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Validating the Young Early Maladaptive Schema Questionnaire (YEMSQ) among Students

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Objective: Early maladaptive schemas are deep feelings or patterns that are formed in childhood and recur later in their lifetime. Young has classified these schemas. The purpose of the present study was to validate the Young Early Maladaptive Schema Questionnaire (YEMSQ) for early maladaptive schemas in a group of university students.

Methods: Five hundred and seventy nine students were randomly selected from the freshman students of 2009 semesters. The participants completed the YEMSQ and Criterion questionnaires. Then data was analyzed by Factor analysis of Varimax Rotation sort. Factor analysis by principle components analysis (Varimax Rotation) revealed eighteen factors (that account for a high level of the variance).

Results: Data were indicative of high level of Coranbach, Alpha and Split-half (86% and 91%) reliability coefficients of the YEMSQ and the extracted factors. The convergent and discriminate validity of the questionnaire was examined by some measurement tools for psychological distress, positive and negative affect, self- confidence, cognitive vulnerability for depression and personality disorder. The correlation results for the six criteria are sequentially as follow: 37%, 34%, 40%, 39%, 35%, and 36% which were significant at p<0001. There were no significant differences between male and female (except for the factors 7, 12, and 14) and age groups with respect to early maladaptive schema degree.

Conclusion: The results of factor analysis are consistent with previous findings showing that YEMSQ can be used in research and clinical settings and in screening the normal among early maladaptive schema population in Iran.

Declaration of interest: None.

Introduction

Adler used the word "schema" for the first time in 1929 [1]. According to Young [2], early maladaptive schemas are deep feelings or patterns that are formed in childhood and recur later in their lifetime. The word "Schema" is generally defined as structure, framework and/or outline [3]. In the realm of cognitive therapy Back and Rush [4] motioned the concept of schema is their first writings. They believed that "schema" is a cognitive structure, used for vetting, decoding and assessing the stimulus that affect an organism [5]. For a more precise study of this opinion, Young [1] marked and classified a number of schemas which are called "the Young early maladaptive schema Questionnaire" (YEMSQ) [6]. According to Young & Klosko [7], the schemas were formed due to the following reasons: unsatisfied emotional needs of secure attachment to others (such as the need to safety, stability, kindness and acceptance),autonomy, sufficiency, identity, freedom in expressing the needs and healthy excitement, spontaneity, realistic recreation and limitations and self control in the childhood period [8]. Young [1] introduced 18 schemas: 1. Abandonment, 2. Mistrust-abuse, 3. Emotional deprivation, 4. Defectiveness/on lovability, 5. Social isolation/alienation, 6. Impaired autonomy/performance, 7. Vulnerability to harm or illness, 8. Enmeshment, 9. Failure to achieve, 10. Entitlement -superiority, 11. Insufficient self-discipline, 12. Subjugation, 13. Acting out, 14. Admiration-recognition seeking,

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15. Pessimism worry, 16. Emotional inhibition, 17. Unrelenting standards, and 18. Self-punitiveness (1). In order to measure the 18 scales, Young provided 75 item questionnaires in the first editions and a 90-item form, for the final edition (9). Young, Norman and Thomas (10) validated the 75-item questionnaire. The reliability of this questionnaire using an internal consistency (Cronbach'alpha) and test-retest were 0.95 and 0.81, respectively. The validity of questionnaire was measured by instruments of psychological distress, self-esteem, cognitive vulnerability for depression and personality disorder symptoms and showed a negative relationship between the YEMSQ and positive features such as self-esteem, positive emotions and positive relations to features such as personality disorder, distress, negative emotions and performance disorder (10). The reliability of the questionnaire was measured by internal consistency and test-retest analyses which were 0.92 and 0.79, respectively (10). In a study by Abramson et al. (11) on the validity of YEMSQ questionnaire on a clinical sample, a symptom depression index was confirmed. In another study by John et al. (12) the reliability and validity of the YEMSQ questionnaire were put to test on a 292 students sample. The reliability was measured through internal consistency and test-retest method which were 0.93 and 0.81, respectively (13). In a study by Glen et al. (14) the reliability and validity of the questionnaire were analyzed on a sample of 422 students. The reliability of YEMSQ was estimated through internal consistency and test-retest method which were 0.93 and 0.78, respectively. There was a meaningful relationship between its validity and the negative beliefs questionnaire of Young (1). Back and Emery (15) in their study mentioned the relationship between dysfunctional attitude, positive-negative emotions, phobia, and anxiety to YEMSQ.

