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**PSYCHOMETRIC ANALYSIS OF NEWLY DEVELOPED URDU AGGRESSION  
QUESTIONNAIRE: A STUDY DESIGNED TO GET FEEDBACK FROM  
VERNACULAR SPEAKING POPULATION OF PAKISTAN**

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**ABSTRACT**

*To control prevalent aggression in the Pakistan's society, for the identification of disruptive behavior and for designing evidence-based interventions, authors Siddiqui, Kazmi and Ahmed (2020) developed Urdu Aggression Questionnaire. However, the sample used for the development of the tool was taken randomly, without identifying the extent of understanding of Urdu Language for people not using Urdu as the usual mode of expression. The prime objective of the current study is to revalidate the newly developed Urdu Aggression Questionnaire, from a population where Urdu is not practiced as the mother tongue and/or personal or professional language for communication. Data is collected by using random sampling technique and once again confirmatory and exploratory factor analysis done using SPSS and AMOS. Sample characteristics have shown that 40% of the participants were not using Urdu as a mother tongue and 71% of the sample were not using Urdu as their professional language. Psychometric analysis has once again revalidated the tool and it shows that the tool can be used to measure aggression in different contexts and in multiple settings even with the population where Urdu is not regularly used for communication. In addition, the influence of age and sexual category on different forms of aggression explored with the help of Pearson's Correlation and Independent Sample t-test. In the current study, male participants are found higher in the direct and indirect forms of aggression, however, age has no significant impact on any form of aggression. It is recommended that the newly developed tool should be translated into regional languages to investigate extent of aggression in remote areas of Pakistan.*

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**Keywords:** Aggression and its types, Urdu Aggression Questionnaire, Psychometric Analysis, Pakistan's Society

## INTRODUCTION

Psychiatric disturbances often lead toward the development of aggression, however, literature has revealed very limited research from Pakistan's community due to the dearth of developed instruments in national or regional languages to measure aggression (Majeed & Malik, 2017). Siddiqui, Kazmi and Ahmed (2020) developed reliable and valid New Urdu Aggression Questionnaire measuring violent behaviors from Pakistani community and to support evidence-based interventions in Pakistan. It is true that several self-reported instruments are developed and validated throughout the globe (Álvarez-García *et.al.*, 2016; Pechorro *et.al.*, 2017, Siddiqui, Saleem & Kazmi, 2018) to measure antisocial comportment including in Pakistan, unfortunately, these tools cannot be used to represent the whole population of Pakistan as these instruments are created in English, and only elite class speaks English in Pakistan (Mahboob & Ahmar, 2008). It is concluded that these instruments are unreliable to measure antisocial behavior among Urdu or regional speaking population. Some of the translated versions of questionnaires are also adapted such as the Urdu version of Buss Perry aggression questionnaire used by Iftikhar and Malik (2014), the Urdu version of aggression subscale of Teacher Checklist used by Mushtaq *et.al.* (2017), etc. But, despite translations available, these questionnaires are not addressing, the religious, cultural and social contexts and expressions of aggression is attacking religious prohibitions (Siddiqui, Kazmi & Ahmed, 2020).

Pakistan is still progressing towards the universalization of education. The literacy rate is not impressive and people who are able to read and write and have an age above 15 are categorized among literate people. According to 2014 estimates, the literacy rate was increased to 57%, whereas less than 45 percent of women and 70 percent of men were illiterate (Plecher, 2019). One of the difficulties associated with studying English is the use of diversity of languages in a multilingual society (Khan, Zahid & Akhtar, 2017). Furthermore, Mahboob (2007) stated that in Pakistan, regional languages are on the top in terms of communication whereas Urdu and the English attained the second and the third place. Moreover, students, even after completing the twelfth standard of education are unable to get command over English language and more communication in the local language is seen in urban areas or villages located nearby cities. The

national language of the country is Urdu used as a lingua franca. In schools, students study English as an international language but are unable to construct a single sentence without semantic or grammatical mistakes (Kannan, 2009) and study English only for passing out exams (Bilal *et.al.*, 2013). These findings indicate that using western tools to measure antisocial behavior in Pakistani community, will only address the privileged class and cannot be used for common people.

The purpose of the study is to revalidate newly developed Urdu Aggression Questionnaire, from a population where Urdu is not practiced as mother tongue, as well as Urdu not practiced as a personal or professional language for expression. Data is collected by using random sampling technique and psychometric analysis was once again established by confirmatory and exploratory factor analysis.

