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Translation, Adaptation, and Validation of Interpersonal Tolerance Scale

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In collectivistic societies social and interpersonal cohesion is deeply valued as indicator of tolerance and measuring interpersonal tolerance demands indigenous measure which is linguistically and culturally relevant. Therefore, this study intended to translate and adapt the Interpersonal Tolerance Scale (Thomas et al., 2016) into the indigenous language Urdu from English. Further this study also aimed to establish the construct validity of the translated version of this scale. A correlational research design was employed using convenience sampling strategy to recruit the sample. The study recruited 100 married individuals as participants. Study comprised of two phases. Phase I was carried out through rigorous process of forward and backward translation and adaptation method of the Interpersonal Tolerance Scale. Committee approach was used by selecting subject matter experts to ensure equivalence in linguistic and conceptual domain. Phase II objectified the construct validation of the Interpersonal Tolerance Scale. Confirmatory factor analysis (CFA) was carried out to establish the construct validity. The findings showed an acceptable model fit indices as indicated by reporting all the indices i.e., (χ^2/df=1.86 CFI=.90 RMSEA= .05 & SRMR=.01). These model fit indices and values of inter scale correlations of interpersonal tolerance scale as composite score with subscales (r= .87 to -.72) confirmed the psychometric properties of the Urdu-translated and adapted version of Interpersonal Tolerance Scale. These evidences demonstrated that the translated and adapted version of interpersonal scale is reliable (α = .92 to .91) and valid tool for measuring interpersonal tolerance for married individuals in the traditional and collectivistic culture context of Pakistan.

Keywords: Interpersonal tolerance scale, translation, adaptation, validation, confirmatory factor analysis, married couples

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Introduction

Tolerance is an important construct in psychology that focuses on peaceful co-existence, unity, and interpersonal relationships (Duckitt & Sibley, 2010). It involves the ability to accept, give respect, and understanding differences in beliefs, behaviors, and cultural norms of others, which is particularly relevant in collectivistic societies (Hofstede, 2001). Interpersonal tolerance is a multidimensional concept that facilitates cognitive, behavioral, and affective components (Verkuyten & Yogeeswaran, 2017). It necessitates drawing constructive connections with people holding varied beliefs or values, and the inclination towards accepting contrasting viewpoints, and desist from detrimental attitudes (Gibson, 2007). Psychological literature validates that various factors, including cultural background, and socialization processes influence tolerance (Brandt et al., 2015). Interpersonal tolerance is entrenched in ethos and religious belief system, which stresses on hospitality, politeness, and community co-existence, especially in collectivistic communities like Pakistan (Khan & Fischer, 2021).

A tool developed in Western context may not be fully applicable to Pakistani context due to diversity in language and culture and thus, using established psychometric properties. Therefore, it is crucial to translate, adapt, and validate the interpersonal tolerance scale for meaningful application within the Pakistani context as suggested by (Hambleton et al., 2005) also. The instrument's reliability, construct validity, and measurement in variance are retained by cross-cultural validation (van de Vijver & Leung, 1997). This study is intended to systematically translate and validate the Interpersonal Tolerance Scale in Pakistan's traditional subcultural background. To maintain the reliability and validity of a measure, the process of translating and adapting is set to have several critical steps including forward translation followed by expert's review, and backward translation followed by experts' committee approach. According to (Brislin,1980; Hall et al., 2018), one of the broadly used scale translation procedures is back-translation. It is carried out in cross-cultural projects to achieve logical and contextual equivalence between the original and translated versions of a tool (Fatima et al., 2019). To pinpoint disparity and maintain accuracy, this method involves two rigorous steps of which first is translating the instrument into the target language and then independently translating it back into the original language. Subsequently, cultural adaptation is significant to alter items that may not be culturally relevant or may be comprehended differently in the target culture. As Fatima et al. (2019) has also undertaken the translation and adaptation of

the Tolerance for Disagreement Scale for Pakistani married couples, following rigorous procedures to establish its psychometric properties. This study indicated the significance of scrupulous translation and validation processes in making psychological instruments suitable for different cultural settings.