In order to assess the reliability and validity of the short form questionnaire of Young (75 items) in Iran, Ahi et al. (16) showed that the questionnaire was reliable according to internal consistency and test-retest which were 0.85 and 0.76, respectively. They also showed that Schema Questionnaire-Short Form was structurally valid enough to be used for Iranian students. It should be mentioned that the questionnaire used in this study was the short form and was later revised to a 90-item questionnaire whose total structures were also modified.

What did this study explore?

Psychologists are using this questionnaire as a valid device for identification and therapeutic purposes but they are not aware of its validity and reliability. Therefore there is a need for a precise questionnaire for this proposes a questionnaire that can identify the maladaptive schemas precisely and is suitable for disorder identification and proper to our culture. The aim of the present study is to study the psychometric (reliability and validity) features of YEMSQ questionnaire.

Materials and Methods

Design: The methodology used in this research involved correlation design. Factor(s) were chosen according to two indices: a) Kaiser index (17) that indicates the rotation factors with scores more than 1. b) Catlle' Scree test (18) which is a decision making method for the selection cut spot of factors. The extracted factors in this study one based on the Scree' test and questionnaire framework, then data was analyzed by two independent sample t-test and confirmatory factor analysis of Varimax Rotation sort.

This study used Confirmatory Factor Analysis (CAF), a technique method for analyzing bunch of data that have several preconceptions in Confidence questionnaire. Confirmatory factor analysis was used by principle components analysis (Varimax Rotation) and by applying SPSS16 software indicated eighteen factors (that account high level of the variance).

Population and process of sampling: The population of this study included all male and female students of university of Isfahan in 2007-08. In order to choose the sample, multistage cluster sampling method was used. The advantage of this type of sample selection is that it increases the probability of sample being the referent of a bigger society.

According to Cochran formula, 579 subjects from among all the students were selected in two phases using a multistage cluster sampling method (394 subjects in the 1st phase and 185 subjects in the 2nd phase).

Their demographic features were as follow: age average, being employed, indigenous and marital status of females subjects were 21.67 with a standard deviation of 1.68 years, 3%, 66% and 2%, respectively whereas the same features for males were 22.84 (1.97) years, 15%, 48% and 4%, respectively. Sample distribution regarding the faculties were as follow: humanities (42%), basic science (23%), engineering (16%), and agricultural (19%).

In this research, first the global Bartlet test was used, then to study the sufficiency of the sample and validity of gathered data for a factor analysis a KMO test was used whose results are presented in table1.

Table 1. Global Bartlet test and KMO

Global Bartlet test			KMO
p	df	X²	Sufficiency of the Sample
0.0001	393	17364.28	0.81

The presented results showed that the sample size was sufficient for doing factor analysis. The findings of Table 1 showed that KMO=0.81 and the calculated square of X^2 for Global Bartlet test was (17364.28) which is meaningful by a p<0.0001. In other words, the hypothesis of correlation matrix is not accepted but the data was sufficient for a factor analysis and size of the sample.

The process of data collection: The data collection procedure took place in two phases. Our sample was given the schema questionnaire for which they provided answers in 45 minutes limit. (Permission from faculty and the teacher was gained before hand). After the first phase, 400 subjects were selected according to the random clustering method. In this phase 6 of the questionnaires were answered incompletely and were omitted from the selected sample reducing the sample population to 394 (204 females and 190 males). In order to assess the validity of the questionnaire, in the 2nd phase, 200 subjects (91 males and 119 females) were selected

based on the multistage cluster sampling method and completed a package of self-report questionnaires. In this phase 15 of the questionnaires were omitted due to being blemished, reducing the subjects to 185 (85 females and 110 males).

