

Urdu Version of Social Functioning Questionnaire: Psychometric Properties and Association with Impulsive Behavior in Pakistani Clinical and Community Samples

Shameem Fatima* Samra Zulfiqar**

Abstract

The primary objective of the study was to assess the psychometric properties of the social functioning questionnaire into Urdu. A secondary aim was to assess the predictive association of social functioning with impulsive behavior in community and clinical samples. The study was completed in 4 phases using different Pakistani samples. In the first phase, the social functioning questionnaire was translated following standard guidelines. Psychometric validation conducted in second and third phases on two community samples revealed that the Urdu version of the scale was psychometrically sound, valid, and reliable measure with a unidimensional factor structure. Clinical validation done on a clinical sample of borderline personality disorder showed that Urdu questionnaire appeared sensitive to differentiate between clinical sample with borderline personality disorder and community controls. Moreover, findings from the correlational analysis based on community and clinical samples revealed that poor social functioning was correlated with higher impulsive behavior. Urdu translated version is a valid and psychometrically sound assessment tool of social functioning to be used in research and clinical settings and it will facilitate inclusion of literature on social functioning from this underrepresented region.

Keywords- Social Functioning, Translation, Psychometric Analysis, Impulsive Behavior, Borderline Personality Disorder.

About Authors: Tenured Associate Professor, Chairperson, Department of Humanities, COMSATS University Islamabad -Lahore campus, Pakistan. Email: shameemfatima@cuilahore.edu.pk

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Introduction

Social functioning refers to a person's ability to interact effectively in a variety of social contexts such as interpersonal relationships, professional settings, and other traditional social roles (Harris & Orth, 2020). Social functioning is key to psychological health and mental wellbeing (e.g., Flechsenhar et al., 2022). Its importance has been increasingly recognized in mental health assessment since last few decades, mainly because of greater awareness that the mental health consequences of poor social functioning are at least as distressing as are the consequences of pathology (e.g., Porcelli et al., 2020). Hence, assessment of social functioning has become crucial in clinical and non-clinical research settings as it helps in improved diagnostic outcomes, evaluating treatment outcomes, and understanding outcomes of psychosocial interventions (Reynolds et al., 2022). Despite its crucial

importance, its assessment is recorded much less frequently than mental health assessments in research studies at least in Urdu speaking Pakistani populations, where it has been only indirectly assessed as part of quality-of-life assessment (Fatima, 2023; Fatima et al., 2024). One important reason is the lack of Indigenous or adapted measures in Urdu for its assessment.

The social functioning questionnaire developed and validated by Tyrer and colleagues (2005) is an effective and widely used measure for the assessment of social functioning of diverse clinical and non-clinical populations. Originally developed in English, the questionnaire has been established as a psychometrically sound, valid, and reliable measure for assessing social functioning (Tyrer et al., 2005). Like most of the previously developed scales, social functioning questionnaire has been developed and validated in Western countries

(e.g., Tyrer et al., 2005) restricting its applicability to Asian populations with sociolinguistic differences (Jabeen & Maqsood, 2023). Likewise, its applicability to Urdu speaking populations from collectivistic cultural context of Pakistan remains restricted mainly due to linguistic and sociocultural differences. Given that Urdu is the national and widely spoken language across diverse ethnic groups in Pakistan, translation of social functioning questionnaire into Urdu and its adaptation to the sociocultural context of Pakistan appears essential to ensure its effectiveness and cultural relevancy. Therefore, the objective of this study is to translate and validate the social functioning questionnaire for Urdu speaking Pakistani population to facilitate inclusion of literature on social psychology research from this underrepresented population.

The translation and adaptation of psychometric tools become crucial for maintaining conceptual and measurement equivalence between different languages and cultural settings (Beaton et al., 2000). Brislin (1986) provides standard guidelines for linguistic translation and cultural adaptation of assessment measures to adopt the same tools across different countries. As per the guidelines, careful translation and adaptation of the measure include forward and backward translations, expert reviews, pilot testing, and cognitive interviews to ensure the linguistic and cultural relevancy of the tool. Furthermore, Kagee et al. (2013) recommend assessing the psychometric properties of the translated and adapted assessment tools before their use. Following these guidelines, the study presents the process of translation and psychometric evaluation in four phases involving: (a) translation process, (b) cross-language and psychometric validation, (c) confirmatory factor analysis (CFA) and association with impulsive behavior, and (d) clinical validation in patients with borderline

