843 Males and Females (428 males & 415 femals) were chosen through random cluster method.

**Methodology:** The social questionnaire (Tet 2008) were answered by participation. checking the internal consistency showed that all of dialects, except dialects 1- 2- 6- 7- 8- 9- 10- 16- 18- 19- 24- 26- 29- 37- 38- and 41 have a high correlation with the total score, therefore 16 items from 45 items were omitted. Factor analysis revealed that the inventory consisted of four factors. These four factors explained 26. 85% of the variance. Internal reliability using Cronbach's alpha in sample of students (n =843) was. 61. **Findings:** Then, a sample of 50 Participants out of the 843 was randomly selected to examine test-retest reliability 2 weeks later, obtaining a reliability coefficient of. 61.

**Discussion:** As items were deleted, alpha, the scale mean, a scale variance, and item- total correlation were calculated main conclusions emerged from the results of this study: The Persian/Farsi version of the social intelligence Inventory had satisfactory levels of internal consistency among undergraduate Participants Iranian.

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## 1. Introduction

Intelligence is a concept that has long been interested in exploring dimensions, manifestations, features, and types of intelligence. Intelligence has led the outcomes and events in various aspects of life (Jachidius, 2008). Intelligence, unlike height, weight and age, is not visible or measurable. We can only evaluate intelligence indirectly by studying and comparing intelligent actions of individuals (Centraak, 2003). The concept of social intelligence was introduced by Thorndike in 1920. An expression that refers to the ability to understand others, to act intelligently and to behave in relationships with others and to apply them in adaptive social interactions (Kilstrom & Cantor, 2000).

## 2. literature Review

But Tharandike and his colleagues were not able to investigate the existence of such a sphere of intelligence through psychometric studies (Thorndike, 1936; Tharandike and Stein, 1937; quoted by Björkvius and Sturman, 2000), and therefore the concept of social intelligence Forgotten. The Psychoanalysis of Social Intelligence the Thorndike Classification (1920) classifies intelligence into three levels: the ability to understand and manage thoughts (abstract intelligence), real objects (mechanical intelligence) and people (social intelligence). In this Thorndike classic, social intelligence refers to the ability to understand and manage women and men, boys and girls, and the ability to practice wisely in human relationships (Kilstrom & Cantor, 2000; Lee, Wong, Daya, Maxwell, and Thorndar Thorb , 2000).

Individuals do not act in the same social situation. These individual differences in psychology literature refer to social intelligence. Recently, there has been a renewed interest in the concept of social intelligence in most scholars claiming to exist. Social intelligence has a close proximity with concepts such as competence and social skills, as well as with the concepts such as emotional intelligence and interpersonal intelligence (Björkvius & Sturman, 2000; Wiz & Sub, 2007). Social intelligence was first introduced as a single concept (Boitzitz and Salah, 2004), but later, others defined it as two types of individual intelligence that deal with two aspects of Intelligence within and between Individual Intelligence - including knowledge and awareness It is about yourself and others (Craven, 2009).

Mas and Hunt (1927) defined social intelligence as "the ability to accompany others" (Kilstrom & Cantor, 2000). Cantor and Kilstrom (1989) defined social intelligence as the backbone of saving people's knowledge and awareness of the social world.

New York, Stuck and Nishida (2009) defined social intelligence as an essential ability for individuals to communicate, understand, and engage effectively with others. According to Selz (2007), social intelligence can be widely defined as a kind of intelligence behind the interactions and behaviors. Valinous, Ponamaki and Remplay (2007) define social intelligence a better understanding of the relationships between human beings, feelings, thoughts and behaviors.