For the sake of research moral, the subjects were also told that 'these data are gathered for research purposes and that their identities will be kept confidential. It was also announced that subjects can get further information on the results of this study via e-mail.

Instruments: The instruments used were as follows:

YEMSQ: The instrument used is this study was the third edition of Young's schema questionnaire (1) which analyses the early maladaptive schema in 18 aspects. This 90-item questionnaire assesses the extent of YEMSQ. Each item scored from 1 to 6. Therefore, the questionnaire score was a total sum of all these scores. The internal consistency coefficient of the YEMSQ was calculated via Cronbach's alpha and the half-split method which were 0.91 and 0.86 for the whole sample, respectively for females (0.87 and 0.84) and males (0.84 and 0.81). The therapists and researchers have used this questionnaire to analyze the maladaptive schemas previously (19,20).

The questionnaire was originally in English which was meticulously translated to Persian by the researcher himself. In order to assess the veracity of the translation, and comparing the English and Persian versions, two experts back translated the Persian version to English and then translated that into Persian again. Finally, the face validity and content validity of the questionnaire were evaluated by experts (psychologists, counselor of cognitive therapy) and some modifications were done and after doing some modifications and revisions the Persian form for the research was prepared.

The convergent and discriminate validity of the YEMSQ questionnaire have a negative relationship with positive characteristics such as self-esteem and positive emotions and a positive relationship with personality disorders, helplessness, negative emotions and dysfunctional

attitude. Questionnaires used as criterion assesses the validity are as follow:

Beck Depression Inventory (BDI): Level of depression symptoms was assesses by the BDI (4,21), a 21-item self-reporting inventory, and each item score ranges from 0 to 3 scales (22). Beck reported a mean alpha of 0.81 for use with the non-psychiatric sample. Gudarzi (23) in a study on shiraz university students reported beck inventory Cronbach's alpha 0.71 and In this study the reliability of Cronbach's alpha and split-half method were 0.72 and 0.73 respectively.

Dysfunctional Attitude Scale (DAS): The DAS (24) is a 40-item self-report inventory that assesses excessive and rigid beliefs which are hypothesized to constitute a cognitive vulnerability factor for depression (4). Each item rated from 1 to 7 scales. Dobson & Breiter (25), Kuiper & Olinger (26) reported an internal consistency of 0.74 for DAS on a sample of 2023 depressed patients. In a study on a sample of 30 depressed patients for DAS using the test- retest method the reliability was calculated 0.72 (27). In this study the reliability of Cronbach's alpha and split-half method were 0.74 and 0.78, respectively.

Personality Diagnostic Questionnaire-Revised (PDQ-R): The PDQ-R (28) is a self-report instrument designed to assess DSM-III-R Personality Disorder (PD). This questionnaire includes 100 items in the form of true/false questions. Zimmerman & Coryell found significant correlations between a structured clinical interview (Structured interview for personality disorder, SIDP) and the corresponding dimensional scores on the PDQ-R for all PDs. In this study the reliability according to Cronbach's alpha and split-half method were 0.75 and 0.74, respectively.

Positive/ Negative Affectivity Scale (PANAS): The PANAS (29) includes 20 items, 10 related to PA and 10 to NA, rated on a 1 (very low affectivity) to 5 (very high affectivity) scale. Scores for the PA and NA subscales can range from 10 to 50. Watson et al. (29) have extensively demonstrated the scale's validity and reported coefficient alphas in the range of 0.86 to 90 for PA, and 0.84 to 0.87 for NA. The amount of these scales in Mozaffari's (30) study in Iran via a Cronbach's alpha was 0.83 for PA and 0.82 for NA and in a test-retest was 0.65 for PA and 0.68 for NA.