### **Operational Definitions of the Key terms**

*Aggression:* An intended activity to harm another individual (Baron & Richardson, 1994)

*Direct Aggression:* Physical or verbal face to face retaliation towards the provocateur (Richardson, & Green, 2006).

*Indirect Aggression:* An intended activity to harm keeping the identity safe from the victim (Richardson, & Green, 2006).

*Displaced Aggression:* Releasing frustration or acrimony on innocent targets such as objects, acquaintances etc. (Siddiqui, Kazmi & Ahmed, 2020).

*UAQ:* Urdu Aggression Questionnaire developed to measure aggression in Pakistani Society.

### **LITERATURE REVIEW**

There are multiple theories developed that helps to understand aggression in different contexts (Anderson & Bushman, 2002; Bandura, Evans & Huberman, 1988; Berkowitz, 1990; Buss, 1961; Dollard *et al.*, 1939; Gay, 1999; Huesmann, 1986; Pastore, 1952; Tedeschi & Felson, 1994; Zillmann, 1983) and several tools were used to measure aggressions (Álvarez-García *et.al.*, 2016; Denson, Pederson & Miller, 2006; Ellis & Rothbart; 2001; O'Connor, Archer & Wu; 2001; Pechorro *et.al.*, 2017; Raine *et al.*, 2006; Reynolds, Walkey & Green, 1994; Siddiqui, Kazmi & Ahmed, 2020) in different regions.

Many of the tools were also adopted and adapted to measure aggression in Pakistan (Javed, Kundi & Khan; 1992; Siddiqui, Kazmi & Siddiqui, 2021; Siddiqui, Saleem & Kazmi, 2018) and some were

translated for interventions and investigations (Ansari, 2019; Iftikhar & Malik, 2014; Mushtaq *et.al.*, 2017). However, Siddiqui, Kazmi and Ahmed (2020) believed that adoption, adaption or translation of these tools are not sufficient to clearly investigate unwanted behavior in Pakistan's society. Majeed and Malik (2016) highlighted that cultural practices are always influencing expressions of anger and tools developed for different regions cannot be used in Pakistan to measure these expressions. Moreover, Pakistan is a multilingual society where achieving expertise in the English language is challenging (Khan, Zahid & Akhtar, 2017). The national language of the country is Urdu used as a lingua franca. These findings indicate that using western tools to measure antisocial behavior in Pakistani community, will only address the privileged class and cannot be used for common people.

In Pakistan, a constant upsurge of antisocial behavior is reported that also includes a new form of digital way of expressing aggression commonly known as cyber aggression (Siddiqui, Kazmi & Siddiqui, 2021). FIA (Federal Investigation Agency) also witnessed constant intensification in cybercrimes including digital destruction, electronic violent, extortion and cyber aggression (FIA, 2019). FIA (Federal Investigation Agency) also confessed that delinquencies related to the internet world are also on the rise in Pakistan. Till October 2018, 2,295 inquiries related to cybercrime registered resulted in 209 arrests in 2018. In 2017, 1,290 inquiries 160 arrests made, whereas figures for 2016 stood at 514, 47 and 49. The statistics have shown that an acceleration in internet users has influenced cybercrime either directly or indirectly (Shakeel, 2018). Similarly, youths' illegal acts in Pakistan are also on rise with the passage of time (Ahmed & Murtaza, 2016) that is also negatively influencing their academics and co-curricular activities. Moreover, Siddiqui, Kazmi and Ahmed (2021) reported in their conference paper that during COVID-19 pandemic, a rise in aggression level was observed that was later mediated with emotional intelligence factors. Pakistani newspapers have also reported rise in the cases of bullying and harassment (Alam & Siddiqui, 2015; Kanza, 2017). This emergent participation of youth in delinquent acts is becoming an unavoidable challenge to both developed and developing worlds including Pakistan (Ahmed, Ahmad & Bhatti; 2020; Omigbodun & Gureje 2004). It has to be stated that it's a need of time

to develop instruments to measure aggression for planning timely interventions.

Literature and historical findings, have focused on the development of violent behavior and its consequences. However, it is also important to develop instruments for measuring such behaviors which are not tied with one or two reasons and it is necessary to identify the level of aggression before excavating reasons behind it.

#### **RESEARCH METHODOLOGY**

The research design is based on a quantitative research method where a random sample technique is used to gather data from people using different languages besides Urdu.