Theoretical Background

The construct of interpersonal tolerance is historically grounded by the social identity theory (Tajfel & Turner, 1979) and personal value (Allport, 1954) and diverse cultural belief (Furedi, 2011; Verkuyten et al., 2020). These two theoretical frameworks provide base for understanding how people perceive and react to differences in interpersonal contexts. In collectivistic societies harmonious social engagement is deeply admired (Triandis, 1995; Verkuyten et al., 2023). Interpersonal tolerance is not only a deeply respected personal virtue but also a social need for maintaining harmonious relationships, particularly in family, friends, and marital contexts (Sugitanata & Aqila, 2024). Transmitting greater precedence to individual independence and liberty over social cohesion makes tolerance more possible and approachable human attitude and behavior (Verkuyten et al., 2023). Considering the theoretical aspects of acceptance, respectful behavior, cognitive assimilation, and emotional regulation, the theoretical frameworks (Butrus & Witenberg, 2013; Thomae et al., 2016) are conceptually aligned with the conceptualization of the construct of interpersonal tolerance by the author of interpersonal tolerance scale.

The Interpersonal Tolerance Scale (IPTS) is a well-known measure of tolerance across social networks. Established to assess concepts such as warm tolerance, cold tolerance, and limits of tolerance, the Interpersonal Tolerance Scale extensively measures individuals' perception and reaction to heterogeneity in cross-group relationships. This scale has been developed and validated by Thomae et al. (2016). It has total of three reliable and valid subscales: Warm Tolerance Cold tolerance and Limits of Tolerance. Considering these psychometric evinces, the current study was aimed to establish the construct validation through confirmatory factor analysis (CFA) of a measure and to confirm that the factor structure consistency with the original instrument (Kline, 2015).

Rationale

The existing psychological construct of interpersonal tolerance is primarily Western developed, which may not fully capture the cultural and social nuances of traditional Pakistani society, necessitating an indigenous tool to accurately measure the concept of interpersonal tolerance in the local context. The noteworthiness of this study is not limited to

psychometric validation only. In an era of progressive globalization, detaining tolerance levels, and promoting tolerance is the utmost need for social cohesion (Helbling, 2014). This scale is available in English and in German language. It has been used in different research studies to measure the concept of tolerance in different cultures (Mehmood et al., 2022; Sneka & Ramasamy, 2023). An indigenous study highlighted tolerance for differences and disagreement is pertinent considering the current socio-political dynamics for political realm, legal and mental health framework, religious harmony, relationship domains, and organizational context (Fatima et al., 2019; Mehmood et al., 2021). However, Pakistan is a rich and thick society in which multi-cultural ethnic realties lie in its provincial and tribal routes, necessitates the translation and adaptation of interpersonal tool. Researchers, policymakers, and educational trainers can be assisted by a validated interpersonal tolerance scale for the purpose of tolerance assessment and promoting inter cross-group harmony, communal, and interpersonal relations. This study fills the void gap between Western-developed psychometric tools and indigenous psychological measures by adapting the interpersonal tolerance scale to the Pakistani context, ensuring culturally relevant psychological assessments procedures and evidence. Overall, these arguments have justified the rationality of translation and adaptation of Interpersonal tolerance scale into the indigenous context of Pakistan. Therefore, this study was completed into two phases to meet the two folded objectives i.e., to translate and adapt the interpersonal tolerance scale into the indigenous language Urdu from the original source langue English for the married couples. Secondly, to validate the factor structure of the translated and adapted version of interpersonal tolerance scale on the sample of married couples.

Objectives of the study

1. To translate the Interpersonal Tolerance Scale from English into Urdu using a standardized forward and backward translation procedure in Phase I.
2. To establish the construct validity of the Urdu-translated version of the Interpersonal Tolerance Scale through Confirmatory Factor Analysis (CFA) in Phase II.

Method

This study has been carried out to achieve the double folded objectives in two phases. Phase I comprises of the translation and adaptation of the interpersonal tolerance scale from English language to Urdu, whereas phase II comprises with the construct validation (CFA and

convergent validity) of the translated version of interpersonal tolerance scale.

