

TRANSLATION, CULTURAL ADAPTATION, AND PSYCHOMETRIC
VALIDATION OF THE URDU POSITIVE COPING STYLE SCALE
AMONG PAKISTANI ADOLESCENTS

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Abstract

Positive coping is a crucial psychological trait with which adolescents cope with daily challenges, interpersonal conflict, school requirements, and other stressful events. While measures of coping have been created and widely employed in international research, instruments that have been created in one linguistic and cultural context cannot be assumed to have the same conceptual meaning when used with adolescents in another context. In Pakistan, this is especially important as Urdu is the native language for many and the language spoken for interpersonal communication as well as education, while some of the psychological instruments are available in English. The present study aimed to translate and culturally adapt the Positive Coping Style subscale of the Trait Coping Style Questionnaire (TCQ) into Urdu and to investigate the cross-language equivalence, reliability and factorial validity among the Pakistani adolescents. The translation process used a systematic forward-backward approach based on Brislin's model of translation and recommendations for cross-cultural adaptation. Forward translations were made by independent bilingual translators and then reviewed by an expert panel and reconciled. The bilingual experts then undertook a backward translation, which was reviewed by a second committee for discrepancies to achieve conceptual, semantic and cultural equivalence. Prior to psychometric assessment, cross-language validation was performed. The exploratory factor analysis was performed on 150 adolescents and the confirmatory factor analysis was performed on an independent sample of 200 adolescents. Results of the exploratory analysis indicated that a one-factor structure was clear, with a Kaiser-Meyer-Olkin value of .965 and a significant Bartlett's test of sphericity, $\chi^2(45) = 1130.17$, $p < .001$. The single factor accounted for 65.20% of the variance with an eigenvalue of 6.520. The factor loadings were between .763 and .858, and communalities were between .582 and .736. Confirmatory factor analysis provided excellent support for the one-factor model, $\chi^2(35) = 38.85$, $df = 35$, $\chi^2/df = 1.022$, CFI = 1.00, SRMR = .020, RMSEA = .000, and PClose = .985. The standardised factor loadings varied between .76 and .83. The Urdu scale had a high internal consistency (Cronbach's $\alpha = .90$). In sum the results show that Urdu Positive Coping Style Scale is a psychometrically sound and culturally appropriate instrument for measuring positive coping tendencies of

an Urdu-speaking sample of adolescents from Pakistan. The measure can be used to help carry out culturally sensitive research into adolescent psychological adjustment, positive mental health, family relations, social support and behaviour associated with technology.

Introduction

Adolescence is a developmental stage with significant changes in psychology, society, thinking, and interpersonal relationships. Young people are facing an increasing set of academic demands, evolving parent and peer relationships, questions about autonomy and identity, and the demands of emerging independence. The response then that an adolescent gives to these challenges is important in understanding their psychological adjustment. Coping generally encompasses the cognitive and behavioral responses people make to demands that they view as challenging or stressful or beyond their capacity to meet (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). Coping is not just a response to a stressor; it is a series of processes by which a person appraises the problem, modulates his/her response, asks for help, and tries to change or control the difficult situation.

Adolescents are a time of life when developmental importance of coping is particularly apparent. Youth are not exposed to stress alone. How they respond depends on family dynamics, peer groups, school contexts, cultural norms and values, and emerging skills and confidence levels. Hence, the adaptive coping can play a role in psychological adjustment while the maladaptive coping can be related to less adaptive emotional and behavioural outcomes. Current studies have continued to show that coping is applicable to the psychological functioning and adaptation of diverse groups, and that the nature and efficacy of specific coping could be context dependent (Compas et al., 2017; Zimmer-Gembeck & Skinner, 2011).

An aspect of this process that is especially relevant is positive coping. Instead of thinking of coping as the lack of maladaptive coping there is an emphasis on how positive coping is the tendency of an individual to cope with problems in a constructive manner, look for solutions to a problem, reinterpret a problem, seek the proper type of support, and have a generally adaptive

response to problems. Several widely-used coping measures distinguish between positive and negative coping. The Trait Coping Style Questionnaire (TCSQ), which is based on the Chinese psychological assessment tradition, differentiates the positive and negative coping styles and has since been applied to studies on psychological adjustment, mental health, stress and social relationships (Jiang, 1999; Jiang & Zhu, 1999). The TCSQ is still used in present-day studies for psychological well-being and stress-related outcomes. For instance, recent studies found that this measure consists of two dimensions: positive coping and negative coping, where positive coping indicates a higher disposition to adaptively deal with stressful situations (Xu et al., 2023).