(BPD) Vs normal individuals. The study has selected a sample of patients with BPD for clinical validation because social functioning is impaired in patients with BPD (Carlson et al., 2020). It is quite likely that emotional dysregulation, impulsivity, and maladaptive coping mechanisms which are the core characteristics of the disorder are also implicated in social dysfunctioning (Carlson et al., 2020; Parr et al., 2022). Moreover, guided by the social cognitive theory and recent research (Bandura, 1991; de Arruda et al., 2025) driving the link between impulsivity and poor social functioning, the study has also assessed the association between social functioning and impulsive behavior. Social cognitive theory of self-regulation emphasizes that the ability to regulate emotions and behaviors by inhibiting inappropriate behaviors is crucial for effective social interactions and functioning.

More specifically, the study goals are twofold: to make psychometric evaluation of social functioning questionnaire in Urdu, and to predict impulsive behavior from social functioning.

Method

Phase 1: Translation

The 8-item Social Functioning Questionnaire (Tyrer et al., 2005) was translated into Urdu. Permission to translate the questionnaire was taken from the original author. Translation was conducted following Brislin's (1986) criteria of translation in three steps of forward and back translation, and pretesting. The questionnaire was first translated into Urdu and then back translated into English by three bilingual professors of English Studies. Next, a review panel comprising one translator involved at forward translation step, one translator involved at backward translation step, and the authors compared the Urdu and back translated English versions against the original English versions to ensure the

semantic, conceptual, and connotational meaning equivalence. Finally, the prefinal Urdu version was used for pilot testing. A sample size of 10-40 individuals is recommended for pilot testing (Sousa & Rojjanasrirat, 2011). Accordingly, it was pretested with a sample of 30 young adults (M age = 20.10, SD = 1.47 years) to evaluate its usability in terms of clarity, meaning, and cultural relevance. Some minor modifications were made such as the response format was modified to state in the same direction for negative and positive statements. Cognitive testing was done with eight participants from this sample. They provided feedback by rating each item for the ease of completion, cultural relevancy, and comprehension on a 10-point rating scale from 1 to 10 for each of the three dimensions.

Phase 2: Psychometric Validation

Participants and Procedure

For psychometric validation, Urdu version and the original English social functioning were used. The reliability analysis, item analysis, exploratory factor analysis, and cross validation against original English version were conducted using a first sample of university students (n_1 = 201) aged 18 and 23 years (M = 20.15, SD = 1.40; 47% Male & 53% Female students). The sample comprised Pakistani nationals belonging to South Asian ethnic background, Urdu speaking, and studying at undergraduate levels. The sample reported diverse specializations as their majors (22% Computer science, 21% Psychology, 10% English, 19% Engineering, 17% Management sciences, and 11% Arts). A subsample (n = 35) selected from sample 1 was retested after an interval of 8 days on the Urdu version to assess consistency of assessment over time.

The participants were briefed about the study and informed consents were signed by all participants. One of the two versions (Urdu/English) was administered at the first

assessment level followed by the administration of the other version after a week. Half of the total sample received Urdu version first and the rest half received the English version.

Phase 3: Confirmatory Factor Analysis and Correlation with Impulsive Behavior Measures

Social Functioning Questionnaire.

The eight item Urdu translated questionnaire finalized after pilot testing and EFA was used in this phase. Internal consistency of the scale in the study was good (.76).

Impulsive Behavior Questionnaire.

A 20-items impulsive Behavior Scale (Whiteside et al., 2005) was used to assess five impulsive behaviors in five subscales namely negative urgency, lack of perseveration, lack of premeditation, sensation seeking and positive urgency. Each of the subscale was assessed from five items scored on a 4-point response format (1-4). Potential score range for each subscale was likely to be from 4 to 16 with higher scores representing more frequent use of specific impulsive behavior. Internal consistencies of the subscales in the study were good (from .68 to .76).