Self-Esteem Questionnaire (SEQ): The SEQ (31) is a 10- item scale that assesses global self-esteem. Items are rated on a 1 to 5 scale. Rosenberg (31) reported a coefficient alpha of 0.92 for the SEQ. Silber & Tippett (32) reported a test-retest reliability over a 2-week period of 0.85 and correlations of 0.56 between SEQ and psychiatrists' ratings of self-esteem. The reliability of this study on Iranian students reported a two-week period test-retest reliability of 0.75 and a Cronbach alpha of 0.87 (33). The reliabilities of this study using Cronbach's alpha and split-half method were 0.77 and 0.75, respectively.

Symptom Checklist-90-Revised (SCL-90-R): The SCL-90-R (34) is a 90-item self-report questionnaire assessing nine symptom dimension. Each item is rated on a 5-point scale. Derogatis (1983) reported adequate internal consistency for each of the nine symptom dimension (coefficient alphas ranges from 77 to 90) and good test-retest reliability over a one week period. Derogatis (34) reported an internal consistency coefficient with a coefficient alpha of 77% to 90% and a one week period test- retest reliability of 0.75 to 0.85 and found high convergent validity for the nine symptom scales compared to related Minnesota Multiphase personality Inventory Scales (ranging from 0.41 to 0.49). The reliabilities of SCL-90-R on Iranian students based on Cronbach's alpha and test- retest method were 0.86 and 0.76, respectively (35). The reliabilities of this study using Cronbach's alpha and split-half method were 0.76 and 0.79 respectively.

Results

The gathered information is presented in Tables.

As shown in table 2, the relationship of each question was not less than 0.30 to the factor and the 18 factors' Eigenvalues are all

higher than 1 which makes them meaningful. In this analysis, factors of Isolation/alienation, Pessimism/ worry, Impaired autonomy/ performance, emotional inhibition and Admiration/ recognition seeking with the amounts of 0.11, 0.10, 0.08, and 0.08, respectively, took the highest part in accounting for explaining the questionnaire variance while factors of Insufficient self-discipline, Entitlement/ superiority, self-sacrifice and subjugation with amounts of 0.01, 0.02, 0.03, and 0.04, respectively took the lowest part in expediting the questionnaire variance. Therefore, the YEMSQ is a multi-dimensional questionnaire, which is in accordance to the theoretical framework of questionnaire and can assess the YEMSQ.

According to Table 3 Coefficients Cronbach's alpha and splitting the EMSs in the sample for

90 items of the 18 extracted factors, has been satisfying (higher then 70), this shows the homogeneity of the questionnaire item.

Cronbach's alpha will generally increase as the intercorelations among test items increase, and is thus known as an internal consistency estimate of reliability of test scores, because intercorelations among test items are maximized when all items measure the same construct, Cronbach's alpha is widely believed to indirectly indicate the degree to which a set of items measures a single uni-dimensional latent construct. Cronbach's alpha has a theoretical relation with factor analysis, alpha may be expressed as a function of the parameters of the hierarchical factor analysis model which allows for a general factor that is common to all of the items of a measure in addition to

Table 2. Factor matrix of converged Varimax Rotation (n=394)

Factors	Items					Factors Loading					Eigenvalues	Variance Percent
1	1	19	37	55	73	0.56	0.71	0.67	0.63	0.56	1.97	0.07
2	2	20	38	56	74	0.67	0.87	0.59	0.62	0.71	1.85	0.06
3	3	21	39	57	75	0.47	0.76	0.56	0.43	0.54	1.58	0.04
4	4	22	40	58	76	0.76	0.67	0.76	0.81	0.39	2.41	0.11
5	5	23	41	59	77	0.71	0.63	0.53	0.49	0.44	1.85	0.06
6	6	24	42	60	78	0.72	0.65	0.43	0.40	0.48	1.51	0.03
7	7	25	43	61	79	0.73	0.71	0.66	0.63	0.53	2.37	0.10
8	8	26	44	62	80	0.65	0.74	0.65	0.55	0.47	1.87	0.06
9	9	27	45	63	81	0.67	0.71	0.64	0.46	0.54	1.66	0.05
10	10	28	46	64	82	0.54	0.51	0.47	0.70	0.65	1.59	0.04
11	11	29	47	65	83	0.68	0.38	0.43	0.47	0.64	1.52	0.03
12	12	30	48	66	84	0.69	0.64	0.73	0.56	0.67	2.14	0.08
13	13	31	49	67	85	0.68	0.53	0.61	0.58	0.47	1.67	0.05
14	14	32	50	68	86	0.51	0.57	0.51	0.49	0.53	1.36	0.02
15	15	33	51	69	87	0.51	0.58	0.56	0.48	0.46	1.32	0.01
16	16	34	52	70	88	0.63	0.67	0.73	0.62	0.56	2.13	0.08
17	17	35	53	71	89	0.81	0.73	0.71	0.57	0.60	1.96	0.07
18	18	36	54	72	90	0.67	0.61	0.56	0.49	0.53	1.58	0.04