Researchers of the study has used confirmatory factor analysis technique to revalidate the tool with different sample groups and taking participants from diversified language speaking population. Total of 253 participants provided data from analysis. Before running factor analysis, univariate outliers removed using the Mahalanobis technique (Mahalanobis, 1930). Outliers are data points that are varying extremely most of data provided by the participants and creates problems on substantive interpretations of the relationship between variables (Leys *et al.*, 2018). 197 participants final data retrieved after univariate outliers removed. Multivariate outliers treated using winsorization technique where 30 participants (15%) data was modified by adjusting responses as explained by Tukey and McLaughlin (1963).

#### **Sample Characteristics**

Demographics of the participants shown that out of 197, 120 participants were using Urdu as mother tongue, however, 77 participants were using other regional languages for a mode of communication.

Table 1 has shown participants belonging to different language backgrounds. Another information gathered from demographics that 57 people were using Urdu as a professional language, however, 140 participants were using English as a professional language for communication. Table 2 is showing gender and age cross-tabulation.

**Table-1**  
*Mother Tongue*

	Frequency	Percent	Valid Percent	Cumulative Percent
Urdu	120	60.9	60.9	60.9
Sindhi	33	16.8	16.8	77.7
Punjabi	7	3.6	3.6	81.2
Pushto	12	6.1	6.1	87.3
Saraiki	2	1.0	1.0	88.3
Balochi	5	2.5	2.5	90.9
Gujrati	3	1.5	1.5	92.4
English	4	2.0	2.0	94.4
Hindko	2	1.0	1.0	95.4
Memon	2	1.0	1.0	96.4
Indonesian	1	.5	.5	97.0
Arabic	1	.5	.5	97.5
Gilgati	1	.5	.5	98.0
Cutchi	3	1.5	1.5	99.5
Chitrali	1	.5	.5	100.0
<b>Total</b>	<b>197</b>	<b>100.0</b>	<b>100.0</b>	

**Table-2**  
*Age \* Gender Crosstabulation*

	Gender			Total
	Prefer not to say	Male	Female	
Less than 15 years	0	1	0	1
15-20 years	0	16	16	32
21-25	1	17	35	53
26-30	0	22	14	36
31-35	0	10	15	25
36-40	0	11	17	28
41-45	0	3	6	9
46-50	0	1	4	5
More than 50 years	0	3	5	8
<b>Total</b>	<b>1</b>	<b>84</b>	<b>112</b>	<b>197</b>

**DATA ANALYSIS**

This study is designed to revalidate the tool with different samples and characteristics. Data analysis is achieved through SPSS version 20 and AMOS version 22. After confirmatory factor analysis, Pearson's correlation and independent sample t-test is used to see the influence of age and gender on sample size.

### Factor Analysis

Confirmatory Factor Analysis is achieved using AMOS version 22. Regression weights have shown that only one item was not fit into factor loading, however, the rest of all the items showed acceptable factor loadings and regression weights (Refer to Table 3, Table 4 and Figure 1). Moreover, reliabilities of the individual variables are satisfying as all the values of Cronbach's alpha are more than 0.5 (Refer to Table 4). Model fit indices are also into the range that shows model fitness criteria has met and the instrument is fit to be used (Refer to Table 5).