Translation and Adaptation of the Interpersonal Tolerance Scale (IPTS)

In phase I of the study translation and adaptation of the Interpersonal Tolerance Scale (Thomas et al., 2016) was objectified. Therefore, Interpersonal Tolerance Scale was translated and adapted from English to an indigenous language Urdu. Originally, the interpersonal tolerance scale was developed and refined from a pool of 76 items. After finalizing its 34 items that comprise of the three subscales; warm tolerance (item 1 to item 13), cold tolerance (item 14 to item 25), and limits of tolerance (item 26 to item 34), its reliability ranges from .77 to .81 (Thomae et al., 2016). The subscale Warm Tolerance consists of 13 items and has reliability of .86. Cold Tolerance has 12 items having reliability of .85. The total reliability of Warm Tolerance and Cold Tolerance is .88. The subscale Limits of Tolerance have total 9 items and have a reliability of 0.81. All the subscales can be scored on scale (1 = *strongly disagree* to 7 = *strongly agree*) using 7-point Likert. A total of 21 items of the interpersonal tolerance scale (14 to 34) is negatively scored. The confirmatory factor analysis of the scale gives a 1220.22 value of the chi-square with 524 degrees of freedom, and a root mean square error of approximation of .068 (Thomae et al., 2016).

Steps of the Translation and Adaptation of Interpersonal Tolerance Scale

The first step of the translation and adaptation process of the Interpersonal Tolerance Scale was to get formal permission via email from its original author (Thomae et al., 2016). An unconditional permission was granted to use and translate the scale to Urdu language by the author. For better reliability and validity of the scale, the forward and backward translation method was followed for the translation of interpersonal tolerance scale (Fenn et al., 2020). The key steps of the whole process of translation and adaptation are as follows:

Step 1: Forward Translation of Interpersonal Tolerance Scale into Urdu. To make sure that interpersonal tolerance scale is equivalent in both its source language (English) and target language (Urdu) in terms of its contextual meaning, conceptualization, and cultural meaning, a forward and backward method of translation has been followed. After taking the informed consent bilingual experts were selected, and the details and purpose of the translation method elaborated so that they could make a forward translation of the scale into Urdu as per the requirement of the current study (Hawkins et al., 2020). Three independent bilingual experts

were selected, one of them has done masters with major in Modern English and literature and was a native Urdu speaker and two of them were Ph.Ds. and specialists in Psychology discipline and native Urdu speakers too.

Procedure. All three bilingual experts selected for the forward translation were given similar instructions in their individual working places. They were given a clear elaboration about the purpose and requirement of the translation for the current research study. As the target population of the current study is married couples from Pakistani community, therefore a clear, simple and concise translation approach was the requirement of this study. The bilingual experts were given an elaboration that the target population are not the experts in the source language of interpersonal tolerance scale, the translation into literal meaning, difficult and non-contextual dictionary meaning, jargons and metaphors should be refrained from. The translator must make it sure that the items are clearly understandable to the layman and the native married couples of Pakistani communities. They should have a thorough understanding of the contextual and conceptual meaning of the source language so that the translated version is easy to understand and comprehended by the target population. Three forward translations were obtained from which the draft finalized and refined through a committee approach.

Step 2: Committee Approach. A committee comprises of three bilingual experts other than those selected for forward translation process were approached. These bilingual experts were Ph.Ds. in Psychology and have extensive experience in the field. The three drafts that were obtained in the forward translation process were thoroughly analyzed by the experts based on its contextual understanding, grammatical structure, and clarity of the items. A finalized Urdu version was obtained through the analysis by the committee in which no item was discarded and only little modification in the words in terms of its contextual meaning rather than literal dictionary meaning was made.

Step 3: Backward translation. The first Urdu version of interpersonal tolerance scale was obtained through the first committee approach of this process. The same procedure was followed for backward translation as in forward translation except for three bilingual experts other than the ones approached in forward translation process or in the committee approach. This time, the target language (Urdu) version was intended to be translated backto the source language (English) version to have make sure the translation is reliable and appropriate.

Bilingual Experts. The bilingual experts approached in the backward translation process were independently selected. One of them was majored in English discipline while the other two were Ph.Ds. in psychology and were teaching professionals in their respective fields. The same instructions were given to them as in the forward translation step. Three drafts were obtained through backward translation from Urdu to English and were made ready for the analysis in the second committee approach.

Step 4: Committee Approach. A second committee approach was held comprised of the same bilingual and subject experts as in the first committee approach. A thorough analysis and expert judgment of the committee resulted a very refined English version of the scale. The contextual meaning and understanding of the first Urdu version, second English version and the original English version were compared and analyzed. The 5th item of the subscale warm tolerance of the interpersonal tolerance scale has a word "belief" in its English version for which the actual meaning is Aqida ("عقیدہ") which has been changed to Nazaria ("نظریہ") in the translated version to get a more culturally adapted understanding of the concept. The final Urdu version was refined and made ready to be used on the target population by the decision and expert judgment of the committee members, retaining the same sequence and structure of the scale as its original source version.