Sample and Procedure

A second sample of adults (n_2 = 198) aged 18 and 40 years (M = 23.70, SD = 3.77; 34% Men & 66% women) was selected from community. Inclusion criteria were defined to include adults, both men and women, and literate with good reading ability in Urdu language. The sample reported a mean education level of 14.50 years (SD = 1.59) ranging between 10 to 18 years. The participants were assessed on social functioning questionnaire and impulsive behavior scale in a single administration. The scale order was counterbalanced across participants to balance any effects due to order.

Phase 4: Clinical Validation on Patients with BPD Vs Healthy Controls

Measures

Social Functioning Questionnaire Urdu version and Impulsive Behavior Questionnaire (Whiteside et al., 2005) as described in Phase 3 were used

Sample and Procedure

A third sample of 309 adults between the ages 20 and 39 years were selected for clinical validation of the Urdu questionnaire. The third sample comprised patients with BPD ($n_{\text{BPD}} = 150$) and healthy controls ($n_{\text{control}} = 159$). Inclusion criteria were defined to include adults, both men and women, and literate with good reading ability in Urdu language. The clinical sample of patients with BPD was selected from the psychiatric wards/units of private and public sector hospitals and psychiatric clinics. Fifty five percent of the clinical sample reported a positive family history of psychiatric disorders including a history of BPD (31%). The average onset age of the clinical sample was 20.70 years ($SD = 2.71$), and average treatment duration was 9.36 years ($SD = 4.82$). For 27 % of the clinical sample, BPD was the primary diagnosis and for the rest 73 %, BPD was the secondary diagnosis of patients diagnosed with other psychiatric disorders. Age and education matched sample of control group was selected from community. Both groups were comparable on age, education, and gender distribution (see Table 4).

Results

Phase 1: Translation

Table 1: *Inter Scale Correlations of Urdu Version and Item Correlations with Original English Version ($n1=201$)*

Urdu Version	M(SD)	Skewness	Kurtosis	Original English	2	3	4	5	6	7	8	9
1. Item1	1.11(.50)	0.22	0.79	.65**	.32**	.29**	.34**	.30**	.24**	.29**	.23*	.55**
2. Item2	1.29(.53)	0.73	0.46	.53**	-	.47**	.39**	.26**	.32**	.42**	.32**	.66**

While translating the questionnaire, face validity and structural equivalence was ensured using forward and backwards translations and review panel approach. Furthermore, results from pilot testing and cognitive interviews showed that Urdu version was easy to complete (an average rating of 8.9/10), comprehend (an average rating of 8.8/10), and culturally relevant (8.6/10). No significant change was required after pilot testing and cognitive interviews.

Phase 2: Psychometric Validation

Reliability Analysis

Internal consistency of the scale was calculated and found to be very good (Cronbach's Alpha = .80). *Re-test reliability* calculated after an interval of 8 days was also good ($r = .79$, $p < .001$).

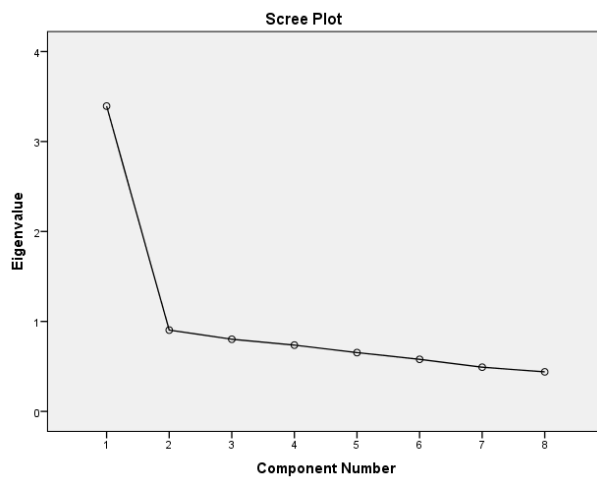
Item Analysis and Cross-Validation Against Original English Version

Item-level descriptive statistics have been calculated and presented in Table 1. All items, except items 5 and 8, show moderate scores representing a moderate level of social functioning. Items 5 (related to sex life) and 8 (related to spare time) having floor effect represent low problems in sex life and spare time. Skewness and Kurtosis values also show normal distribution of the data. Correlation coefficients for item-item and item-total correlations from Urdu version were positive and good. Correlation between Urdu and English version was also positive and significant.

