The Reliability and Validity of the Turkish Version of Psychopathy Checklist-Revised (Turkish PCL–R)

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ABSTRACT:
The reliability and validity of the Turkish Version of Psychopathy Checklist-Revised (Turkish PCL–R)

Objectives: Psychopathy is a distinct personality organization and differs from antisocial personality disorders in many aspects. Its diagnosis is challenging but also critical to predict criminality. In this context, Psychopathy Checklist Revised (PCL-R) is a useful tool in the diagnosis of psychopathy. Its reliability and validity was shown in various populations but has not been studied in a Turkish population. Our aim was to demonstrate the reliability and validity of PCL-R in a sample from Turkey.
Methods: 425 male subjects with antisocial personality disorder and 125 controls without any psychiatric diagnoses were included in the study. DSM-5 diagnostic criteria were used and PCL-R was administered to all participants. The reliability of the Turkish version of PCL-R was determined by test–retest and internal consistency methods. In the ROC analysis performed with PCL-R, DSM-5 criteria were taken as a gold standard, the sensitivity; specificity and cut-off values of PCL-R were estimated. To evaluate the adequacy of the scale construct validity, Exploratory Factor Analysis and Kaiser-Meyer-Olkin (KMO) and Barlett tests were applied. Reproducibility of the test was evaluated by Pearson correlation coefficient. Re-testing was performed with 171 subjects two weeks after the first test.
Results: In reliability analysis, the Cronbach's alpha internal consistency coefficient was calculated to be $\alpha=0.977$. Pearson correlation coefficient of test-retest was $r=0.94$ ($p<.001$). Item-total correlations ranged from 0.18 to 0.94. Its sensitivity and specificity was 98.3% and 100.0%, respectively, with a cut-off point of 20. In principal component analysis, two factors had Eigen values greater than 1. These two factors accounted for 76.54% of the variance in PCL-R scores.
Conclusions: Turkish PCL-R is a valid and reliable measure of psychopathy to detect psychopathic traits. However, more studies on psychopathy need to be conducted in different Turkish sample groups.

Keywords: psychopathic personality, antisocial personality disorder, reliability, validity

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INTRODUCTION

Psychopathy is a distinct entity described ad a specifier for antisocial personality disorder in the Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM-5). Psychopathic subjects fulfil all the antisocial personality disorder criteria, but not every antisocial personality disorder patient meets the criteria for psychopathy, which is characterized by callousness, manipulativeness, aggression, parasitic lifestyle, lack of empathy and feelings of guilt. Those maladaptive behaviors are often masked with low anxiety, bold interpersonal relationships, and high levels of attention seeking[1].

The prevalence of psychopathy is about 1%[2]; however, it reaches up to 15–20% among prison inmate populations[3,4]. Current findings suggest that 50% of all violent crimes in the U.S. were committed by psychopaths[5], and their first crime was at an early age. These convicts usually cannot

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be rehabilitated, and recidivism rates were found three times higher than other offenders'[6]. Therefore, diagnosis of psychopathy is of vital importance and should be made carefully, even though it is challenging in most circumstances. For these cases, Psychopathy Checklist-Revised (PCL-R) is a well-known and most widely used instrument for the assessment of psychopathy. The clinician makes the assessment by in-depth interview and information obtained from personal records in order to rate psychopathy[8,9]. Family life, economic situation, career and criminal background are investigated. The tool was developed by Hare et al. and first used in adult male criminals[10]. Subsequent studies have shown high reliability and validity in many other populations[11-14]. It was also shown that PCL-R has a high predictive power and may predict recidivism. This is a critical issue in criminality. Therefore, many authors also recommend the use of PCL-R in decision-making processes[15].

Despite the emerging body of literature, the reliability and validity of PCL-R has not been studied in a Turkish sample. Therefore, the present study aims to establish the reliability and validity of PCL-R in a Turkish sample.

METHODS

Procedure

The required permission for validity and reliability was received via e-mail from the developer of the scale. The scale was translated into Turkish by two linguists, and the final translations were evaluated by three psychiatrists. Back-translation was performed by a psychiatrist and a linguist. Then the scale was evaluated by ten psychiatry residents and feedback was received regarding comprehensibility.