Table 3. Coefficients of Cronbach' alpha and split-half of the YEMSQ

Variables		Male		Female		Total Sample	
Factors	Items	Split-Half	Cronbach Alpha	Split-Half	Cronbach Alpha	Cronbach Alpha	split-half
1	5	0.83	0.86	0.81	0.79	0.81	0.89
2	5	0.81	0.88	0.89	0.87	0.81	0.91
3	5	0.85	0.87	0.83	o.88	0.82	0.90
4	5	0.81	0.84	0.86	0.83	0.81	0.87
5	5	0.79	0.83	0.85	0.84	0.82	0.85
6	5	0.86	0.91	0.90	0.79	0.82	0.92
7	5	0.81	0.84	0.83	0.81	0.80	0.86
8	5	0.87	0.89	0.88	0.85	0.78	0.83
9	5	0.89	0.92	0.93	0.91	0.82	0.93
10	5	0.75	0.76	0.78	0.76	0.74	0.79
11	5	0.76	0.80	0.81	0.78	0.76	0.81
12	5	0.83	0.86	0.86	0.83	0.81	0.85
13	5	0.81	0.86	0.84	0.81	0.82	0.89
14	5	0.77	0.87	0.85	0.82	0.83	0.91
15	5	0.80	0.86	0.82	0.81	.084	0.87
16	5	0.89	0.89	0.86	0.83	0.81	0.88
17	5	0.79	0.81	0.80	0.78	0.83	0.83
18	5	0.78	0.85	0.82	0.80	0.84	0.89
Total	90	0.84	0.87	0.84	0.81	0.86	0.91

group factors that are common to some but not all of the items of a measure. Alpha may be seen to be quite complexly determined from this perspective.

Table 4 shows convergent and discriminate validity coefficients between YEMSQ factors and depression inventory, dysfunction attitude scale, DDQ-R, PA/NAS, self-esteem questionnaire and SCL-90-R. There is meaningful relationship in all of the above mentioned scales (p<0.001).

As shown in Table 5, participants achieved the highest scores in items 78 (3.21), 27 (3.06) and 10 (3.01) and the lowest scores in items 65 (1.12), 20 (1.66) and 61 (1.69) from among the YEMSQ items. There was a cutoff value of 2.17, sensitivity of 67.9 and specificity of 78.4.

Table 6 shows that males and females do not differ from each other in the whole questionnaire and the 18 factors except three factors. The three are: impaired autonomy/ performance, emotional inhibition and Entitlement/superiority. The average of these factors: Entitlement/ superiority (14.12) and emotional inhibition (21.76) in male students are higher than female students (11.53), (8.07). While the average of impaired autonomy/ performance in females (17.16) is higher than males (9.64). According to table 6, the age groups in the questionnaire and the 18 factors are not different in extent of their YEMSQ.