Phase II: Validation

To achieve the second aim of this study construct validation of the translated and adapted version of interpersonal tolerance scale was established on the sample of married couples. Construct Validation of Interpersonal Tolerance Scale.

Sample

The process of data collection was done using the self-report measures that were filled out by the married couples of Pakistan. The sample (N =100) of the present study age ranged between (M =33.25, SD = 7.35) was married couples which makes (N=200) married individuals.. Sample size was measured using G power that came out (N=82). Purposive sampling technique was used to collect data and participants were approached through convince. Married couples participated in the study were from Khyber Pakhtunkhwa province of Pakistan. . All the participants were educated.

Inclusion/ Exclusion Criteria

Inclusion criteria were married couples from Pakistani community with minimum one child were included. Couples with one spouse living

out of Pakistan were not included in the study. Couples with second marriages were also excluded.

Ethical Consideration

Ethical guidelines were followed by ensuring the informed consent and confidentiality of the data. Approval from the departmental committee of Bahria school of professional psychology, Bahria university, Islamabad was obtained.

Procedure

The objective of this phase of the current study was to develop construct validation for the Interpersonal Tolerance Scale (IPTS). For this purpose, after data collection the confirmatory factor analysis was run on all 34 items. The original version of IPTS has a 7-point Likert scale but, as per the open permission from the author and the level of understanding of the target population, 5-point Likert scale was used. There was difficulty in understanding the difference between 2nd point (Agree) and 3rd point (Nearly Agree) of the Likert scale for the study subjects. Likewise, 5th point (Nearly Disagree) and 6th point (Disagree) of the Likert scale were also difficult to be differentiated by the respondents of the study. Therefore, in consensus with the author of the scale, members of the committee for the translation, and subject matter experts involved in the committee approach, it was decided to keep a 5-point Likert scale for IPTS. Confirmatory factor analysis was done on IPTS to validate the factor structure. AMOS (Analysis of Moment Structure) version 24.0 was used to develop a structural equation model (SEM) for the validation of factor structure of IPTS. There are three subscales of IPTS named (Cold Tolerance, Warm Tolerance, and Limits of Tolerance) like the original version. Moreover, inter scale correlations were calculated to establish the convergent and divergent valid of the scale. The translated and adapted version of interpersonal scale was validated employing the sample of married couples. Validation process considered establishing, alpha reliability for total scores on the scale and sub scales, inter-scale correlations, and confirmatory factor analysis through model testing.

Results

Confirmatory factor analysis was done for the validation of the translated version of Interpersonal Tolerance Scale. This was done using the software Analysis of Moment Structure (AMOS) v. 24.0.0. The details of the results are presented in the following tables.

Table 1

Descriptive Statistics and Psychometric Properties of Interpersonal Tolerance Scales and Subscales (N = 100)

Variables					Range			
	K	*α*	*M*	*SD*	Actual	Potential	Skewness	Kurtosis
Interpersonal Tolerance Scale	34	.94	97.77	12.67	67-137	34-170	.65	.49
Warm Tolerance	13	.92	40.86	12.02	13-65	13-65	.74	.75
Cold Tolerance	12	.91	28.14	10.25	14-58	12-60	.61	.54
Limits of Tolerance	9	.91	28.77	9.75	12-45	9-45	.54	.48

Note. K = Number of items. α = Cronbach's alpha reliability. M = Mean. SD = Stand Deviation

Table 1 presents the descriptive statistics and Cronbach's alpha reliabilities of the total scale and subscales that were used in the study. The Cronbach's α value for Interpersonal Tolerance Scale (IPTS) was .94 (>.70) which indicates its high internal consistency. Likewise, all the subscales of ITPS, indicate the Cronbach's α value of .92, .91, and .91 (>.70) respectively, which indicate their high internal consistency. These values also indicated the convergent and divergent validity of the translated and adapted version of the interpersonal tolerance scale on the sample of married couples.

