Psychometric Properties of Iranian version of Clustera Personality Disorder Questionnaire

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ABSTRACT

Objective: This study was conducted to determining psychometric properties of Cluster A personality Disorder Questionnaire in Iran.

Method: this was a methodology study. Statistical population consisted of 1375 students of Islamic Azad University North Branch, Central Branch, Roudehen Branch and Karaj Branch selected using random sampling method. Of completed 1375 questionnaires, 1303 questionnaires were selected because of invalid and malformed collected questionnaires. Data were analyzed using descriptive statistics-mean, standard deviation inferential statistics- determination coefficient, and Cronbach's alpha- to examine validity and reliability of test;Millon Personality Disorder Questionnaire considered as external benchmark. In addition, t and z tests were used for standardization.

Findings: results showed the obtained Cronbach's alpha for subscales including Paranoid, Schizoid, and Schizotypal equal to 0.610, 0.674, and 0.650, respectively. Internal consistency of questionnaire items was significant based on Cronbach's alpha at level of 0.05 (P<0.005) indicating internal stability, validity, and reliability of test. Evidences from simultaneous validity correlation indicated positive and significant correlation between scores of two tests.

Discussion and Conclusion: it can be stated in accordance with the results obtained from study that Cluster A Personality Disorder Questionnaire is a valid and reliable instrument to diagnose clinical symptoms of cluster A personality disorder in Iranian community.

Keywords: Standardization; a personality disorder; psychometric properties; Iran.

1. INTRODUCTION

Personality disorder is one of the most disabling psychological disorders (Seligman and Aperture, 2016); according to the definition of DSM-IV-TR, this disorder is a sustainable pattern of internal behavior and experience that are considerably opposed to cultural expectations. This is a pervasive and inflexible disorder initiating at adolescence period or adulthood leading to distress and disorder by the passage of time (American psychiatric association, 2015).

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This disorder is resulted from a complicated interaction between personal and environmental genetic readiness and affect intellectual performance scopes such as self-control, behavioral, cognitive, emotional, interpersonal, and biological processes (Sadvk; Sadvk,2016). Prevalence of this disorder has been estimated to 10-20% among public population (Sadock, Kaplan; Sadock,2015) and to 51-86% among psychiatric patients (Tyrer et al.,2015).

Studies have indicated higher rate of personality disorder among young people so that they are more vulnerable to such disorders (Chabrolet al.,2007); there is 18.6% rate of personality disorder prevalence among young people (Moranet al.,2006). This disorder is along with other mental disorders such as drug abuse, mental disorders, impulse control disorders, eating disorder, anxiety disorder, and suicide (Millon et al.,2004).

According to the fifth version of diagnosticstatistical manual of mental disorders (DSM-IV-TR), personality disorders are classified to three groups regarding their descriptive similarities. These categories are as follows: cluster A disorders includingparanoid, schizoid and schizotypal that may seem strange and odd people; cluster B disorders includingantisocial personality disorder, borderline personality disorder, histrionic personality disorder and narcissistic personality disorder that are often dramatic, emotional or unpredictable individuals; cluster С disorders includinggavoidant, dependent, and obsessive-compulsive personality disorders that anxiety and fear are their traits (Esbec and Echeburua, 2011; Ganji, 2013).

To evaluate personality disorder two main approaches (categorical &dimensional) are used usually. The fourth version of DSM-IV-TR was related to categorical approach to personality disorder; this approach is simply used facilitating diagnosis and treatment process (Sadock and Sadock, 2009).

There have been various instruments such as diagnostic personality disorder questionnaire-version four for personality disorder appraisal; this questionnaire has been designed based on DSM-IV evaluating 10 kinds of personality disorder among various populations and results have shown its suitable internal consistency and reliability (Calvo et al.,2012).

Personality factor structure (PID-5) can be mentioned as another questionnaire had been designed based on DSM-5. This questionnaire was initially designed by Krueger and Markon in 2012 then was published officially when DSM-5 was published. PID-5 evaluates 25 primary traits within 5 higher-order domains includingnegative affectivity. detachment. antagonism, disinhibition, and Psychoticism. NEO Personality Inventory (Big Five personality traits) is another questionnaire providing an inclusive framework to describe personality and its disorders. It is a debatable issue whether it is possible to examine personality disorders using personality traits. Results obtained from various studies indicate that it is classify all not possible to personality disorders using these instruments (Soraya et al.,2017). In other words. none of studies could find distinguishing certain disorder categories for different populations theoretically based on statistical findings (Eaton et al.,2011).