3. Item3	1.48(.64)	0.67	-0.12	.58**		-	.34**	.37**	.41**	.50**	.33**	.72**
4. Item4	1.06(.70)	0.10	-0.51	.60**			-	.40**	.22*	.44**	.35**	.69**
5. Item5	0.65(.69)	0.78	0.15	.66**				-	.26**	.37**	.24*	.63**
6. Item6	1.13(.61)	0.34	0.66	.52**					-	.47**	.22*	.60**
7. Item7	1.21(.64)	0.27	0.27	.59**						-	.37**	.75**
8. Item8	1.02(.59)	0.15	0.43	.71**							-	.58**
9. Social Functioning	8.92(3.19)	0.46	-0.26	.74**								-

Note. *= $p < .01$; **= $p < .001$

Figure 1 *Scree Plot from EFA Showing Unidimensional Structure of Social Functioning Questionnaire*



Construct Validity: EFA

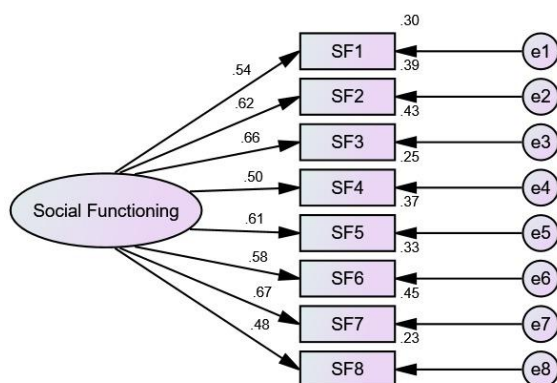
All eight items were entered into a principal component EFA to determine the dimensionality of the questionnaire. The KMO (.86) test of sampling adequacy and Bartlett's test of sphericity (Chi-square = 373.28, $df = 28$, $p < .001$) signify the suitability of the data for factor analysis. Principal component analysis exhibited a single-factor solution with eigenvalue > 1 explaining 42.42% of the variance. The single factor had an eigenvalue of 3.39. The scree plot also confirmed the unidimensional

structure of the scale (see Figure 1). Factor loadings were generally very good for all items (.56 - .76) detailed in Table 2.

Table 2: *Factor Loadings from Exploratory Factor Analysis (n1=201)*

Items	Factor Loadings	Eigen Value	Variance
Item1	.56	3.39	42.42
Item2	.68		
Item3	.73		
Item4	.67		
Item5	.61		
Item6	.60		
Item7	.76		
Item8	.58		

Figure 2 *Confirmatory Factor Analysis Confirming Unidimensional Structure of Social Functioning Questionnaire*



Phase 3: CFA and Predictive Association with Impulsive Behavior

Table 3: Correlations of Social Functioning with Impulsive Behaviors in Community Sample ($n=198$)

Variables	M (SD)	α	3	4	5	6	7	8	9
1. Age	23.70(3.77)	-	-.04	-.13	-.21**	-.10	-.13	-.04	-.19**
2. Education	14.50(1.59)	-	.05	-.09	-.04	-.04	-.14*	-.07	-.08
3. Positive Urgency	10.09(2.14)	.71	-	.28**	.39**	.37**	.25**	.18*	.71**
4. Negative Urgency	8.85(1.91)	.69		-	.18*	.36**	.35**	.26**	.65**
5. Sensation Seeking	10.63(2.12)	.73			-	.24**	.17*	.19**	.62**
6. Lack of Premeditation	10.49(2.10)	.73				-	.15*	.17*	.66**
7. Lack of Preservation	8.13(2.02)	.70					-	.30**	.59**
8. Social Functioning	8.21(3.16)	.76						-	.34**
9. Impulsive Behavior	48.20(6.66)	.82							-

Note. *= $p < .05$; **= $p < .01$; ***= $p < .001$

Phase 4: Clinical Validation in Patients with BPD VS Healthy Participants

The results showed significant group differences in social functioning between patients with BPD and healthy individuals with clinical sample scoring significantly

higher. Likewise, significant group differences were observed on impulsive behavior subscales and composite scores with clinical sample scoring comparatively higher (see Table 4).