The final problem in social intelligence studies is the measurement of its structure. Different scales have been used to measure social intelligence. The primary scales were focused on its cognitive aspects. Later scales based on evaluations and judgments of others (teacher, father, mother and others), interpretation of photographs and video films. . . Have been developed (Doukhan & Chatin, 2009). Unfortunately, due to the lack of agreement on the definition of social intelligence and the possibility of profit in the reports, there is not a high correlation between scores derived from different scales. In addition, some of these methods are difficult to implement and time consuming. For the same reasons, Silur, Martin Yousen and Dahl (2001) have developed a new self-assessment scale for social intelligence to overcome these limitations.

Another test that has been made to measure social intelligence is Ang Tag (2008). The questionnaire consists of 45 double-check questions (yes, no) and answers are given with the correct and incorrect

option. In Iran, after translating the question of social intelligence and implementing reforms and changes by several experts in English and psychology, the correctness of its translation has been confirmed by six experts. The formal validity of the questionnaire has been approved by eight experts. The purpose of this study was to standardize the social intelligence questionnaire, which has acceptable reliability and validity.

### 3. Methodology

The method of this study is correlation of factor analysis type. The statistical population of this study was all married women and men in 1394. The target population or statistical population of the present study included women and men in the centers of Tehran, Central, Lorestan, Kermanshah, Isfahan, Gilan, East Azarbaijan, Khuzestan, Fars and Khorasan Razavi provinces. Of the 1,300 responses, only 843 responses were corrected, of which 428 were (50.8%). Of the subjects, 25.6% were graduate students, 54.6% had undergraduate degrees. The mean age of the subjects was 82.22 and the standard deviation was 3.92. Maximum and minimum age of subjects is 63 and 17 years respectively.

Social intelligence questionnaire (Tet, 2008) was used to collect data. This test has 45 items of two options (no-no), whose options are scored with zero and one, and each subject's score is between 0 and 45. Items 2- 3-6-13- 18- 20- 21- 24- 29-37-38- 41- 44 are scored in reverse order. More points mean more social intelligence. Ang Tone Tet (2008) reported the credibility and validity of the test to a satisfactory and acceptable level.

To determine the statistical characteristics of the questionnaire, the common methods of descriptive statistics are used and for estimating the coefficient of validity of the questionnaire, the general formula of the alpha coefficient of Crobnak is used. The main component analysis method (PC) was used to investigate the validity of the questionnaire. To investigate the question of which questionnaire was saturated with a few factors, the obtained factors (after factor analysis by PC method) were given using Abelimin's rotational rotation method.

### 4. Finding

**Table1.** validity coefficient of. 45 questions test

Cronbach's Alpha	Corrected Item-	Scale Variance	Scale Mean		Cronbach's Alpha	Corrected Item-	Scale Variance	Scale Mean	
.556	.009	18.434	31.0819	q24	.541	.142	18.252	30.6489	q1
.531	.239	17.726	30.7509	q25	.546	.086	18.055	30.9573	q2
.542	.114	18.189	30.7117	q26	.541	.127	17.918	30.9039	q3
.533	.206	17.693	30.8327	q27	.537	.184	18.019	30.6975	q4
.543	.107	17.955	30.9881	q28	.543	.111	17.988	30.8909	q5
.551	.042	18.221	31.0320	q29	.550	.049	18.190	31.0142	q6
.539	.145	17.789	31.0320	q30	.553	.015	18.366	30.8992	q7
.541	.128	17.857	31.0854	q31	.553	.012	18.373	30.9087	q8
.531	.235	17.636	30.8019	q32	.556	.010	18.453	30.9454	q9