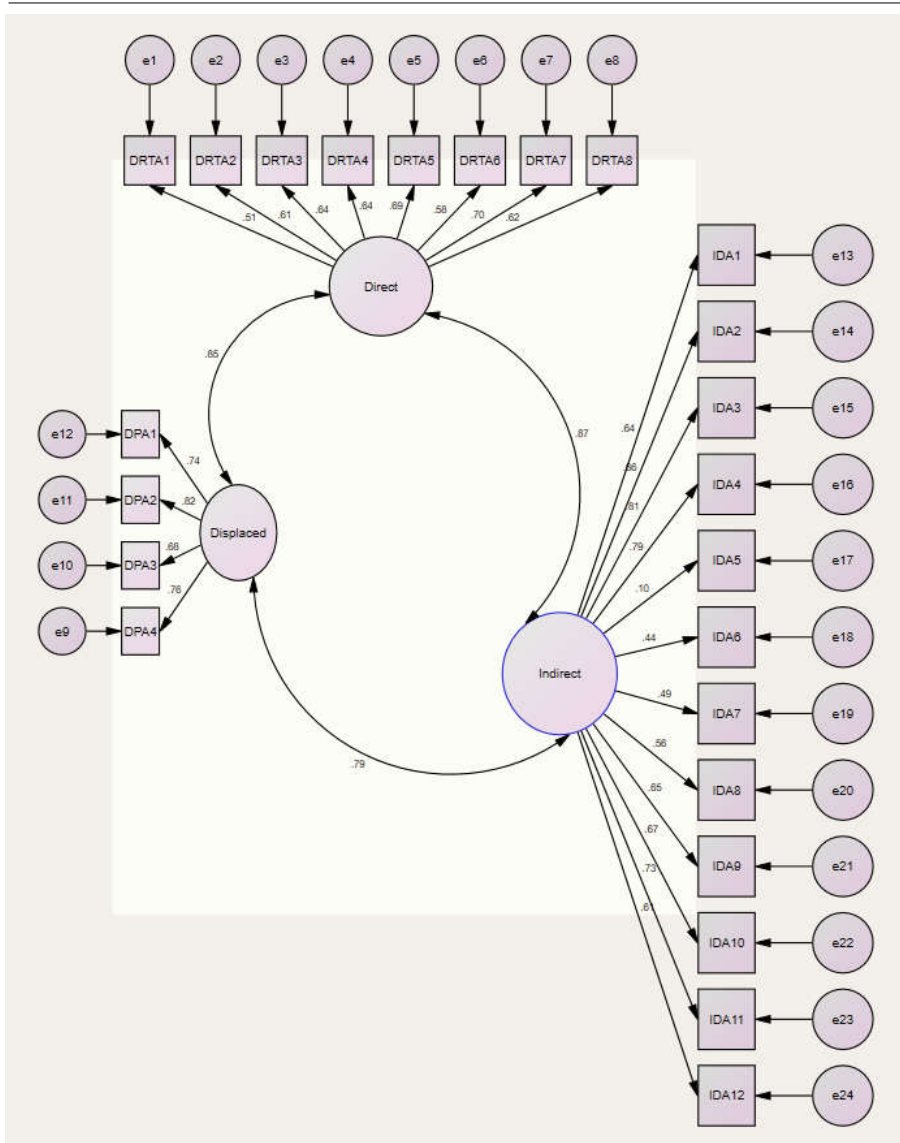
**Table-3**  
*Regression Weights: (Group number 1 - Default model)*

			Estimate	S.E.	C.R.	P	Label
DRTA1	<---	Direct	1.000				
DRTA2	<---	Direct	1.180	.169	6.969	***	par_1
DRTA3	<---	Direct	1.223	.171	7.172	***	par_2
DRTA4	<---	Direct	1.081	.151	7.157	***	par_3
DRTA5	<---	Direct	1.123	.151	7.458	***	par_4
DRTA6	<---	Direct	1.030	.152	6.790	***	par_5
DRTA7	<---	Direct	.942	.126	7.497	***	par_6
DRTA8	<---	Direct	.762	.109	7.019	***	par_7
DPA4	<---	Displaced	1.000				
DPA3	<---	Displaced	.683	.065	10.550	***	par_8
DPA2	<---	Displaced	1.072	.083	12.956	***	par_9
DPA1	<---	Displaced	.928	.080	11.640	***	par_10
IDA1	<---	Indirect	1.000				
IDA2	<---	Indirect	.864	.094	9.185	***	par_11
IDA3	<---	Indirect	.923	.086	10.779	***	par_12
IDA4	<---	Indirect	.854	.081	10.595	***	par_13
IDA5	<---	Indirect	.186	.128	1.450	.147	par_14
IDA6	<---	Indirect	.712	.111	6.443	***	par_15
IDA7	<---	Indirect	.722	.101	7.119	***	par_16
IDA8	<---	Indirect	.823	.103	7.958	***	par_17
IDA9	<---	Indirect	.909	.101	9.038	***	par_18
IDA10	<---	Indirect	.897	.096	9.302	***	par_19
IDA11	<---	Indirect	.927	.094	9.875	***	par_20
IDA12	<---	Indirect	.853	.099	8.602	***	par_21

**Table-4**  
*Standardized Regression Weights: (Group number 1 - Default model)*

			<b>Estimate</b>	<b>Reliabilities</b>
DRTA1	<---	Direct	.505	
DRTA2	<---	Direct	.611	
DRTA3	<---	Direct	.643	
DRTA4	<---	Direct	.641	
DRTA5	<---	Direct	.693	0.817
DRTA6	<---	Direct	.585	
DRTA7	<---	Direct	.700	
DRTA8	<---	Direct	.619	
DPA4	<---	Displaced	.759	
DPA3	<---	Displaced	.678	0.828
DPA2	<---	Displaced	.823	
DPA1	<---	Displaced	.743	
IDA1	<---	Indirect	.640	
IDA2	<---	Indirect	.663	
IDA3	<---	Indirect	.812	
IDA4	<---	Indirect	.794	0.861
IDA5	<---	Indirect	.095	
IDA6	<---	Indirect	.442	
IDA7	<---	Indirect	.494	
IDA8	<---	Indirect	.560	
IDA9	<---	Indirect	.650	
IDA10	<---	Indirect	.673	
IDA11	<---	Indirect	.725	
IDA12	<---	Indirect	.613	