Confirmatory factor analysis was computed with a second sample using AMOS. The goodness-of-fit indices were assessed and found to be very good without any model modification. Model fit indices were as follows: $\chi^2/df = 21.43/20$; GFI = 0.97, CFI = 0.99, and TLI = 0.99; RFI = .92; and RMSEA = 0.02. The standardized factor loadings of the items reached a statistically stringent significance level (all p values $< .001$). The CFA model has been presented in Figure 2.

Further findings from correlation analyses revealed positive correlation of poor social functioning with all five subscales and the composite impulsive behavior scale (See Table 3).

Table 4: Mean Differences between Patients with Borderline Personality and Healthy Controls (n3=309)

Variables	Patients with BPD n=150		Healthy Participants n=159		test of difference
		M(SD)/f		M(SD) /f	
Age	-	30.06(5.01)	-	30.38(5.02)	t-test=-0.57, df=307
Education	-	11.43(2.73)	-	11.77(2.88)	t-test=-1.08, df=307
Gender	-	Men=65 Women=85	-	Men=68 Women=91	$\chi^2 = 0.01$, df=1
Social Functioning	.71	16.61(3.53)	.72	7.94(3.68)	t-test=21.09*, df=307
Positive Urgency	.72	12.23(2.27)	.76	9.30(2.45)	t-test=10.89*, df=307
Negative Urgency	.65	12.37(2.16)	.68	8.75(2.46)	t-test=13.71*, df=307
Sensation Seeking	.74	12.31(2.37)	.70	9.37(2.30)	t-test=11.03*, df=307
Lack of Premeditation	.76	12.38(2.68)	.74	9.04(2.37)	t-test=11.62*, df=307
Lack of Preservation	.70	12.22(2.13)	.73	9.14(2.62)	t-test=11.30*, df=307
Impulsive behavior	.87	61.50(8.39)	.87	45.60(8.85)	t-test=16.20*, df=307

Note. *=p<.001

Moreover, the correlation of poor social functioning with subscales of impulsive behavior was assessed and found to be significant for all impulsive behavior subscales and the composite score for both groups. However, all associations were stronger for the clinical group compared to the control group (see Table 5).

Table 5: *Correlations of Social Functioning with Impulsive Behaviors in Patients with Borderline Personality Disorder and Healthy Participants (n_{BPD}=150, (n_{control}=159)*

Variables	1	2	3	4	5	6	7	8	9
1. Age	-	.08	-.21*	.09	-.06	.02	.16*	.07	.08
2. Education	.01	-	.05	-.17*	.04	-.02	.04	.09	-.003
3. Social Functioning	-.21	-	-	.31**	.35**	.26**	.44**	.32**	.47**
		.002		*	*	*	*	*	*
4. Positive Urgency	-.06	.13	.27**	-	.33**	.59**	.40**	.27**	.72**
					*	*	*		*
5. Negative Urgency	-.15	-.09	.18*	.39**	-	.38**	.37**	.62**	.73**
				*		*	*	*	*
6. Sensation Seeking	-.03	-.04	.21**	.55**	.30**	-	.50**	.26**	.77**
				*	*		*		*
7. Lack of Premeditation	-.01	-.06	.23**	.42**	.40**	.49**	-	.29**	.74**
				*	*	*		*	*
8. Lack of Preservation	-.01	-	.21**	.33**	.45**	.33**	.42**	-	.65**
		.18*		*	*	*	*		*
9. Impulsive Behavior	-.07	-.07	.30**	.74**	.71**	.72**	.75**	.71**	-
			*	*	*	*	*	*	

Note. *= $p < .05$; **= $p < .01$; ***= $p < .001$; Correlation coefficients for patients with BPD are presented above the diagonal and for healthy participants are presented below the diagonal; A= patients with BPD; B=healthy participants

Discussion

The study's main objective was to translate and validate the social functioning questionnaire for Urdu speaking populations of Pakistan. A secondary objective was to assess the association of social functioning with impulsive behavior. Standard translation criteria provided by Brislin (1986) was followed to retain content similarity between the two versions while considering the cultural relevancy and ease of administration. Forward and backward translations coupled with expert panel review retained content and face validities and ensured cultural relevancy. Furthermore, pilot testing coupled with cognitive interviews ensured the cultural relevancy, ease of administration, and comprehension of the Urdu questionnaire to be used for Pakistani population.