. 542	. 116	18. 091	30. 7722	q33	. 548	. 049	18. 370	30. 7200	q10
. 536	. 177	17. 679	30. 9715	q34	. 540	. 136	17. 968	30. 8149	q11
. 537	. 175	17. 852	30. 7983	q35	. 539	. 150	17. 923	30. 8114	q12
. 532	. 216	17. 598	30. 8790	q36	. 540	. 138	17. 972	30. 8055	q13
. 557	- . 016	18. 467	31. 1079	q37	. 539	. 145	17. 817	30. 9502	q14
. 536	. 173	17. 672	31. 0344	q38	. 532	. 226	17. 744	30. 7628	q15
. 536	. 207	18. 009	30. 6785	q39	. 560	- . 051	18. 619	30. 9870	q16
. 525	. 300	17. 464	30. 7794	q40	. 541	. 153	18. 234	30. 6465	q17
. 553	. 005	18. 437	30. 8280	q41	. 551	. 032	18. 271	30. 9834	q18
. 537	. 209	18. 045	30. 6655	q42	. 564	- . 078	18. 737	31. 0320	q19
. 537	. 207	18. 060	30. 6619	q43	. 536	. 172	17. 723	30. 9300	q20
. 538	. 151	17. 781	30. 9739	q44	. 536	. 170	17. 705	30. 9763	q21
. 533	. 233	17. 802	30. 7272	q45	. 535	. 188	17. 804	30. 7995	q22
					. 529	. 239	17. 511	30. 8778	q23

In case of removal of each question and correlation, each question displays the whole test. According to this table, the coefficient of validity (homogeneity) of the test is 547 (number of females = 45 people = 843 54 = 0 alpha). As Table 1 shows, the coefficients of credit will increase if questions that have a weak correlation with the test are deleted (as shown in the table column). After eliminating these questions, the coefficient of validity of the test is 64. (The number of females is 32, the number of subjects is 843, and the alpha = 0.64). The extent of the subscription of the short-form collections material obtained through the analysis of the main components. The minimum subscription rate is 0.025-1.26-0.190-0.164 0.46-0.1629-0.166-0.1161 to questions 33.32.22.23.3.12 and has the highest rate of subscription Is equal to 418-48 / 0 and 37/0 to questions 36-43 and 35.

**Table 2.** shows the specific value, percentage of explanation, and the compression percentage of shorter form factors

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	2.754	9.497	9.497	2.754	9.497	9.497	2.160	7.450	7.450
2	1.774	6.116	15.613	1.774	6.116	15.613	2.113	7.286	14.735
3	1.577	5.437	21.051	1.577	5.437	21.051	1.762	6.077	20.812
4	1.489	5.135	26.185	1.489	5.135	26.185	1.558	5.373	26.185
5	1.242	4.283	30.468						
6	1.206	4.160	34.628						
7	1.159	3.995	38.623						
8	1.107	3.817	42.440						
9	1.069	3.685	46.125						
10	1.047	3.610	49.736						
11	1.008	3.475	53.211						
12	.978	3.374	56.584						
13	.951	3.280	59.865						
14	.905	3.120	62.985						
15	.879	3.030	66.015						
16	.859	2.963	68.978						
17	.849	2.929	71.907						
18	.813	2.805	74.712						
19	.798	2.753	77.464						
20	.776	2.675	80.139						
21	.736	2.539	82.678						
22	.718	2.476	85.154						
23	.685	2.361	87.515						
24	.673	2.320	89.835						
25	.662	2.283	92.119						
26	.593	2.046	94.165						
27	.580	1.998	96.163						
28	.571	1.968	98.131						
29	.542	1.869	100.000						

Based on the results of factor analysis and varimax rotation, and the indicators mentioned, four questions are extracted from the set of questions. According to these four factors, 185.26% of the total variance is explained. From the scree scheme of this questionnaire, which is shown in Fig. 1, it can also be deduced that the contribution of the first factor to the variance of all variables is significant and the share of the other factors is quite distinct and identifies four factors.

