



## Translation and Validation of Perceived Discrimination Scale in the Urdu Language

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<b>Keywords:</b> Perceived discrimination, Construct validity, Confirmatory factor analysis, Young adults,	<p style="text-align: center;"><b>ABSTRACT</b></p> <p><i>Perceived discrimination is an area that has been recognized as one of the important strains in relation to antisocial and delinquent outcomes. The purpose of this study was to translate and confirm the factor structure of the Perceived Discrimination Scale (PDS) in the Urdu language. The validation and translation were done in three phases. During phase I, the scale was translated using the standard forward and backward translation procedure. Language equivalence was established on a sample of 100 young adults (N = 100; 56 men and 44 women) through cross-language validation in phase II. Construct validity of the scale was established in phase III consisting of an independent study of 326 young adults with an age range from 18 to 25 (M = 21.23; SD = 1.68). The data was collected from universities across Pakistan. The factor structure of the scale was evaluated through two models: a two-factor structure model with Perceived Individual Discrimination and Perceived Group Discrimination and a unification model. The findings confirmed the factor structure of both the first-order and higher-order models of PDS. The findings confirmed the PDS as a psychometrically sound tool for measuring perceived discrimination in the Pakistani context.</i></p>
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### 1 Introduction

Perceived discrimination is an area that has been recognized as one of the important strains in relation to antisocial and delinquent outcomes (Agnew, 2017; Park et al., 2013; Pauwels & Heylen, 2020). According to Pascoe and Richman (2009) perceived discrimination is a

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psychosocial construct that describes how some members of society are treated unfairly or the idea that certain people are subjected to prejudice on account of their affiliation to a particular group of people. Discrimination expands to behavior and embodies differential treatment based on unjustified factors that disadvantage a group, it further involves intentional acts to harm individuals who belong to a particular group (Quillian, 2006).

The term "perceived discrimination" refers to a person's subjective experience of hindrance to assess different aspects of societal life, the individual attributes these barriers to discriminatory treatment by the society and social environment where a person lives whether this accusation is factual or not (Schmitt & Branscombe, 2002). Perceived discrimination is explained by two types including perceived personal discrimination and perceived group discrimination. Perceived personal discrimination can be defined as the sense of inequality when individuals relate their own circumstances and conditions in comparison to others. Whereas the concept of "perceived group discrimination" refers to the belief that one's own group receives less favorable treatment than other groups (De Waele & Pauwels, 2014).

Discriminatory actions are those that unfairly or incorrectly target a certain person or group of people based on their attributes and then take some form of exclusionary action against them. The idea of "perceived discrimination" is instigated by attribution theory, which says that people explain events, and other people's actions in particular, by attributing them to plausible causes. A person can be subjected to discrimination based on a variety of factors, including their culture, their religion, their accent, their physical outlook or complexion, cultural, and their ethnic background (Agnew, 2017; Jenkins, 2004; Victoroff & Adelman, 2009).

According to Agnew's general theory of strains (GST), "strain," also known as "negative treatment by others," can result in negative feelings, which in turn can result in numerous, negative behavioral, cognitive, and emotional consequences, such as violent attitudes and behaviors. According to Agnew, feelings of injustice and discrimination are among the most significant contributors to stress. However, perceived discrimination research is absent from empirical studies as a determinant of offending and violent extremism (De Waele & Pauwels, 2014; Nivette et al., 2017). GST as one of the more established perspectives on criminal behavior, states that negative emotions like anger and frustration are used as coping mechanisms which can result from strains or harsh and unjust treatment by others as a defense mechanism against the stress brought on by these feelings of despair, Agnew (2006) suggests that people may adopt extreme points of view.