**Figure-I: Confirmatory Factor Analysis for Urdu Aggression Questionnaire**  
*Authors' Estimation*

**Table-5**  
*Model Fit Indices for CFA*

Model Fit	Recommended Value	Final Value	After IDA5 removed
PCFI (Parsimony Comparative of Fit Index)	> 0.50	0.668	0.667
PNFI (Parsimony Normed Fit Index)	> 0.50	0.622	0.625

**Gender Differences**

Independent Sample t-test showed a significant difference in the level of direct and indirect aggression among participants of different genders. The mean difference has proven that male participants have a higher level of both types of aggression as compared to female participants (Refer to Table 6).

**Table-6**  
*Independent Sample t-test*

	Groups	N	Mean	Std. Deviation	Mean Difference	t-value	df	Sig.(2-tailed)
<b>Direct Aggression</b>	Male	84	1.7470	.62725	.19122	2.241	194	0.026
	Female	112	1.5558	.56249				
<b>Displaced Aggression</b>	Male	84	1.7381	.81487	.04836	0.425	194	0.672
	Female	112	1.6897	.76909				
<b>Indirect Aggression</b>	Male	84	1.7976	.64473	.28707	3.329	194	0.001
	Female	112	1.5106	.55937				

**Age Differences**

Pearson’s Correlation has not shown any significant impact of age on different forms of aggression of the participants. However, direct, displaced, and indirect aggression are influencing positively to each other. It shows that a person with a higher level of direct aggression has a higher tendency to shed aggression using displaced and indirect aggression strategies (Refer to Table 7).

**Table-7**  
*Correlations*

	Age	Direct	Displaced	Indirect
Age	1	.053	.025	-.032
Direct	.053	1	.651**	.666**
Displaced	.025	.651**	1	.662**
Indirect	-.032	.666**	.662**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## **DISCUSSION AND CONCLUSION**

The psychometric analysis of the newly developed tool has clearly indicated that the instrument is fit to be used for the diversified population in Pakistan. The purpose of this research paper is to analyze that people using different languages besides Urdu are whether able to comprehend the Urdu Aggression Questionnaire or not. The confirmatory factor analysis with a higher order of reliabilities showed that the language used in the questionnaire is easy to comprehend and even those populations that are familiar with Urdu language but not using it as a mother or professional language are able to use this self-report questionnaire for measuring the level of aggression.

In continuation with the findings of Hipwell *et.al.* (2002); O'Connor, Archer, and Wu, (2001); Siddiqui, Kazmi and Siddiqui (2021) and in contrast to the outcomes of the study conducted by Siddiqui, Kazmi and Ahmed (2020), Pearson's Correlation revealed that age has no influence on the level of aggression. A literature review has indicated that there is no standard or set criteria that shows the age is influential towards different forms of aggression. It is suggested to replicate the studies with different tools to surface more about age impacts on aggression.

Aligned with outcomes of Siddiqui, Kazmi and Ahmed (2020); Siddiqui, Kazmi and Siddiqui (2021), and in contrast to the results of Siddiqui, Saleem and Kazmi (2018); explanation of independent sample t-test in the current study has shown a significant difference in terms of direct and indirect aggression among male and female participants. This study is aligned with outcomes of Björkqvist (2018) that showed that male participants have a higher level of aggression as compared to female participants. Farooq (2004) has explained that in Pakistan's culture, females societal and cultural philosophies inhibit them from retaliating against provocateur directly and despite the fact that females are equally reactive to harassment (Lambert, 1985), they do not expose themselves as an aggressive person and retaliate by some other means.

## **RECOMMENDATIONS FOR FUTURE STUDY**

Mahboob (2007) has mentioned that the use of vernacular language is more common in rural areas of Pakistan. So, as highlighted by Siddiqui, Kazmi and Ahmed (2020) it is suggested to translate and replicate the study using Urdu Aggression Questionnaire to reveal an uncompromising pattern of behavior in remote areas of Pakistan.

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