The sample consisted of 425 male participants admitted to GATA Haydarpasa Training Hospital, Department of Psychiatry in Turkey. As the standard criterion, they were diagnosed with antisocial personality disorder according to DSM-5 by two attending psychiatrists of this area. 125 controls without any psychiatric diagnosis according to DSM-5 criteria were also included. All the participants were interviewed using PCL-R. Two weeks later, subjects with antisocial personality disorder were invited for the administration of re-test, and 171 of them showed up and provided data. Interviews were made jointly by the same experienced psychiatry resident and attending psychiatrist. Information for each participant was also obtained by reviewing their files, including career and criminal records.

The Psychopathy Checklist—revised (PCL-R) is the most common tool to assess psychopathic characteristics and behavior patterns. It can be administered by a professional trained in the field of mental health. These 20 items are rated on a scale from 0 to 2, with 0= absent, 1= may be present, and 2 = definitely present. Thus, scores can range from 0 to 40. PCL-R lists two factors and four facets. Factor 1 covers "remorseless use of others (core traits of psychopathy)" and Factor 2 covers "antisocial lifestyle". The facet traits are described as follows: 1) Interpersonal facet traits are "superficial charm, grandiosity, lying, manipulation." 2) Affective facet traits are "lack of guilt, shallowness, lack of empathy, failure to accept responsibility for own acts." 3) The lifestyle facet covers "need for stimulation, parasitic lifestyle, lack of long-term goals, impulsivity, irresponsibility," and 4) antisocial facet traits are "poor behavioral controls, early behavioral problems, juvenile delinquency, conditional release, criminal versatility." Semi-structured interviews and collateral information such as official file reviews were used. The quality of ratings depends on how much background information is available and whether the person is honest or not. The PCL-R can be useful in deciding detainment, release, and kind of rehabilitation, or to carry out studies of psychopathy. Based on clinical experience as well as on predictions based on the actual design of the scale, it is suggested that a total psychopathy score of ≥20 would show psychopathic features and scores over 30 indicate severe psychopathy[16].

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Statistical Analyses

An important parameter of the reliability of scales is to evaluate constant attitudes rather than episodic states with the same person at different times and to investigate if results are similar in different evaluations. To this end, the PCL-R was applied to the same subjects after a 14-day period, and the reliability of the Turkish version of PCL-R was determined by test-retest method. Cronbach's alpha coefficient was used to assess internal consistency. A value for alpha of above 0.70 was considered as high consistency.

In the ROC analysis of PCL-R, DSM-5 criteria were taken as a gold standard, and the sensitivity, specificity and cut-off values of PCL-R were estimated. To evaluate the adequacy of the samples for constructing validity analyses, Kaiser-Meyer-Olkin (KMO) and Barlett tests were applied. Principal component analysis with relevant rotation technique was used to evaluate the factor structure of the PCL-R. Eigen values greater than 1 according to the Kaiser Criterion were calculated to determine the components of the scale.

All subjects were assured of the privacy of their information, and written informed consent was obtained. Ethical approval was received from the Ethics Review Committee of GATA Haydarpasa Training Hospital.

RESULTS

A total of 425 male patients with the diagnosis of antisocial personality disorder and 125 controls were included in the study. Subjects' mean age was 22.35±3.38 years for patients and 21.99±2.45 years for controls.

As for reliability analysis, the Cronbach's alpha internal consistency coefficient was calculated to be α=0.977. After the repeated application of the checklist to 171 subjects with an interval of two-weeks, Pearson correlation analysis was used for the assessment of test-retest reliability. Coefficient of test re-test was r=0.94 (p<0.001).

The total mean score of PCL-R was found to be 31.92±4.52 in the patient group and 1.96±2.20 for the controls (p<0.001). Scores of 323 (76%) subjects were over 30 points, suggesting severe psychopathy. In order to determine whether the PCL-R criteria accurately reflect psychopathy, sensitivity and specificity were measured. With respect to criterion validity (DSM-5 as the criterion standard by two psychiatrists expert in this field), we proposed three cut-off points to measure severity of psychopathy on the PCL-R. The area under the ROC curve was defined as 1.000. Its sensitivity and specificity was 98.3% and 100.0%, respectively, at the cut-off point of 20, and 76.4% and 100.0% at the cut-off point of 30 (Table 1).