In many different perspectives of antisocial outcomes (e.g., violent extremism), perceived discrimination is cited as a provoking factor that contributes to the formation of a cognitive opening; in other words, it makes individuals more receptive to the arguments advanced by those who support violent extremist's beliefs (Agnew, 2010; Frounfelker et al., 2019). According to GST, support for criminal and antisocial behavior is more likely when individuals experience collective strain as compared to individual strain. This can manifest as feelings of injustice, perceived discrimination against a group with which one identifies, or indirect or direct distress from conflict and warfare (Agnew, 2010; Pauwels & De Waele, 2014).

Research (De Waele & Pauwels, 2014; Gibbons et al., 2004; Martin, 2005; Stewart & Simons, 2006) suggests that perceived injustice and discrimination can affect core beliefs that place an important role in the support and justification of negative outcomes such as criminal behavior. Research further states that the feelings of injustice and discrimination have a significant influence on the propensity of youth in support of offending and extremism (Nivette et al., 2017). Previous research (Alanya et al., 2015) has demonstrated that perceived discrimination is not only

the outcome of individual factors rather it can be the result of ingroup identification and cumulative socio-structural disadvantages (Major et al., 2002).

A significant body of research in social psychology shows that having the self-perception that one is the target of discrimination is a source of emotional suffering and frustration, as well as anger (e.g., Cohen & Hyers, 1998). It has been specifically suggested that persecuting different groups of people is one factor that contributes to violence (Jenkins, 2004). There needs to be precise empirical findings to determine whether support for violent outcomes is linked to the perception of discrimination by groups, which is perhaps a critical societal dilemma around the world. Then, this societal problem may be a modifiable hazard factor for violent acts (Victoroff & Adelman, 2009).

The socio-cultural context and political zeitgeist of Asian nations are deeply ingrained with issues of injustice and discrimination (Robinson, 2009). People who have been subjected to discrimination may become radicalized and violent as a result of the feelings of injustice they experience as a result of their marginalization, isolation, and loss of social support (McGilloway et al., 2015). Discrimination, marginalization, injustice, and prejudice are significant potential sources of stress and negative outcomes for youth around the world (Vergani et al., 2018) and in Pakistan (Ahmed et al., 2018). According to research, Pakistan's high inflation rate, unemployment, poverty, illiteracy, and social injustice all contribute to the country's high rate of involvement and support of extremism (Ismail & Amjad, 2014). According to research, these negative issues cannot be resolved without addressing underlying causes, such as marginalization and discrimination. About 28 percent of participants in the study believed that social injustice and inequality are the primary factors that lead young people to become militant (Ahmed et al., 2018).

However, due to the lack of measures of perceived discrimination, researchers need to establish the factorial validity of available instruments in other languages and the lack of indigenously validated scale. Perhaps, the prevalence of inequality and exclusion across different groups in Pakistan is an alarming issue (Riaz et al., 2022) that needs to be measured empirically. The absence of adequate measures of perceived discrimination has been a significant barrier to progress in this area of research. The instrument that was translated and adapted for the purpose of this study specifies the loci of individual as well as group discrimination.

There is an urgent need to comprehend how perceived discrimination affects Pakistan's youth. For this purpose, the robust quantitative measure is necessary to evaluate the phenomenon of perceived discrimination in Pakistan. To our knowledge there are no instruments available in Pakistan to measure perceived discrimination, however there are some measures of perceived discrimination available in other cultures like Belgium (De Waele & Pauwels, 2014); Brazil (Bastos et al., 2022); Spain (Molero et al., 2013); America (Chan et al., 2012). All these measures of perceived discrimination gauge this phenomenon according to their own cultural context. So, this study takes an initiative to translate and adapt the perceived discrimination scale according to cultural context of Pakistan. Consequently, based on the gaps highlighted in literature the major objectives of the current investigation are to translate and validate PDS into Urdu language.

### **Objectives**

1. To translate Perceived Discrimination Scale into the Urdu language.
2. To determine language equivalence through cross language validity.
3. To confirm factor structure of Urdu version of PDS.

## 2 Method

The current investigation was conducted in three phases. The first phase of the study involved translation of PDS. Phase-II comprised of cross-language validation. In Phase-III, reliability estimation and factor structure of the PDS was established.