PSY-5 scale is another instrument for personality disorder screening that predicts many of personality disorders, in particular symptoms related to antisocial personality disorder,narcissistic,schizotypal, andparanoid even better than NEO-PI-R scales (Bagby et al.,2008).

However, all of these instruments should be validated and standardized in Iran and Asian countries because of cultural mismatch. On the other hand. long form of these instruments may reduce motivation of respondent leading to invalidity of test: hence. short-form Persianversion of these instruments should be designed considering of Iranian cultural. Accordingly, this study aimed to determining psychometric properties of Iranian version of cluster A personality disorder questionnaire.

2. METHODS

This study aimed to design, validate and normalize the Cluster A Personality Disorder Questionnaire in Iran. This research was conducted using mixed method. In qualitative part, phenomenology method was used and descriptive method, correlation coefficient, Magnusondetection factor, and Cronbach's alpha coefficient were used in quantitative part. In qualitative section, a purposive study was conducted and relevant papers were reviewed then the initial questions (80 items) of the Cluster A Personality Disorder Questionnaire (80 items) were designed based on the clinical experiences pf 5 clinical psychologists, 4 Iranian psychiatrics as well as deep interview with 10 experienced psychologists, 18 students (8 female and 10 male students) by researchers (Farah Lotfi and Shahram Vaziri). Deep interview took one hour and focused interview took 90 minutes. Designers implemented the plan cooperating with two other researchers. Face validity of items was confirmed by psychologists and psychiatrics.

After designing primitive items of the questionnaire and examining face validity of items, some revisions were done at the second step and items were reviewed in terms of understandability, fluency, and the matching with Iranian culture. At third step, items were matched with personality disorder symptoms and metrics (DSM-IV-TR) and those items, which were not in line with cluster A personality disorder symptoms were removed.

Quantitative part was reviewed after designing questionnaires. Statistical population of quantitative part comprises all of students studying at Islamic Azad University North Tehran Branch, Central Tehran Branch, Roodehen Branch, and Karaj Branch during academic year of 2010-2011. Of them, 1375 members were selected based on the convenient sampling then filled out the cluster A personality questionnaire after signing the consent letter; the number of participants declined to 1303 members due to some of flawed questionnaire.

First, the interviewer explained about research objectives. In addition, it was explained to each participant that participation in study was voluntary; even they could answer none of questions. Moreover, participants were allowed to leave the process at any time and do not answer any question they did not want to answer. Interviewer also made participants sure about confidentiality and anonymousness of them. The consent letter was given to participants after explaining some details.

Data analysis was done using descriptive (mean, standard deviation) and inferential (correlation coefficient and determination coefficient) statistics through SPSS software. To examine simultaneous validity of Millon questionnaire (in which, 70 students were selected using random sampling and filled out the questionnaires) and internal reliability (internal consistency of the inventory), Cronbach's alpha coefficient was used then T and Z tests were employed for normalization.

2.1 Measurement instruments

Researcher-made questionnaire of cluster A personality disorder and multi-axial inventory (MCMI-III) were used as external benchmark in this research.

2.1.1 Cluster a personality disorder questionnaire

This is an objective questionnaire based on diagnostic criteria of DSM-IV-TR suitable for Iranian population and culture that was designed by Dr. ShahramVaziri and Dr. Farah LotfiKashani (2010) to examine cluster A personality disorders. This questionnaire consisted of 80 questions that their internal consistency was examined then items with weak determination coefficient were removed and questions dropped into 32 questions. Question related to clinical symptoms are presented in table 4.

2.1.2 Millon Clinical Multiaxial Inventory (MCMI-III)

Is a self-assessment scale that is used for clinical decision-making and diagnosis of disorder or psychometric symptoms in participants. This questionnaire consists of 175 yes/no items evaluating clinical pattern of personality and clinical symptoms in adults older than 18. MCMI-III consisted of 11 subscales including Schizoid, Avoidant, Melancholic, Dependent, Histrionic, Narcissistic, Antisocial, Sadistic, Compulsive, Negativistic, and Masochistic personalities. This test has been revised twice since its release time (1969) and is one of most used mental tests in intercultural studies. MCMI was designed based on pathological model of Millon: this test has been standardized twice and its second version was standardized in 1993 by Nahid Khaje Mogehi and Naghi Baraheni in Tehran. The third version of this test was also standardized by Sharifi in Isfahan in 2002. The results obtained from retest showed correlation range of 0.58-0.93 for personality disorder scales (Antikchi, Allah Bigdeli and Sabahi,2017).