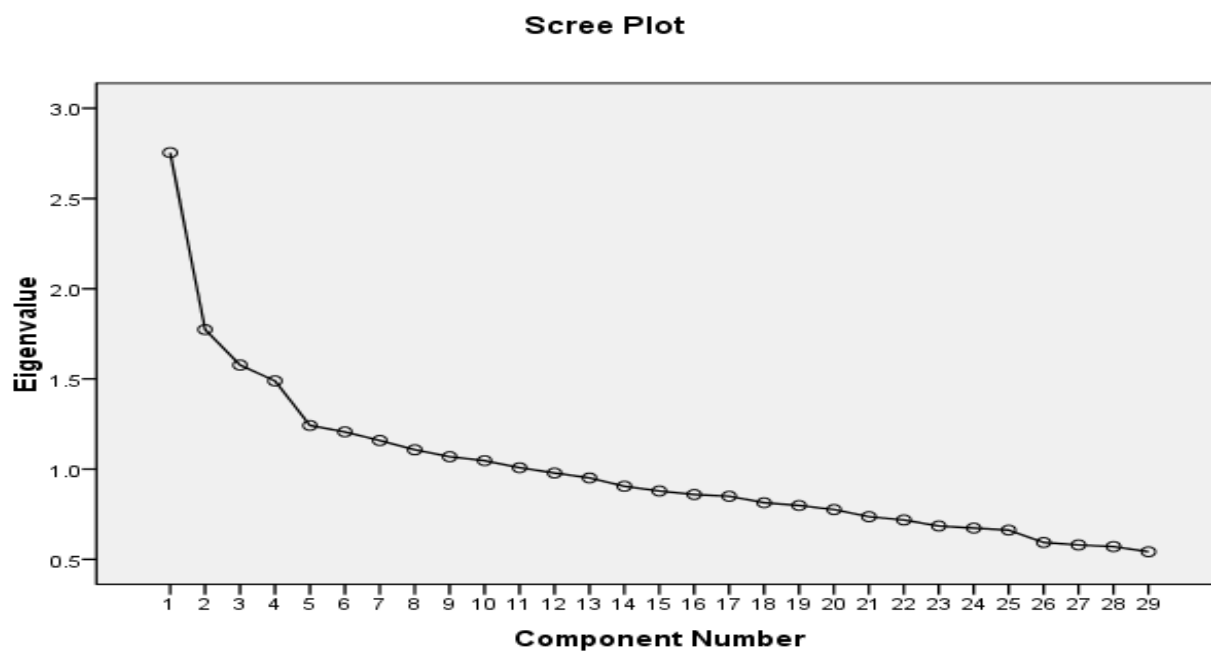


Table 3. Rotational test matrix

	Component			
	1	2	3	4
q39	.588			
q40	.444			
q42	.537			
q43	.644			
q17	.414			
q15	.321			
q25	.312			
q32	.327			
q33	.311			
q23		.418		
q27		.444		
q28		.425		
q30		.509		
q31		.489		
q34		.454		
q36		.482		
q45		.414		
q3			.392	
q13			.515	
q14				

	594	
q20	.	
	543	
q21	.	
	368	
q44	.	
	468	
q22	.	311
q4	.	429
q5	.	528
q11	.	418
q12	.	361
q35	.	401

See Figures of the matrix of Table 3 for the following. 1- The questions are either very pure and lacking in complexity or their factor load on the main factors of distance (not more than 0.1) is a lot of other factors. 2. The largest coefficient in the structural matrix (the correlation of each question with each factor) with factor load greater than 0.6 is belonging to questions 14-14-39-30- 142. Based on the matrix of factor structure, a set of questions that are jointly associated with a factor and form a trick are as follows and respectively, the most factor load is extracted and named. First factor: 15- 17- 25-32-39-40- 42- 43-33 Second factor: 23- 27- 28- 30- 31- 34- 36- 45. Third factor: 3-13- 14-20- 21-44 fourth factor: 4- 5- 11- 12- 22- 35

**Table 4.** Accreditation coefficients of the completed questionnaire

Alpa after 2 week	Alpha	number	factors
.56	.58	9	First
.53	.55	8	Second
.36	.38	6	Third
.32	.30	6	Fourth
.61	.63	29	Total

**Table 5.** prediction of variance of subscales

fourth Factor	third factor	second factor	first factor
0/21	0/23	0/28	0/28
21	23	28	28