### 2.1 Measure

Perceived discrimination is the feeling of injustice when a person compares his/her situation with others. The scale was developed in Dutch by Van den Bos et al. (2010). While this scale is translated in English by De Waele and Pauwels (2014). This scale consists of 8 items including two subscales, *Perceived Personal Discrimination subscale* and *Perceived Group Discrimination subscale*. Perceived personal discrimination consists of four items, example items are “It makes me angry when I think of how I am treated in comparison to others”. Perceived group discrimination consists of four items, example items are “I have the feeling that the group to which I belong is discriminated”. The response categories are scored at a Likert scale of 1 to 5 with 1 being *strongly disagree*, and 5 *strongly agree*. The alpha is  $\alpha = .89$  for the perceived personal discrimination subscale and the alpha for perceived group discrimination is  $\alpha = .95$  (De Waele & Pauwels, 2014). The composite score is obtained by summing up all the responses.

### 2.2 Procedure

The Perceived Discrimination scale was translated into Urdu using Brislin's (1976) guidelines. First, permission to translate and adapt the Perceived Discrimination scale was sought via email from the original authors. The procedure involved the adaptation and translation of the test materials in Pakistani cultural context. This allows for the formation of standardized testing instruments for use in research.

**Phase I:** Translation of Perceived Discrimination scale into the Urdu language

#### Step 1: Forward Translation

In this step, 5 bilingual experts approached for the forward translation of the perceived discrimination scale from the source language English into Urdu language. The experts were briefed about the objective of the study and the potential participants for which the scale will be used. The experts were asked to translate the scale items by keeping in mind the cultural equivalence and semantic meaning of the items. Furthermore, the experts were requested that they should keep the sentence statement precise and preserve the original expression of the items.

#### Step 2: Committee approach

In this step, the forward translation was analyzed to select the best translation. The committee consisted of 3 experts including an Assistant Professor and two PhD scholars. The main purpose of this step was to select the appropriate statement concerning the age and educational level of target audience and cultural relevance.

#### Step 3: Backward Translation

In this step, the final version of the best selected forward translation from Urdu to the English language was given back to 5 independent experts who were having command in both English and Urdu language. The same instructions were given to the experts for translation as did in the forward translation.

#### Step 4. Committee approach

The committee comprised of the researcher herself and three expert bilinguals (2 Ph.D. scholars and a Professor) for the final selection of items and to be compared with the original form of the measure to check for variations between the two versions. In conclusion, selected

items were then sent to the author for final expert opinion and review. The review was finalized without any change through correspondence on e-mails with the original author.