2.2 Findings

This section presents descriptive data (mean, standard deviation, and change domain), and calculated internal consistency (Cronbach's alpha) for questions, subscales of cluster A

diagnostic personality disorder questionnaire, and data relevant to simultaneous implementation of Millon personality disorder questionnaire to examine benchmark validity. According to the results obtained from demographic data, 42% of statistical population is men and 58% women. In terms of marital status, 63% are single and 37% married. In terms of age, 9.6% are younger than 20, 60.2% are at age range of 21-25, and 30.2% are older than 25 (Table 1).

Results indicated in table 2 show the correlation coefficient between most of the questions equal to 0.2-0.7; therefore, it can be stated that this questionnaire enjoys a suitable correlation. Reliability of each question of Cluster A Personality Disorder Questionnaire indicated an optimum rate.

To determine validity of test, simultaneous criterion validity correlation evidences were used. In this case, correlation coefficient between scores of 70 participants inMCMI and Cluster A Personality Disorders test was calculated and the obtained result was significant at level of 0.05. According to the obtained significant coefficient, it can be stated thatCluster A Personality Disorders Questionnaire is acceptably valid. According to Magnson method and distribution of scores and responses matrix, scores above and lower 27% considered as persons with and without any specific trait, respectively then the difference between two groups in responding a specific question was calculated using determination coefficient test (D). According toNatal and Skornik, determination coefficient lower than 21% is not significant and only determination coefficient of 22%-31% are significant at 0.05 level and coefficients above 0.32 are significant at level of 0.01.

Varial	oles	Frequency percent
Gender	Man	42/3%
	Woman	57/7%
marital status	Single	63%
	Married	37%
Age	20>	9/6%
	21-25	60/2%
	>25	30/2%

 Table 1. Frequency distribution of demographic data of participants

Therefore, questions 12, 15, 64, 67 of Paranoid subscale, questions 3, 21, 31, 80 of Schizoid subscale, and questions 8, 10, 64, 67 of Schizotypal subscale were removed because of low determination coefficients (Table 3).

According to Table 4, Cronbach's alpha of subscales of Cluster A Personality Disorders Questionnaire is above 0.6; the obtained alpha coefficients for three clinical symptoms (0.650, 0.674, 0.610) indicated considerable validity and reliability of three subscales.

Hence, 16 questions with best conditions based on determination coefficient of contribution of each question in reliability were selected using diagnostic components of tables for each question under each subscale. Table 4 indicates relevant questions to each subscale.

		Paranoid			S	chizoid		Schizotypal				
Questions	variance in case of question removal	corrected question-total correlation	Cronbach's alphain case of question removal	Questions	variance in case of question removal	corrected question- total correlation	Cronbach's alpha in case of question removal	Questions	variance in case of question removal	corrected question- total correlation	Cronbach's alphain case of question removal	
4	9/476	0/226	0/577	3	11/750	0/101	0/662	7	10/120	0/264	0/577	
7	10/359	0/291	0/612	7	11/024	0/338	0/635	8	9/841	-0/016	0/612	
12	9/642	0/187	0/576	20	11/460	0192	0/652	9	10/198	0/284	0/576	
15	161/10	0/093	0/610	21	11/785	0/092	0/663	10	10/410	0/028	0/610	
22	9/091	0/202	0/557	22	11/318	0/249	0/645	13	10/119	0/396	0/557	
28	9/368	0/262	0/586	28	11/508	0/173	0/654	15	9/889	0/197	0/586	
34	9/584	0/289	0/581	30	11/170	0/287	0/641	16	9/817	0/237	0/581	
41	9/909	0/134	0/592	31	11/942	0/045	0/668	25	10/369	0/151	0/592	
44	9/349	0/221	0/572	33	11/094	0/302	0/639	33	10/116	0/296	0/572	
45	9/585	0/234	0/584	34	11/098	0/304	0/639	35	10/053	0/212	0/584	
50	9/295	0/206	0/568	36	10/990	0/339	0/635	36	10/056	0/318	0/568	
52	9/958	0/254	0/596	40	10/906	0/406	0/628	41	9/935	0/119	0/596	
54	9/359	0/219	0/569	41	11/635	0/166	0/654	43	10/038	0/318	0/569	
59	9/774	0/268	0/593	43	10/990	0/363	0/633	49	9/885	0/152	0/593	
61	9/581	0/271	0/582	44	11/580	0/181	0/653	52	9/855	0/223	0/582	
64	9/383	0/112	0/574	45	11/283	0/271	0/643	61	10/415	0/281	0/574	
67	10/118	0/098	0/604	50	11/279	0/212	0/650	64	10/389	0/057	0/604	
69	10/390	0/213	0/605	54	11/201	0/275	0/642	67	10/032	0/064	0/605	
73	9/354	0/199	0/572	75	11/137	0/328	0/637	71	10/099	0/291	0/572	
80	9/749	0/181	0/590	80	11/491		0/652	73	10/162	0/166	0/590	