**Table6.** Characteristics of the scores of the shortened test

Standard Minimum maximum change range								
Change rate	maximum	minimum	Standard deviation error	standard deviation	Medium	mode	Mean	
8	9	1	0/05	1/45	9	8	7/62	first factor
8	8	0	0/06	1/78	6	5	5/18	Second factor
6	6	0	0/05	1/33	4	4	4/11	Third factor
6	6	0	0/04	1/14	5	5	4/6	Fourth factor
21	29	8	0/13	3/65	21	22	21/32	Total

**Table 7.** factors name

Percentage of agreement	Referees agreement	Naming	
75	6	Understand the situation	first factor
75	6	social skill	Second factor
87	7	Social Awareness	Third factor
100	8	Character (presence)	Fourth factor
The cut-off point is in the. / 75 percentage of the agreement			

**Table8.** Percentile ratings

Percentile	90	80	75	70	60	50	40	30	25	20	10
score	26	25	24	23	22	21	21	19	19	18	17

**Table 9.** T scores of the shortened questionnaire

score	Z	T	score	Z	T
11	-2/82	22	21	0/08	49
12	-2/54	25	22	-	52
13	-2/27	27	23	0/18	55
14	-2	30	24	0/46	57
15	-1/72	33	25	0/73	60
16	-1/45	36	26	1	63
17	-1/18	38	27	1/28	66
19	-0/63	44	28	1/55	68
20	-0/35	46	29	1/83	71
				2/10	

## 5. Discussion

In the present study, the results showed that the instrument validity coefficient, based on the general formula of Kronbann's alpha, initially had a coefficient of 0.54. However, this coefficient was 0.65 after removal of 13 questions, which had a weak correlation coefficient. After obtaining the coefficient of



validity, factor analysis was used to perform the factor analysis, taking into account the theoretical background of the questionnaire, using the Varimax method for factor rotation. The factor analysis has several applications, including data loss and identification of structures. Through factor analysis, 45 questions were reduced to 29 questions. Basic component analysis analysis 1) Factor analysis assumptions 2) Attention to the percentage of explanation of variance 3) Scree diagram of the scree graph, 4 factors were extracted. These four factors account for 13.66% of the total variance and the contribution of the one factor with a special value of 17.79 9.9% of the variance among the materials of the questionnaire. In all of the rotated matrices, the first factor creates a clean and stable factor called "understanding position".

The results of Varimax rotation and the naming of agents indicate that the factors that are measured in the questionnaire are as follows: position understanding, social skills, social awareness, personality (presence and integrity). Noteworthy point about extraction of factors, after factor analysis, extracted four factors. To identify the agents, questions were written from the original questionnaire for each separate factor. Then, the agent's questions were shown to a number of psychologists and they were asked to: a) set questions about which component b) which questions did not match the named agent. All psychologists, who provided the questions to each agent, agreed on the names of the agents, and some of them were in the form of some questions that were considered in setting up the questionnaire.

The results showed that the most percentage of explanation for variance was for positional understanding, social skills, social awareness and personality, respectively. In practice, the validity of a test can be rarely exceeded by a factor of 0.60, so the coefficients are between 0.20 and 0.20, which are relatively high coefficients. Even if the coefficients are small in some cases, it seems to be insignificant, but in some cases, this small percentage can be very useful in practice.

The ultimate goal of research on standardizing testing is in addition to providing valid and feasible tools for measuring existing traits and attributes, providing a benchmark, or an equally objective measure. In other words, the final result of the study is to produce a scale or standardized data that describes the relative situation and order of the individual in an appropriate reference group and thus provides a general framework for comparing the scores. In the present study, in order to facilitate the interpretation of the obtained scores, the standard score including the degree of percentile and Z score, and then the T score of 50 and 10 standard deviations were prepared. The present article is based on the research project ((Standardization of Social Intelligence Questionnaire in Women and Men) of Islamic Azad University, Khomein Branch (Research Deputy).

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