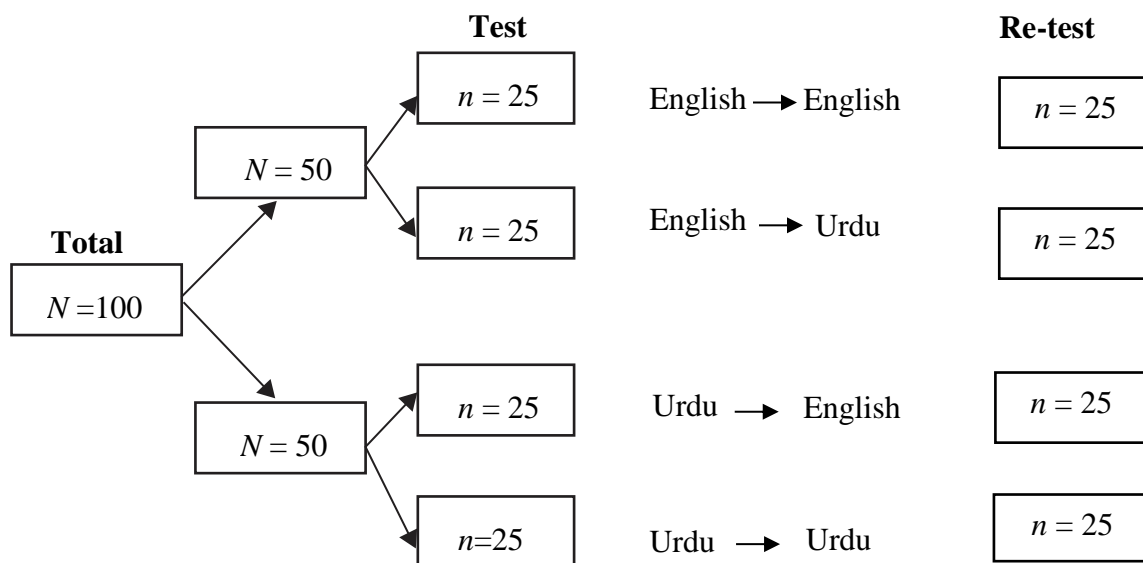
**Phase II: Cross Language Validation**

In phase II cross language validation to check language equivalency for English Urdu version of the measure through the test-retest method was conducted.

**Procedure.** Permission to collect data was requested from the departmental head. Participants were contacted in groups and were briefed about the aim of the study. After obtaining the participants' consent, they were briefed on anonymity, confidentiality, voluntary participation, and right to quit. In the initial phase, the English version of perceived discrimination scale was employed on 60 university students divided into 2 groups including 30 participants in each group. Likewise, the perceived discrimination scale Urdu version was administered to the other two groups of 60 students. The participants were split up into four equal groups randomly (English-English, Urdu- English, English-Urdu, and Urdu- Urdu,).

**Figure 1**

*Diagrammatic Representation of Sample at Two-Time Points for Test-Rest Reliability*



In this study paper and pencil method was utilized to collect data. Participants completed the perceived discrimination scale along with a demographics form. All of these participants were retested (for test-retest reliability) with fifteen days' time laps under identical conditions (e.g., seating arrangements, location, instructions, instruments, and researcher). At time two, one group of students was administered with the Urdu version of the perceived discrimination scale, while the next group was given the original scale. While for the last two groups, the third group was given the Urdu version of the perceived discrimination scale, and the fourth group was given the English version. The entire procedure was carried out to determine the discrepancy and cultural equivalence between the original and translated versions of both scales. These groups were created to control the learning effects that may have resulted from the administration of the Urdu and English retests in two weeks interval. Both forms required an average of 10 to 15 minutes to

complete. The participants were provided with a debriefing and thanked for their cooperation. In the second administration, however, the total number of participants decreased from 120 to 100 students.

**Sample.** The sample for cross-language validation consisted of 100 young adults with age range between 18 to 25 years from Quaid -I- Azam University Islamabad (men = 56, women = 44). In accordance with the principles of Bujang and Baharum (2017) the sample was split into four equal groups, with 25 persons in each group. The young adults were proficient in both languages English and Urdu.

### 3 Results

To establish the test-retest reliability of the scale correlation coefficients were calculated among the results of time one and time two for each of four groups.

**Table 1**  
*Test Re-test Reliability of Perceived Discrimination Scale and its Subscales (N = 100)*

Scales	<i>r</i>	ICC
<b>PDS</b>		
English–English	.85**	.83**
English–Urdu	.73**	.73**
Urdu–English	.70**	.68**
Urdu–Urdu	.72**	.70**
<b>PPDS</b>		
English-English	.68**	.66**
English-Urdu	.76**	.76**
Urdu-English	.46**	.47**
Urdu–Urdu	.65**	.65**
<b>PGDS</b>		
English–English	.89**	.87**
English–Urdu	.57**	.58**
Urdu–English	.63**	.68**
Urdu–Urdu	.67**	.65**

*Note.* PDS = Perceived Discrimination Scale; PPDS = Perceived Personal Discrimination Subscale; PGDS=Perceived Group Discrimination Subscale; ICC = Intraclass Correlation Coefficient.