Table 2. Contribution of each question in reliability of Cluster A Personality Disorder Questionnaire



		Paranoid			Schizoid			Schizotypal					
Questions	groups	D	Cronbach's alpha	Questions	groups	D	Cronbach's alpha	Questions	Groups	D	Cronbach's alpha		
4	PU	0/398	0/595	3	PU	0/278	0/662	7	PU	0/491	0/577		
	PL				PL				PL				
7	PU	0/520	0/585	7	PU	0/551	0/635	8	PU	0/122	0/612		
	PL				PL				PL				
12	PU	0/361	0/600	20	PU	0/395	0/652	9	PU	0/364	0/576		
	PL				PL				PL				
15	PU	0/293	0/613	21	PU	0/290	0/663	10	PU	0/196	0/610		
	PL				PL				PL				
22	PU	0/409	0/598	22	PU	0/446	0/645	13	PU	0/651	0/557		
	PL				PL				PL				
28	PU	0/503	0/589	28	PU	0/355	0/654	15	PU	0/455	0/586		
	PL				PL				PL				
34	PU	0/537	0/585	30	PU	0/509	0/641	16	PU	0/420	0/581		
	PL				PL				PL				
41	PU	0/298	0/606	31	PU	0/233	0/668	25	PU	0/278	0/592		
	PL				PL				PL				
44	PU	0/375	0/595	33	PU	0/534	0/639	33	PU	0/548	0/572		
	0/02				PL				PL				
45	PU	0/420	0/593	34	PU	0/520	0/639	35	PU	0/443	0/584		
	0/02				PL				PL				
50	PU	0/409	0/597	36	PU	0/543	0/635	36	PU	0/5354	0/568		
	PL				PL				PL				
52	PU	0/486	0/591	40	PU	0/597	0/628	41	PU	0/287	0/596		
	PL				PL				PL				
54	PU	0/435	0/595	41	PU	0/355	0/654	43	PU	0/511	0/569		
	PL				PL				PL				

Table 3. Determination coefficient of questions and weight of each question in reliability of Cluster A Personality Disorder Questionnaire

59	PU	0/474	0/588	43	PU	0/537	0/633	49	PU	0/369	0/593
	PL				PL				PL		
61	PU	0/509	0/588	44	PU	0/332	0/653	52	PU	0/438	0/582
	PL				PL				PL		
64	PU	0/270	0/609	45	PU	0/455	0/643	61	PU	0/526	0/574
	PL				PL				PL		
67	PU	0/267	0/612	50	PU	0/420	0/650	64	PU	0/219	0/604
	PL				PL				PL		
69	PU	0/420	0/596	54	PU	0/483	0/642	67	PU	0/256	0/605
	PL				PL				PL		
73	PU	0/386	0/598	75	PU	0/489	0/637	71	PU	0/534	0/572
	PL				PL	P = 2			PL		
80	PU	0/401	0/600	80	PU	0/341	0/652	73	PU	0/384	0/590
	PL				PL				PL		

Table 4. Reliability coefficient and corrected question related to subscales

Scale	e Question number												Reliability				
Paranoid	80	73	69	61	59	54	52	50	45	44	41	34	28	22	7	4	0/610
Schizoid	75	54	50	45	44	43	41	40	36	34	33	30	28	22	20	7	0/674
Schizotypal	73	71	61	52	49	43	41	36	35	33	25	16	15	13	9	7	0/650