Table 2

Indices Fit for the Confirmatory Factor Analysis of the Translated Scale of Interpersonal Tolerance

Model	χ^2	df	χ^2/df	GFI	CFI	NNFI	RMSEA	SRMR
Initial Model	1090.18	524	2.080	0.748	0.861	0.764	0.074	0.148
Model Fit	916.03	513	1.786	0.899	0.901	0.902	0.053	0.125

Note. *N* = 200, All changes in chi square values are computed relative to model, χ^2 >.05, *GFI* = Goodness of Fit Index, *CFI* = Comparative Fit Index, *NNFI* = Non-Normed Fit Index; *RMSEA* = Root Mean Square Error of Approximation, *SRMR* = Standardized Root Mean Square.

Table 2 shows the fit indices of the model for Interpersonal Tolerance Scale. The model fit of IPTS were χ^2 (513) = 916.03, $p < .05$. The initial model of IPTS indicates an acceptable model fit. According to Hair et al. (2010) the test of chi-square may be easily affected by the size of sample, normality distribution, and number of parameters that are taken in a model. The relatively fit indices of the model such as RMSEA and CFI were taken into consideration. In the initial model the CFI value was 0.89, and that of RMSEA was 0.05 which indicated a relatively good model fit. The relative fit indices that indicate a model fit should fall under the range of 0-3 as (Hu & Bentler, 1999). Thus, to improve the model fit, the procedure of model modification was taken into consideration. Few

covariance was drawn between the error terms of the indicators of latent variables of IPTS. This covariance was suggested by the modification indices of the model. To improve a model fit, it is allowed to draw covariance between the error terms of the indicators of the latent variables as proposed by Tomás and Oliver (1999). Covariance was drawn between those error terms which have the highest modification indices (M.I) value. After the model modification process was completed, the values of CFI and RMSEA were once again compared. The value of CFI after the model modification was found to be .90 and that of RMSEA was .05, which indicates a best fit model for further exploration.

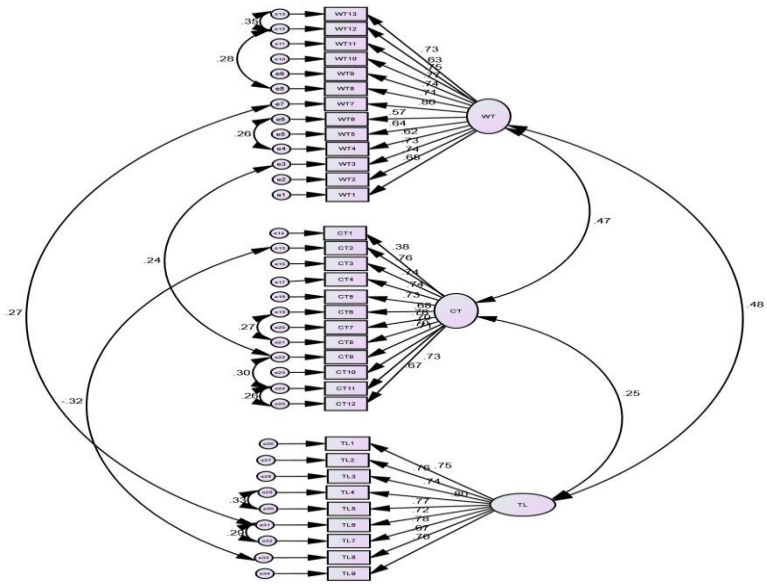

Figure 1. First Order Confirmatory Factor Analysis of IPTS

Table 3

First order CFA for the translated version of Interpersonal Tolerance Scale on the sample of married couples (N =100)

Factors	CR	AVE	MSV	λ
Warm Tolerance	.92	. 50	.23	
WT1				.65
WT2				.74
WT3				.73
WT4				.62
WT5				.64

WT6				.57
WT7				.80
WT8				.71
WT9				.74
WT10				.77
WT11				.75
WT12				.63
WT13				.73
Cold Tolerance	.92	. 50	.22	
CT1				.38
CT2				.76
CT3				.74
CT4				.74
CT5				.73
CT6				.68
CT7				.78
CT8				.70
CT9				.70
CT10				.71
CT11				.67
CT12				.73
Limits of Tolerance	.92	. 56	.23	
LT1				.75
LT2				.76
LT3				.74
LT4				.80
LT5				.77
LT6				.72
LT7				.78
LT8				.67
LT9				.70

Note. AVE = Average Variance Extracted. CR= Composite Reliability. MSV = Maximum Shared Variance. λ = Standardized Factor Loading.