KMO and Barlett tests were used to evaluate the construct validity. It was shown that the sample was adequate for the relevant analyses (KMO=0.968 and

Table 1: Sensitivity and specificity rates in terms of cut-off points for Turkish PCL-R*

Cut-off Points	Sensitivity (%)	Specificity (%)
15	99.8	100.0
20	98.3	100.0
25	89.8	100.0
30	76.4	100.0

*Psychopathy Checklist-Revised

Table 2: Factor analysis of the Turkish PCL-R*

	Factor	
	1	2
hare18	0.952	
hare12	0.946	
hare3	0.941	
hare8	0.938	
hare14	0.938	
hare10	0.936	
hare13	0.933	
hare7	0.924	
hare6	0.920	
hare15	0.917	
hare16	0.913	
hare9	0.907	
hare4	0.904	
hare5	0.888	
hare20	0.865	
hare2	0.715	
hare1	0.648	
hare19	0.639	
hare17		0.779
hare11		0.578

*Psychopathy Checklist-Revised
Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization

Table 3: Item-Total Statistics for Turkish PCL-R*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
item1	23.9745	164.193	0.622	0.977
item2	23.9745	162.087	0.693	0.976
item3	23.5931	155.935	0.929	0.974
item4	23.7609	156.252	0.888	0.975
item5	23.7755	156.620	0.870	0.975
item6	23.7555	155.622	0.906	0.974
item7	23.7482	156.043	0.909	0.974
item8	23.7172	155.870	0.925	0.974
item9	23.6350	155.984	0.891	0.975
item10	23.5912	156.319	0.922	0.974
item11	24.6241	168.469	0.327	0.980
item12	23.5985	155.725	0.934	0.974
item13	23.6697	156.112	0.920	0.974
item14	23.5529	157.118	0.925	0.974
item15	23.6843	156.915	0.901	0.975
item16	23.7190	156.886	0.897	0.975
item17	25.0036	173.803	0.184	0.979
item18	23.5693	155.489	0.942	0.974
item19	24.1496	160.705	0.612	0.978
item20	23.8796	157.331	0.856	0.975

*Psychopathy Checklist-Revised

Barlett sphericity, p<0.001). Varimax with Kaiser Normalization was performed for all 20 items of the PCL-R. In principal component analysis, two factors had Eigen values greater than 1 (Table 2). These 2 factors accounted for 76.54% of the variance. The first factor accounted for 67.86% of the variance and the second factor for 8.68%. According to item-total statistics, there was no need to delete any items (Table 3).

DISCUSSION

The aim of the current study was to evaluate the reliability and validity of the Turkish version of PCL-R in patients with a diagnosis of antisocial personality disorder. Although many studies are conducted using PCL-R as a tool in Turkish populations, the reliability and validity of its Turkish version has not yet been demonstrated[17,18]. Furthermore, antisocial personality and psychopathy traits may show variations in different populations in terms of prevalence and manifestations, and the way they exist across cultures[19]. Our research, which was performed in a Turkish population, also analyses psychopathy in a different culture.

The results of this study show that PCL-R is a reliable tool of assessing psychopathy in a Turkish sample. As for reliability analysis, the Cronbach's alpha internal consistency coefficient was calculated to be as high as $\alpha=0.98$. This high internal consistency suggests that every component of the tool has the ability to measure the desired variance. It is also consistent with previous studies including the original study which found α to be 0.94 among male participants[9].

Test–retest reliability with an interval of two weeks was high (r=0.939, p<0.001). In the literature, there are similar studies reporting test-retest reliability scores to be excellent, whereas in some studies test-retest reliability was not chosen due to concerns about high temporal stability[10].

The total mean score of PCL-R was found to be 31.92±4.52 in the patient group and 1.96±2.20 for the controls (p<0.001). The control group had very low psychopathy scores, because they were specifically selected officer candidates who applied to the hospital for a medical check-up. The total mean score of PCL-R in our sample was found to be high, which indicates severe psychopathy. This score was similar when

compared with the results of the other studies where PCL-R was used as a diagnostic tool in antisocial personality disorder patients in Turkey. In a study investigating temperament traits and psychopathy in a group of Turkish patients with antisocial personality disorder, average total PCL-R scores were found as high as 31.0±3.8[20].