Table 5. Standardized t and z norm for respondents

Questions	s paranoid			Schizoid			Schizotypal			
	cumulative percent	Z scores	T scores	cumulative percent	Z scores	T scores	cumulative percent	Z scores	T scores	
0	1/6	-2/15	29	0/1	-3	20	0/1	-2.46	25	
1	4/4	-1/71	33	0/2	-2/88	21	0/2	-1.86	31	
2	9/9	-1/29	37	0/6	-2/51	25	0/6	-1/38	36	
3	19/3	-0/87	41	1/8	-2/1	29	1/8	-0/96	40	
4	29/9	-0/53	45	4/4	-1/71	33	4/4	-0/65	44	
5	41/5	-0/21	48	7/7	-1/43	36	7/7	-0/32	47	
6	54/4	0/11	51	14/1	-1/08	39	14/1	0/02	50	
7	66	0/42	54	22/2	-0/77	42	22/2	0/34	53	
8	76/7	0/73	57	31/4	-0/49	45	31/4	0/61	56	
9	85	1/04	60	41/1	-0/02	50	41/1	0/87	59	
10	91/9	1/4	64	51	0/03	50	51	1/18	62	
11	96/4	1/81	68	61/7	0/3	53	61/7	1/52	65	
12	98/5	2/17	72	73/9	0/64	56	73/9	1/84	68	
13	99/6	2/65	77	83/9	0/99	60	83/9	2/2	72	
14	99/8	2/88	79	92/6	1/45	65	92/6	2/58	76	
15	100.0			98/1	2/08	71	98/1			
16				100.0			100.0			



To design the standard table for Iranian community, standard scores of t and z (mean=0 and standard deviation=1) were calculated for raw score of students (1303 members) and results reported in Table 5.

3. DISCUSSION

This study was conducted to design Cluster A Personality Disorders Questionnaire, evaluate its reliability and standardize in an Iranian sample. To evaluate internal reliability of Cluster A Personality Disorders Questionnaire, cronbach's alpha was used and to standardize this test, T and Z tests were applied. Moreover, Millon's Personality Disorder Inventory was used as an external benchmark.

In this research, items were designed using qualitative method; in this regard, purposeful study was conducted and relevant papers were reviewed to design initial questions of A dimension personality disorder diagnostic questionnaire (80 questions)through deep interview with 18 students (8 female and 10 male students) by Farah Lotfi and ShahramVaziri (psychologists) then determination coefficient and reliability of questions were examined after assessing the consistency between this questionnaire and personality disorder criteria and symptoms of DSM-IV-TR and approval of its face validity.

To normalize the test, statistical sample were divided into two groups of high and low 27 percentages (with and without disorder) based on the Magnuson's suggestion then the items with low determination coefficient were removed and 16 items with high internal consistency were determined for each subscale (paranoid, schizoid, schizotypal) and internal consistency between items and subscales was assessed. In this case, the highest internal consistency of between each item and relevant subscale was found.

In case of simultaneous criterion validity, findings indicated a positive correlation between Cluster A Personality Disorders Questionnaire andMCMI-III and it was expected this Millon questionnaire had the highest relation with this questionnaire. SinceMCMI-III is one of mostused diagnostic tests for personality disorder with high validity and reliability; therefore, internal correlation between two tests showed validity of Cluster A Personality Disorders Questionnaire in assessing clinical symptoms of cluster A (paranoid, schizoid, schizotypal). Reliability of instrument should be examined after confirming its validity. Reliability is one of the most substantial criteria, which indicates quality of instrument. A reliable instrument indicates accuracy and precision of the measurement tool. Reliability is defined as the consistence and stable measurement of traits or constructs in an instrument (Dampsi & Dampsi quoted from Hemati and Hashemloo, 2015).

To examine internal consistency of research factors, Cronbach's alpha coefficient was used. Cronbach's alpha coefficients of subscales paranoid, schizoid, schizotypal obtained to 0.650, 0.0674, 0.610, respectively indicating acceptable reliability of Cluster A Personality Disorders Questionnaire.Vreeke andMuris(2012) conducted a study and reported Cronbach's alpha coefficient of 0.75-0.87 for clinical sample and coefficient of 0.79-0.86 for non-clinical sample. Valinejad (2012) obtained Cronbach's alpha between 0.64 and 0.78. These result is a line with our study.

In addition, standardization table and t, z scores were determined for this scale so that these scores can provide some standard information about Cluster A Personality Disorders Questionnaire and this case can be considered as a basis to compare scores with a standard criterion; in this case, standard information about Cluster A Personality Disorders (paranoid, schizoid, schizotypal) can be compared between students so that patients will be simply diagnosed.

CONCLUSION

Reliability and validity analyses indicated optimal psychometric properties of studied scale. Therefore, this instrument can be used in studies related to personality disorders in Iran. This instrument also can be applied as a diagnostic instrument to screen individuals with cluster A personality disorders; in this regard, wrong diagnosis will be reduced, time and cost of clinical experts will be saved.

CONSENT

A personality questionnaire after signing the consent letter; the number of participants declined to 1303 members due to some of flawed questionnaire

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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