\* $p \leq .05$ . \*\* $p \leq .01$

Results in Table 1 indicate that all four groups (English-Urdu, Urdu-English, Urdu-Urdu, and English-English) has a high test-retest reliability, and the correlations of the perceived discrimination scale at both time points are positive and statistically significant. High temporal consistency across all versions and cross-language validity between the Urdu and English versions is indicated by correlation coefficients ranging from .70 to .85 for four groups. Correlation value of Urdu-Urdu ( $r = .72$ ,  $p < .01$ ), retest group is high in magnitude. Additionally, according to Cicchetti and Sparrow's (1981) established criteria .40 indicates poor; .40 to .59 indicates fair; .60 to .74 indicates good, and .75 to 1.00 indicates excellent levels of ICC test-retest reliability. Indicators of temporal validity and sample-wide consistency in scores are confirmed by these

results, showing that scores are stable over time. In sum, these findings provide substantial support for the language equivalence of the original and translated versions of the PDS. Additionally, the findings also suggest that both tests are theoretically similar.

**Phase III: Structural Validation of PDS**

Given that the PDS Urdu version has been adapted and translated from English to Urdu it is necessary to confirm its factorial validity. Phase three involved conducting an independent study to validate the scale's factor structure in the context of Pakistan using confirmatory factor analysis (CFA). The CFA was carried out using AMOS version 26. This was achieved by utilizing multiple indices to establish the model fit for the PDS using structural equation modelling. Following metrics were used to estimate model fit: “the Chi-square, the Incremental Fit Index (IFI), the Normed Fit Index (NFI), the Tucker-Lewis Index (TLI), the Comparative Fit Index (CFI), the Standardized Root Mean Square (SRMR), and the Root Mean Square Error of Approximation (RMSEA).”

**Sample.** For CFA of the translated measure, an independent study on a sample of students from across Pakistan was conducted. The sample was taken from both public and private sector institutes. The sample consisted of students ( $N = 326$ ), age range between 18 to 25, ( $M = 21.23$ ;  $SD = 1.86$ ), from universities and colleges. Sample was representative of both males ( $n = 131$ ), and females ( $n = 195$ ).

**Procedure.** The data collection was carried out using the method of convenient sampling. The data was collected online through google form. Participants were shared with the link of google form consisting of research information, consent form, demographics sheet, and perceived discrimination scale. Participant’s consent was taken before data collection. They were briefed on anonymity, confidentiality, voluntary participation, and right to leave. Participants were requested to fill out the questionnaires as honestly and accurately as they could.

In phase III Internal consistency and correlation coefficients between scale and subscales was computed by using bivariate correlation and Cronbach’s Alpha.

**Table 2**  
*Descriptive and Bivariate Correlations among Study Variables (N = 326)*

	No. of Items	$\alpha$	$M$	$SD$	Skew	Kurt	1	2	3
Perceived Discrimination	8	.84	20.32	6.15	.16	-.30	-		
Perceived Personal Discrimination	4	.70	10.03	3.19	.22	-.14	.89**	-	
Perceived Group discrimination	4	.80	10.29	3.56	.31	-.45	.91**	.65**	-

Note. Skew = Skewness; Kurt = Kurtosis.  
\*\* $p < .01$

Descriptive statistics of the perceived discrimination scale are presented in Table 2. The reliability of this scale and its components is determined to be in an acceptable range. Reliability for perceived discrimination is  $\alpha = .84$ , for PPD,  $\alpha = .70$ , and for PGD,  $\alpha = .80$ . The values of normality kurtosis and skewness are in satisfactory range (-2.96 to +2.96) in the present study according to Field (2009). Furthermore, correlation shows that the perceived discrimination scale and its subscales are significantly positively correlated.