In the literature, various cut-off levels were suggested, which may be due to psychometric application differences and cross-cultural differences, but a standardized cut-off point is not defined for psychopathy[7]. Hare et al. recommended a typical cut-off score of 22 to 24±6-8 for criminal populations. However, in that range there may be many false positive results, and both psychopaths and non-psychopaths may be included[9,21]. In Canada, the cut-off level was reported as 25, instead of 30, for the categorical file-only psychopathy diagnosis. In another study, Rice and Harris found the predictive and discriminating validity highest if the cut-off score was 25 points[22]. In another study conducted in Brazil aimed at investigating diagnostic precision for psychopathy, the determined cut-off score was found to be 23. The authors suggested that it was the critical score where the subjects began to show the prototypical psychopathic features[7]. Consequently, cases with a score between 21 and 29 can be classified as "possible psychopaths", and scores over 30 indicate severe and true psychopathy. Our findings were also in parallel with the literature. With a cut-off point of 20, the Turkish version of PCL-R presented a sensitivity level of 98.3%. With a cut-off point of 25, the sensitivity was found 89.8% and with a cut-off point of 30, the sensitivity was 76.4%. The specificity rates were 100% in all cases.

When the factor structure of the PCL-R was considered, components elicited for the current research showed some differences compared to the original study. Factor analysis in the original study showed that the PCL-R had a stable two-factor structure[9,10]. In our study and in the original study, Factor 1 was considered the fundamental dimensional feature of the PCL-R. The related items were all meaningful in terms of their content and loading profiles and indicated strong psychopathy[23]. However, the item-total score correlations of items 11 and 17 showed that they did not correlate well. It may be seen as a residue rather than a distinct domain.

Although this study has the strength of large sample size, an obvious limitation is that all of the participants are male. However, it should be noted that reliability and validity studies of the original PCL-R were also administered to male subjects. Secondly, another assessment tool of psychopathy could not be used to analyze convergent validity, the reason being that there was no reliable and valid psychopathy assessment tools for a Turkish population. Instead, DSM-5 criteria for antisocial personality disorder were taken as standard criteria.

In conclusion, antisocial personality disorder with psychopathic features is a new entity in the DSM-5 model for personality disorders, and PCL-R indicates dimensional scores as well as categorical diagnosis. Turkish PCL-R is a valid and reliable measure of psychopathy to detect psychopathic traits. Yet more studies about psychopathy are needed to be conducted in different samples in Turkey.

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						REVİZE HARE PSİKOPATİ ÖLÇEĞİ
0	1	2	İPTAL	1	YÜZEYEL ÇEKİCİLİK
0	1	2	İPTAL	2	BENLİK DEĞERİNİN GÖRKEMLİ HİSSEDİLMESİ
0	1	2	İPTAL	3	UYARI İHTİYACI / SIKINTIYA EĞİLİM
0	1	2	İPTAL	4	PATOLOJİK YALAN SÖYLEME
0	1	2	İPTAL	5	USTACA HİLE YAPMAK, ÇIKARCILIK
0	1	2	İPTAL	6	SUÇLULUK VE VİCDAN AZABINDA EKSİKLİK
0	1	2	İPTAL	7	DUYGULANIMDA YÜZEYSELLİK
0	1	2	İPTAL	8	UMURSAMAZLIK, EMPATİ EKSİKLİĞİ
0	1	2	İPTAL	9	ASALAK (PARAZİTİK) YAŞAM TARZI
0	1	2	İPTAL	10	DAVRANIŞ DENETİM ZAYIFLIĞI
0	1	2	İPTAL	11	RASTGELE CİNSEL DAVRANIŞ
0	1	2	İPTAL	12	ERKEN DAVRANIŞSAL SORUNLAR
0	1	2	İPTAL	13	GERÇEKÇİ UZUN VADELİ HEDEF EKSİKLİĞİ
0	1	2	İPTAL	14	DÜRTÜSELLİK
0	1	2	İPTAL	15	SORUMSUZLUK
0	1	2	İPTAL	16	KENDİ DAVRANIŞLARI İÇİN HESAP VERMEME
0	1	2	İPTAL	17	ÇOK SAYIDA KISA SÜRELİ EVLİLİKLER
0	1	2	İPTAL	18	ERGEN ANTİSOSYAL –SUÇ DAVRANIŞLARI
0	1	2	İPTAL	19	ŞARTLI TAHLİYENİN İPTALİ (HÜKÜMSÜZ KILINMASI)
0	1	2	İPTAL	20	ÇOK YÖNLÜ SUÇ DAVRANIŞLARI