Confirmatory Factor Analysis was employed to determine the validity of the Interpersonal Tolerance Scale. The composite reliability of all the three subscales (i.e., Limits of Tolerance, Warm Tolerance, & Cold Tolerance) were .92 respectively. The AVE values for the three mentioned subscales were .50, .50, and .56 respectively which are under the acceptable range as .5 - .7 (Henseler et al., 2016). The factor loadings for each of the indicators of the latent variables were below the acceptable range. The composite reliability of Warm Tolerance, Cold Tolerance, and Limits of Tolerance were .92 each, that indicates a very good level of reliability.

Construct Validity of the translated version of Interpersonal Tolerance Scale

Construct validity of the translated and adapted version of interpersonal tolerance scale though inter scale correlation was established and evidence for convergent and divergent validity were reported in table 3.

Table 3

Inter Scale Correlation of Translated Version of Interpersonal Tolerance as composite with its three subscales (*N* =100)

Variables	2	3	4
1.Interpersonal Tolerance Scale	.87***	-.76***	-.72***
2.Warm Tolerance		-.51***	-.48***
3.Cold Tolerance			.25***
4.Limits of Tolerance			

*Note: * p< .05, **p< .01.*

The results of inter-scale correlation suggest that the translated version of interpersonal tolerance as composite scale is significantly correlated with its three sub scales i.e., cold tolerance and limits of tolerance, the direction of this correlation is negative. The correlation of interpersonal tolerance scale as composite with the subscale of warm tolerance is significant and positive in nature. Subscale of warm tolerance is significant and negatively correlated with cold tolerance and limits of tolerance. While limits of tolerance as subscale is positively correlated with cold tolerance. Collectively these results presented the evidence for convergent and divergent validity for the translated version of the interpersonal tolerance scale.

Discussion

The main objective of the current study was to translate and adapt the Interpersonal Tolerance Scale from English to the indigenous language Urdu, and to develop its construct validity of the Urdu version on the sample of married couples.

Prior to data collection, the scale was translated from English to Urdu language, and a finalized Urdu version was obtained through the analysis by the expert committee in which no item was discarded and only little modification in the words in terms of its contextual meaning rather than literal dictionary meaning was made. Subsequently, confirmatory factor analysis was carried out to develop the construct validation. All the 34 items of the interpersonal tolerance scale were categorized originally into three facets as subscales i.e. cold tolerance, limits of tolerance, and warm tolerance. Thus, confirmatory factor analysis was applied on all the

items of these three categories of the scale. The inferences drawn showed the composite reliability of all the three dimensions of the scales, indicating a highly reliable scale. Using composite reliability (CR) over the Cronbach's alpha here in this study is because of the literature supporting composite reliability in CFA-based reliability estimation. Studies comparing alpha and CR have encompassed alpha's limitations in CFA-based reliability evaluation. For instance, McNeish (2018) discovered that difference in factor loadings result in underestimation of the true reliability of 10-20%, when calculated as Cronbach's Alpha. However, in the current study the values of alpha reliability estimated on the scores obtained from married couples indicated highly satisfactory evidence of stability and consistency of translated version of interpersonal scale and has overcome the differences of (CR).

While on the contrary, composite reliability (CR) also provides a more stable and accurate estimation. Similarly, Raykov (1997) showed that alpha assumes one-dimensionality, and thus composite reliability is preferred in multidimensional scales because it allows the analysis of each factor separately, making CR the preferred metric in latent variable modeling. The Average Variance Extracted AVE values for the three mentioned subscales were respectively under the acceptable range (Henseler et. Al., 2016). Internal consistency reliability is commonly determined by Cronbach's Alpha in psychometric assessments, and a value greater than .70 is generally considered as an indication of acceptable reliability (Taber, 2018). Classical test theory supports the notion that internal consistency values between .70 and .95 indicate that all the items of a tool assess a common basal construct without excessive redundancy (Nunnally & Bernstein, 1994). The Cronbach's α value for Interpersonal Tolerance Scale (IPTS) (>.70) indicating its high internal consistency. Likewise, for the subscales of ITPS, Cronbach's alpha values indicate the high internal consistency and stability of scores as evidence of reliability. Overall, these results suggested sound empirical evidence for the translated and adapted version for measuring the interpersonal tolerance for interpersonal relationship context. This evidence is similar and consistent with the original author's (Thomae et al., 2016) theoretical and empirical conceptualizations.