Table 4. Convergent and discriminate validity coefficients of YEMSQ with criteria questionnaires (n=185)

Factors	SCL-90-R(GSI)	SEQ	PA	NA	PDQ-R	DAS	BDI
1	0.37	-0.34	-0.36	0.37	0.34	0.36	0.39
2	0.43	-0.32	-0.32	0.34	0.31	0.36	0.37
3	0.41	-0.31	-0.36	0.37	0.32	0.34	0.33
4	0.43	-0.36	-0.31	0.34	0.37	0.35	0.31
5	0.40	-0.38	-0.32	0.35	0.33	0.37	0.40
6	0.41	-0.37	-0.32	0.34	0.35	0.39	0.35
7	0.37	-0.37	-0.37	0.36	0.35	0.37	0.43
8	0.34	-0.36	-0.34	0.37	0.34	0.33	0.41
9	0.38	-0.34	-0.39	0.40	0.40	0.31	0.33
10	0.36	-0.31	-0.33	0.37	0.37	0.40	0.39
11	0.37	-0.35	-0.34	0.37	0.38	0.33	0.31
12	0.39	-0.34	-0.38	0.41	0.38	0.41	0.31
13	0.41	-0.35	-0.38	0.41	0.32	0.40	0.37
14	0.33	-0.33	-0.30	0.34	0.43	0.35	0.32
15	0.38	-0.37	-0.31	0.34	0.34	0.43	0.36
16	0.41	-0.43	-0.31	0.35	0.36	0.40	0.36
17	0.39	-0.43	-0.33	0.35	0.39	0.33	0.34
18	0.38	-0.39	-0.37	0.36	0.41	0.37	0.35
Total	0.38	-0.36	-0.35	0.39	0.40	0.34	0.37

p<0.0001

Table 5. Statistics indexes of items, mean, standard deviations and normality (n=394)

Item	Mean	SD	Item	Mean	SD	Item	Mean	SD
1	2.87	1.84	31	2.07	1.64	61	1.69	1.02
2	2.71	1.61	32	2.80	0.94	62	2.68	0.71
3	2.98	2.48	33	2.12	1.67	63	2.47	0.98
4	2.29	1.54	34	2.29	1.22	64	2.14	1.19
5	2.78	1.89	35	2.67	1.22	65	1.12	1.11
6	2.56	1.76	36	2.72	1.46	66	3.34	1.14
7	2.29	0.96	37	2.65	2.81	67	2.09	1.21
8	2.28	1.76	38	2.20	1.98	68	1.67	1.14
9	2.78	1.12	39	2.98	1.71	69	2.41	1.12
10	3.01	2.24	40	1.88	1.51	70	2.24	1.24
11	2.20	1.12	41	2.48	1.65	71	1.94	1.14
12	2.89	1.77	42	2.59	1.76	72	2.77	0.89
13	2.90	1.89	43	2.71	1.76	73	2.44	1.49
14	2.78	2.24	44	2.29	1.14	74	2.21	0.78
15	2.88	1.90	45	2.18	1.16	75	2.29	0.97
16	2.20	1.45	46	2.76	1.42	76	2.92	1.41
17	1.99	1.47	47	2.74	1.98	77	1.72	0.99
18	2.72	1.98	48	2.45	1.19	78	3.21	0.98
19	1.97	2.04	49	2.24	0.97	79	1.98	0.98
20	1.66	1.34	50	2.22	0.93	80	2.12	1.41
21	2.89	1.65	51	1.91	1.41	81	2.94	0.81
22	2.76	1.56	52	2.1	1.12	82	2.61	0.76
23	2.95	1.87	53	1.67	0.96	83	1.64	0.55
24	2.15	1.11	54	2.78	1.89	84	2.10	1.12
25	2.78	2.12	55	2.27	0.98	85	2.56	0.45
26	1.98	1.24	56	2.89	0.91	86	2.24	0.92
27	3.06	3.06	57	1.79	1.14	87	2.45	1.18
28	2.24	1.14	58	2.78	1.15	88	2.48	0.68
29	2.26	1.24	59	1.90	1.21	89	2.89	1.41
30	2.76	2.77	60	2.49	1.66	90	2.47	0.78

Table 6. Results of multivariate analysis of variance and Hotelling's T^2 for evaluating age and gender differences in terms of 18 extracted factors