However, the usefulness of any psychological instrument relies not only on the theoretical foundation but also on how well it was measured in the population that it was used in. Instruments created in one language cannot be translated verbatim and assumed to be measuring the same construct in another cultural context. Some items may change in meaning due to linguistic differences and there are some cultural differences that can affect the interpretation of some behaviors, situations or emotions that might be expressed. Given this, cross cultural adaptation must address the semantic, conceptual, idiomatic, experiential and cultural equivalence, not just the literal similarity (Beaton et al., 2000; Wild et al., 2005). This is of a special concern in relation to psychological studies in Pakistan. Urdu is the main language of daily communication of a significant portion of the population while English is used widely in higher education institutes as well as in the professions. The psychological interpretation of psychologically complex statements could then be different depending on the language that is used. A respondent might be able to read an English statement but better process the psychological meaning in Urdu. The use of an instrument accessible to the language can then minimise

misunderstandings and enhance the quality of the self-report data.

There is a related issue of culture adaptation in the process of translation. Pakistan is a diverse country where families, social norms, and interpersonal and group values may shape the experience and response of adolescents to stress. What might be seen as a coping behaviour in one cultural context could be interpreted differently in a culture where family consultation, interpersonal support, and relational harmony are highly valued. Cross-cultural adaptation is then required to retain the construct and still ensure that the terms used have meaning to the population of interest.

Systematic translation and cultural adaptation have always been highlighted in international methodological literature. Beaton et al., (2000) suggested a structured process of translation, synthesis, back translation, review by an expert committee and pretesting. The ISPOR Task Force also highlighted the importance of multiple layers of translation, reconciliation, back-translation, review and documentation for maintaining conceptual equivalence between languages (Wild et al., 2005). In more recent methodological literature, a combination of forward translation, synthesis, back-translation, harmonisation, pretesting, field testing and psychometric evaluation are still recommended over translation only.

Psychometric evaluation is equally important. A translated instrument should demonstrate evidence that its internal structure remains consistent with the construct represented in the source measure. Exploratory factor analysis is useful when examining whether items cluster in the expected manner in a new cultural population, whereas confirmatory factor analysis provides a more stringent test of a hypothesised factor structure in an independent sample. Boateng et al. (2018) emphasised the importance of testing dimensionality, reliability, and validity as part of systematic scale evaluation. Similarly, COSMIN-based approaches recognise structural validity, internal consistency, reliability, and cross-cultural validity as important measurement properties when instruments are adapted for new populations (Mokkink et al., 2010).

The Positive Coping Style dimension of the TCSQ has been used in previous research,

including studies involving adolescents and young people. The literature describes the TCSQ as a 20-item instrument with separate positive and negative coping dimensions, with 10 items in each dimension and responses recorded using a five-point scale (Jiang, 1999). However, evidence supporting the use of a culturally adapted Urdu version specifically for Pakistani adolescents remains limited. Existing work on coping instruments in Pakistan has generally focused on other measures or adult populations. A recent Pakistani study translating the Simplified Coping Style Questionnaire, for example, examined an adult sample and reported only partial support for its two-factor structure, particularly for passive coping, demonstrating why the psychometric behaviour of coping measures cannot simply be assumed to generalise across populations and cultural contexts.

The aim of the present study was to fill this gap by translating and culturally adapting the Positive Coping Style measure with Urdu speaking adolescents in Pakistan and assessing its psychometric properties through two different samples of exploratory and confirmatory nature. The study was conceived to determine whether this Urdu version had the one-dimensional structure that was intended, whether the individual items had adequate factor loadings and whether the resulting scale had satisfactory internal consistency. The principle governing the study was that the cultural adaptation should allow for retaining the meaning of the underlying construct, instead of mechanically copying the words in the source language. It is relevant to this distinction when psychological constructs are translated across cultures as the validity of the translated instrument hinges on whether or not respondents interpret the items in the same psychological manner.