The results of this study confirmed and depicted similar evidence for the interpersonal tolerance to be a three-dimensional measure that assesses warm tolerance, cold tolerance and limits of tolerance as originally proposed by the author of the scale. These results and evidence are in line with the findings of the previously existing study by Wittemann

(2005). He translated the interpersonal tolerance scale into German language and confirmed that this scale is the three-dimensional scale that measures warm tolerance, cold tolerance and limits of tolerance which supports the findings of the current phase of the study. Nengsih et al. (2022) has also used the scale with its original three dimensions i.e. warm tolerance, cold tolerance, and limits of tolerance in relation with the primary school's student knowledge. Both the work of Wittemann (2005) and Thomae (2016) has the background concept of Allport's theory (1954) and argued that interpersonal tolerance is a personality trait and see it as one which is open to the diversity in people, and have no consideration in the discrimination between any two given individuals or groups. Butrus and Witenberg (2013) also takes the concept of tolerance as a moral virtue which describes one's acceptability and respect for other peoples' attitudes and opinions rather than just putting up with it. Considering both the arguments, the translated version of this measure preserves the individual traits and characteristics-based orientations and attitudes regarding interpersonal tolerance into marital relationships, which reflets that interpersonal tolerance is individual's personality. The culturally sensitive wording of the translated and adapted version represents the meaningful and relevant nature of the construct for Pakistani sample of married papulation. Although primarily Pakistan is traditional and collectivistic culture, where individuals' traits and moral virtue is driven from shared values and believes. Overall, translated and adapted version captures the effective theoretical grounding of interpersonal tolerance ensuring Allport's and Butrus and Witenberg' ideas.

The construct validity evidence is further extended through interscale correlations, results depicted the support for convergent and divergent validity of the interpersonal scale as a translated and adapted measure. The divergent validity suggested that the scales measure the interpersonal tolerance while divergent validity suggested interpersonal intolerance. This evidence is in accordance with the original author of the scale (Thomae et al., 2016). Thus, the findings of the current study are substantially supported by the existing literature as discussed and cited above. Overall, these results provided a culturally reliable, valid, and sound indigenous tool to measure the interpersonal tolerance across various papulations and context where Urdu is a medium of communication. Moreover, this measure not only assess the the concept of interpersonal tolerance indigenously in Pakistani background but also remains theoretically staunch across diverse cultures.

Conclusion

The present study successfully translated, adapted, and validated the Interpersonal Tolerance Scale into Urdu, providing a culturally and linguistically appropriate measure for use with married couples in Pakistan. Confirmatory factor analysis supported the original three-factor structure warm tolerance, cold tolerance, and limits of tolerance demonstrating strong construct validity and reliability. Despite relatively lower AVE values, the scale showed high internal consistency and composite reliability, confirming its psychometric soundness. Overall, the Urdu version of the Interpersonal Tolerance Scale emerges as a valid, reliable, and theoretically grounded indigenous instrument suitable for assessing interpersonal tolerance within collectivistic and marital relationship contexts.

Limitation and Suggestion

Despite the noteworthy effort of the current study, there are certain limitations as well. First, the sample size was relatively small, only hundred couples which makes two hundred married individuals may limit the generalizability. Future studies should take large sample sizes and include diverse demographic groups to extend the validity generalization of the construct across various correlates. Second, the data has been collected through self-report measures, which is prone to social desirability bias, especially for the traditional context of KPK population with reference to its traditional norms and subcultural beliefs for interpersonal relationships. Translation-related biases like cultural communication styles, emotional expression in marriages, and misinterpretations may also influence its validity. Future studies could incorporate behavioral monitoring or spousal reports to amplify construct validity. Finally, the evolving marital dynamics in South Asian contexts require national studies to explore cultural shifts in tolerance-related concepts across subcultural and ethnic groups across nations.

Implication

The translated and validated interpersonal tolerance scale is a suitable measure to assess interpersonal tolerance in the local context of Pakistan. It builds up the literature with a reliable and valid scale of interpersonal tolerance, making it feasible for Asian researchers to retain the cultural impressions while measuring the construct of interpersonal tolerance. This measure is not specific to marital relations only, but it is equally valid for other contexts and across disciplines to explore interpersonal tolerance at both the individual and group level. In organizational setting this scale can be used to assess the tolerance level

of employees for selection, diversity, team cohesion, conflict resolution, and in promoting peace and tolerance culture. Moreover, this measure can be utilized by the policy makers for inter-cultural, and social harmony for peace building and promotion among communities.

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