In Depended Variables								
Gender				Age				
Dependent Variables (Factors)	df	t	p	SS	df	MSS	F	p
1	1	1.52	0.175	791.13	4	197.78	0.96	0.324
2	1	2.13	0.274	413.56	4	103.39	2.28	0.267
3	1	4.57	0.327	347.63	4	86.90	0.89	0.356
4	1	1.76	0.291	389.74	4	97.43	2.01	0.324
5	1	5.01	0.243	783.15	4	195.78	1.02	0.216
6	1	2.27	0.417	453.76	4	113.44	2.34	0.257
7	1	1.69	0.001	363.27	4	90.81	0.78	0.511
8	1	5.27	0.232	372.51	4	93.12	2.67	0.312
9	1	2.18	0.407	833.51	4	208.38	1.23	0.231
10	1	1.77	0.196	391.16	4	97.79	2.67	0.311
11	1	5.25	0.257	379.75	4	94.93	1.19	0.413
12	1	2.25	0.001	361.56	4	90.39	2.23	0.512
13	1	1.78	0.182	762.25	4	190.56	1.67	0.612
14	1	5.30	0.001	437.48	4	109.37	2.89	0.315
15	1	2.20	0.534	389.21	4	97.30	0.87	0.511
16	1	1.78	0.161	412.14	4	103.03	2.53	0.314
17	1	5.11	0.211	820.21	4	205.05	1.76	0.331
18	1	2.22	0.324	405.71	4	101.42	2.89	0.172
Total	1	2.18	0.236	1023.12	4	255.78	1.61	0.521

Discussion

As it was earlier mentioned, the main purpose of this study was to examine the reliability and validity of YEMSQ in an Iranian population.

This study gives a logical analysis of YEMSQ of 18 factors mentioned by Young (1). The study of students sample resulted is based on confirmatory factor analysis by principle components analysis (Varimax Rotation) that is similar to factor structure of American samples (14). These findings correspond to findings of a study by Alex et al. (13). The variance percentage of this study is higher than that of the above mentioned studies whose findings correspond to previous studies (12). The internal consistency coefficients for the YEMSQ were measured by Cronbach's alpha and half- split method (0.91 and 0.86 for total consistency, 0.87 and 0.84 for females and 0.84 and 0.81 for males, respectively). The extracted factors are highly valid and satisfying. This shows a correspondence between these findings and findings of Young et al. (10) representing a homogeneity in the questionnaire (Table 3). The convergent and discriminate validity coefficients of the YEMSQ with depression inventory, DAS, PDQ-R, PA/NAS, self-esteem, questionnaire of Rosenberg and SCL-90-R were all significant on a sample of 185 individuals.

The correlation between the subscales in YEMSQ and criterion-related questionnaires correspond to findings of a study by Young et al. (10). Also this finding is similar to theories of depression and self-esteem (35). It is similar and corresponding to DAS and PA/NAS in the same way (15).

There was no signification of difference in factors and age groups regarding the extent of YEMSQ between males and females in this study, and the reason why age and sex were considered as independent variables was to, both, examine the age groups with Young's et al theory (7) in which they believed that schema one formed in child hood, recalled in the upcoming years and that sex does not affect its formation (7). The researcher hypothesized that no significant different exists between age and sex; this corresponded to Young's theory (2).

One of the positive points about this research is that the 18 factors were confirmed as Young (2) introduced them. This is less likely to happen when speaking of norm referencing tests. Two factors seem to be affective here: The first one is the homogeneity of our sample; both subjects and questionnaire providers were students. The second one is due to the para-cultural status of schemas in which maladaptive schemas act similarly for different cultures.

One of the limitations of the present study was to study the psychometric (reliability, validity) features of YEMSQ questionnaire with non-clinical sample, which is deficiency in this study. It was also hypothesized that a similarity between clinical and non-clinical samples in YEMSQ exists (13). These findings from clinical samples should be thoroughly studied to replace and test these instruments in other clinical studies in Iran.

It is recommended that the choice of questionnaire to considered regarding the population clinical or non-clinical. It is also suggested that researchers who use the questionnaire in other studies in Iran with clinical subjects and different populations measure the reliability and norm-referencing the questionnaire.

The findings of this research in relation to validity and reliability, confirms other studies (7). It seems that this instrument can be used for selection purposes and studying the YEMSQ in research, clinical and therapeutic environments, especially in treatment of personality disorders.

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