Objectives

The four main goals of the present study were: It was first to translate and culturally adapt Positive Coping Style scale in Urdu for its use with adolescent population of Pakistan. Second, it aimed to find linguistic and conceptual equivalence between the original English and Urdu versions. Third, it was aimed to explore

the internal structure of the Urdu version by using exploratory factor analysis. Fourth, it aimed to validate the factor structure that emerged using confirmatory factor analysis and assess the internal consistency of the final Urdu measure.

Method

Research Design

A methodological, cross-cultural adaptation and psychometric validation design was employed. The study consisted of sequential stages beginning with translation and cultural adaptation, followed by cross-language evaluation and psychometric validation. The translation procedure was informed by Brislin's approach to cross-cultural research instruments and supplemented by contemporary recommendations concerning synthesis, expert review, back-translation, and psychometric assessment (Brislin, 1986; Beaton et al., 2000; Wild et al., 2005). The overall procedure was designed to distinguish linguistic equivalence from psychometric equivalence. Translation was therefore treated as an iterative process rather than a single linguistic operation. Particular attention was given to preserving the intended psychological meaning of each item while ensuring that the Urdu wording was understandable to adolescents.

Participants

The participants were recruited using a convenience sampling technique. Data was both physically and online collected. Physical data collection involved visiting educational institutions with the administrative consent and online data were gathered by distributing electronic questionnaires via the educational

network and digital platform. The selection of convenience sampling was deemed suitable as it permitted the researcher to reach the adolescents to participate in the study within the time and resources available. The World Health Organization adopts an age-based definition of adolescence as the time from 12 to 19 years of age (WHO, 2023). So, adolescents in this age range were deemed as eligible to participate. To avoid sample dependency and to provide adequate validation, separate independent samples were recruited to conduct psychometric evaluation of the translated instruments. The first sample comprised 150 adolescents for Exploratory Factor Analysis (EFA) of the underlying factor structure of the translated scales. To confirm the factor structure found in the EFA, a second independent sample consisting of 200 adolescents was recruited for Confirmatory Factor Analysis (CFA). In psychometric studies, it is advisable to use independent samples for EFA and CFA to avoid over-collection of chance and to give more robust evidence to support construct validity. A multi-stage convenience sampling technique was used to select the participants. The administrations of selected educational institutions were first asked for permission. Eligible adolescents who met the inclusion criteria then were invited to volunteer for the study. School authorities, parents/legal guardians (as applicable) and adolescent participants provided informed consent for data collection and informed assent for adolescent participants, respectively. The demographic sheet of adolescents included the following details: gender, age, family system, and family income.

Table 3

Frequency and percentage of participants EFA and CFA

Demographic Variables	EFA (N=150)		CFA (N= 200)	
	<i>f</i>	%	<i>f</i>	%
Gender				
Boys	71	47.3	96	48.0
Girls	79	52.7	104	52.0
Family System				
Joint System	79	52.7	110	55.0
Nuclear System	71	47.3	90	45.0
Residence				

Urban	62	41.3	81	40.5
Rural	88	58.7	119	59.5
Age				
Early Adolescence (12-14)	7	4.7	9	4.5
Middle Adolescence (15-17)	111	74.0	150	75.0
Late Adolescence (18-19)	32	21.3	41	20.5

Table Shows frequency and percentage of sample of pilot study that was consist of 150 adolescents. Sample characterized concerning Gender, Family system, Residence, Age, and Social economic status.

Instrument

Positive Coping Style Scale

The Positive Coping Style measure was derived from the positive coping dimension of the Trait Coping Style Questionnaire. The original TCSQ was developed to assess relatively stable coping tendencies and distinguishes positive coping from negative coping (Jiang, 1999; Jiang & Zhu, 1999). The full TCSQ has been described as containing 20 items, with 10 items assessing positive coping and 10 assessing negative coping, and uses a five-point response format scale ranging from 1 (definitely not) to 5 (definitely yes). The present study focused specifically on the 10-item Positive Coping Style dimension, because positive coping represented the construct of interest. Items were scored using the original response structure, with higher scores indicating a greater tendency towards positive coping. The scale was treated as a unidimensional measure in the present study. The decision to validate the positive coping dimension separately was theoretically appropriate because positive coping can represent a meaningful adaptive psychological resource in its own right. Recent research has similarly examined positive coping as a distinct construct rather than treating it merely as the absence of negative coping.