**Table 3**  
**Fit Indices for the Factor Structure of Perceived Discrimination Scale (N = 326)**

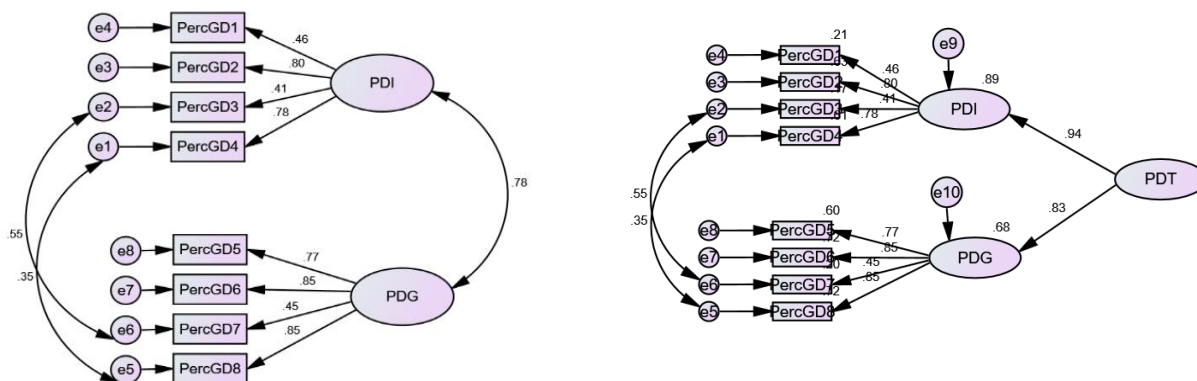
	Model	$\chi^2$	$\Delta\chi^2$	GFI	IFI	CFI	SRMR	RMSEA
PDS two-factor structure	M1	157.48(19) <i>p</i> = .00		.90	.87	.87	.07	.15
	M2	31.42 (17) <i>p</i> = .01	126.06	.97	.98	.98	.03	.05
PDS higher-order factor structure	M1	157.48(19) <i>p</i> = .00		.90	.87	.87	.07	.15
	M2	31.42 (17) <i>p</i> = .01	126.06	.97	.98	.98	.03	.05

Note. PDS = Perceived Discrimination Scale; M1= Default Model for (PDS); M2 = Model with Error Covariance; CFI = Comparative Fit Index; IFI = Incremental Fit; GFI= Goodness of Fit Index; SRMR = Standardized Root Mean Square; RMSEA = Root Mean Square Error of Approximation.

Table 2 indicates the stepwise model fit indices for confirmatory analysis of PDS two-factor structures and higher-order factor structures. The default model did not fit well to the data. The finding of the default model was independent of error covariances. The values of fit indices CFI =.87; IFI = .87; and RMSEA were below the acceptable range. According to research (Bentler, 1990; Byrne, 2012; Hooper et al., 2008; Marsh et al., 2004) the fit indices CFI, GFI, and IFI should be near to 1, the RMSEA value should be < .08, and the factor loading's value should be greater than .30 is considered a good fit for the model. To attain a good and acceptable fit for the model error covariances were applied. In model 2 fit indices improved significantly and reached to an acceptable range. The values of GFI = .97, IFI = .98, CFI = .98, RMSEA = .05 and Standardized SRMR = .03 demonstrated an adequate fit for the data. Furthermore, all factor loadings for the two-factor structure and second-order factor structure were above the acceptable range of .30. The factor loadings are shown in Figures 1 and 2 of the respective models. Similar results were shown for the second-order factor structure of PDS.

**Figure 2**

**CFA Higher-Order Model of the PDS**





## 4 Discussion

Considerable theoretical and empirical support (Agnew, 2016, 2017; Major et al., 2002; Pauwels & Heylen, 2020) exists for the notion that perceived discrimination is a result of cumulative socio-structural disadvantages and a potential risk factor for a variety of antisocial outcomes. There are many assessment tools for gauging perceived discrimination, but they are mostly established in Western cultural context and in other different contexts. The aim of this research was to modify and confirm the PDS for use in Pakistan. Three phases of this study were carried out using common translation and validation techniques.