Like many other studies involving translation and validation of assessment measures to be used with Pakistani samples (Fatima, 2018; Fatima & Sheikh, 2014; Jamil & Fatima, 2018), the study evaluated the

psychometric properties of the Urdu version on Pakistani samples. For the first sample of university students assessing cross-language validation, the translated questionnaire proved concordant with the original English questionnaire. Also, moderate to good inter-item correlations and good item-total correlations for the Urdu version added further strength to the psychometric properties. Evidence of consistent tendencies of response across items and over time assessed from Alpha reliability and re-test reliability coefficients added significantly to the psychometric strength ensuring reliability of the Urdu version.

Construct validity was assessed by analyzing EFA and CFA on the data sets from the first and the second samples respectively to explore and confirm the unidimensionality of the Urdu version. The results from EFA showed a single-factor solution with factor loadings of all items exceeding the criterion of .50. CFA conducted with the second sample of adults

confirmed the single factor model. These results confirmed the homogeneity of the scale in assessing social functioning.

For the second sample of adults, association of social functioning with impulsive behavior was also assessed to add further evidence on predictive validity of social functioning questionnaire. It was found that poor social functioning was positively correlated with all subscale scores and the composite score of impulsive behavior supporting predictive associations.

As the social psychology research in clinical populations in Pakistan is still in its infancy, therefore a reliable and valid instrument in the culturally appropriate language was needed to clearly understand social dysfunctions associated with different clinical conditions. The final aim was to evaluate the clinical validity of the Urdu version for use in clinical settings. As a priori step, it was tested on a sample of patients with BPD in line with the evidence suggesting social role deficits in these patients (e.g., Carlson et al., 2020). Supporting the evidence of discrimination between patients with BPD and healthy participants, the clinical group scored comparatively higher on the measure indicating poor social functioning. Group differences were also significant for impulsive behavior scale with clinical group scoring significantly higher than control group. Guided by the social cognitive theory and recent research (Bandura, 1991; DeArruda et al., 2025), correlation of social functioning with impulsive behavior was assessed again for the two groups separately in phase 4. Supporting the theoretical and empirical evidence from the previous studies, the results revealed significant positive correlations for both groups. However, the associations were relatively stronger for the clinical compared to the control group. It is quite likely that many positive personal factors such as good executive skills and positive personality traits among healthy

participants may have weakened the links (Fatima & Sharif, 2017; Xu et al., 2023). Similarly, several personal and social risk factors may have strengthened the link in the clinical group (e.g., Beeney et al., 2018; Bozzatello et al., 2021).

Strengths and Limitations

This is the first study to translate and validate the social functioning questionnaire for Urdu speaking populations to facilitate social inclusion of underrepresented Urdu speaking populations. It provides a valuable assessment method for clinical work and academic research.

Alongside strengths, the present study has few limitations. The study's sample sizes in various phases satisfied the reliability and validity research scale standards, but the findings' generalizability was still constrained. Participants in different phases were selected from one cosmopolitan city of Lahore, the second largest city of Pakistan limiting broader generalizability of the findings. A broader sample selected from diverse geographical regions of Pakistan could be tested in future studies to confirm the scale's scientific and clinical generalizability. Furthermore, the information was self-assessed, which could result in bias in reporting.

Implications and Future Directions

The availability of a valid, reliable, and psychometrically sound assessment tool of social functioning will help practitioners and clinicians better identify social problems and evaluations treatment outcomes focusing on management of social issues. Mental health professionals should add the Urdu social functioning questionnaire to their standard assessment tools so they can find signs for social impairment as well as tailor specific intervention strategies used for psychiatric clients. Further research is needed to extend the scope of Urdu version by adding clinical participants who present different psychiatric problems for broader

generalizability of the measure to wider range of clinical populations from Urdu speaking countries.

Conclusion

Taken together, the results showed that the Urdu version appeared a psychometrically sound, reliable, and valid tool for the evaluation of social functioning among Pakistani clinical and non-clinical populations. Clinically, it may help in monitoring the changes in social functioning through diagnosis to treatment. Though, tested with a sample of patients with BPD, more research is needed to ascertain its suitability across a wider range of clinical symptomatology. The study further demonstrated that an established assessment tool with strong psychometric properties based on a sound theoretical framework can be adapted for diverse sociocultural contexts.

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