Phase I included the translation of the PDS; Phase II included cross-language validation study and test-retest reliabilities for the language equivalence of the Urdu and English versions of the scales. Phase III consisted of confirming the factorial validity of the Urdu version of PDS. In phase I the forward and backward translations were used to estimate the linguistic equivalence of the scale. First, all the items on the PDS were translated and adapted using standard methods while preserving conceptual and functional equivalence. The primary objective of this phase was to make the PDS equivalent to that of the original version. This procedure established an Urdu version of the PDS consistent with the original scale. The major objective of the phase two was to measure the language equivalency of the scale Urdu and English versions test re-test reliabilities were estimated. Results showed significant correlations between the score of the scale in two time points. This is clear from the fact that there are significant positive correlations between the Urdu version of the PDS and the English version. The interclass correlation were also high that demonstrates the efficacy of the PDS in a cross-linguistic sample of Pakistani participants.

The main objective of the phase three consisted of the establishment of reliability and the factor structure of the PDS in Pakistani context. The descriptive statistics showed that both the overall scale and its subscales had significant alpha coefficients, indicating their reliability. According to Field's (2006) criteria the skewness and kurtosis values for this study fall within acceptable range. Strong correlations were found between PDS and its subscales when looking at intercorrelations for the whole sample. The factor analysis was conducted for two factor structure for subscales and a second order factor structure for the uni-factor dimension of PDS. The confirmatory factor analysis of PDS two-factor structures and higher-order factor structures showed a poor fit to the data in default model. The finding of the default model was independent of error covariances. The values of fit indices CFI = .87; IFI = .87; and RMSEA were below the acceptable range according to established threshold for each fit indices (Bentler, 1990; Byrne, 2012; Hooper et al., 2008; Marsh et al., 2004). Model two incorporated error variance to attain goodness of fit. After adding error covariances, the model fitted well to the data. The fit indices IFI, CFI, and RMSEA reached the standard threshold above .90 and value of RMSEA at the threshold of .50. All the factor loadings of the items were above the cutoff level of .30. Remarkably both model two factor structure and unifactorial structure of PDS showed identical results which indicated the validity of the scale items across factor structure respectively. Providing that PDS is applicable in Pakistani context and is not regarded in a different way than in Western countries.

### 4.1 Limitations and Future recommendations

Even though this research contributes to theory and literature, it has certain limitations. As this study focuses on the phenomenon of perceived discrimination, future research should measure this phenomenon using a sample of underrepresented, marginalized and minority population. Social desirability is another limitation of the present study as cross-sectional research, so future studies should measure this phenomenon alongside a social desirability scale.

## 4.2 Implications

This research contributes to the existing literature by translating PDS into Urdu, and then validating its factor structure. As a result, the Urdu translation of the PDS has the potential to open the door to empirical research on strains and the cultural associations they share in Pakistan. Since perceived discrimination has been linked to negative, delinquent, and antisocial outcomes, this instrument can be utilized to quantify and predict these outcomes that may be influenced by the perception of marginalization, inequality, and injustice.

## 5 Conclusion

Perceived discrimination has significant role in understanding of the causes and outcomes of inequalities in Pakistani society. However, to study this phenomenon requires instruments that are psychometrically reliable and valid. Our findings indicated that the PDS has adequate construct validity and reliability and may therefore serve as a suitable measure of perceived discrimination in Pakistani culture. It is likely to draw the conclusion, based on the psychometric properties of the PDS scale that the PDS Urdu version is a reliable and valid instrument for evaluating perceived discrimination. Future research utilizing this validated instrument has the potential to improve our perception of the relationship among perceived discrimination and potential outcomes (e.g., offending, extremism) an essential but largely unexplored topic in Pakistani culture. In addition, the Urdu version of the scale can be utilized by potential scholars working with diverse population that cannot comprehend English measures.

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