Procedure

Phase I: Translation and Cultural Adaptation

Where necessary, permission to translate and use the instrument has been obtained from the relevant rights holder/source. The translation

procedure was taken by the following structured forward-backward translation procedure. Conceptual equivalence was the main concept used during the process; that is, an Urdu item was acceptable if it expressed the same psychological concept as the original English item and the Urdu language was understandable to a Pakistani adolescent. The translation process was divided into the following steps: forward translation, synthesis and expert review, backward translation, second expert-panel review, and finalization.

Step I: Forward Translation. To translate the English version of the Positive Coping Style scale to Urdu, bilingual translators who were fluent in both English and Urdu translated the scale independently. Translators were chosen who had a good command of the language and were knowledgeable in psychological jargon. The translators were asked not to discuss their response to the items in the first stage but to translate each individually. This way, discrepancies in terms and phrases were evident in the follow-up reconciliation. The translators were carefully advised to keep the use of unnecessary technical vocabulary, uncommon Urdu expressions, literal translations which could be unnatural in the target language, and culturally inappropriate terminology out of the translation. It was especially focused on creating a language appropriate for adolescents and not very literary Urdu. It was not intended to make the psychological construct any less complex, but simply make sure that the language used to represent the construct was not too abstract to understand without advanced education or language knowledge. The principle of conceptual equivalence was followed in the translation process, as opposed to literal equivalence. This is in line with what has been

recommended for cross-cultural adaptation of instruments, namely that they try to retain the meaning of the construct while the wording must fit naturally within the target language and culture (Beaton et al., 2000; Wild et al., 2005).

Step II: Expert Panel Review and Reconciliation. Urdu versions through independent forward translation were collected and compared. All of these items were analysed in each of the alternative translations and differences in wording, grammar, meaning and cultural appropriateness were noted. The translated items were reviewed by an expert committee comprised of researchers who have expertise in the Urdu/English language proficiency, psychology, and psychological measurement. The committee identified four key aspects of equivalence: semantic equivalence, conceptual equivalence, cultural relevance and comprehension. In the cases where two translations conveyed the same idea, the one that was considered most natural and comprehensible for the adolescent was chosen. In cases where there was some discrepancy in meaning between the Urdu and the English versions, the English version was revisited, and a final Urdu version agreed. The committee did not unnecessarily modify the construct, and did not change the item content. The committee also considered if any item included a term or phrase that might have a different meaning for adolescents due to cultural or linguistic norms. Words were changed when needed to convey the same psychological message. Nothing was deleted simply for the lack of an alternative Urdu term. This was deemed as a crucial committee stage, as bilingual fluency is not sufficient to ensure quality of translation. The translation may be grammatically correct but it may not be conveying the same psychological idea. Modern translation studies also focus on the significance of reconciling and expert checking in order to prevent semantic and conceptual deviation.

Step III: Backward Translation. The Urdu version was then back translated by bilingual translators who had no involvement in the forward translation process. This group had different translators lowering the risk of the backward translation to simply repeat the word recalled from the original instrument. The back translators were asked to pay attention to the meaning of the concepts and not the words. The aim was to pinpoint differences that could be interpreted as a loss or change of meaning in the Urdu adaptation. Back translation was done and item by item compared to the original English version. Differences were categorized as either stylistic differences or differences in meaning. Wherever the linguistic differences were minor, but the psychological concept was equivalent, they were not considered problematic. Items showing some conceptual differences were brought back to the expert committee for further discussion.

Step IV: Final Expert Committee Review. The expert committee reviewed them in the original language (English) along with forward translation (Urdu) and backward translation (English). Semantic, conceptual, cultural and grammatical equivalences were assessed for each item.

The final Urdu wording was agreed upon. Focus was placed on the reading level which is expected from adolescents in particular. The committee did not include Urdu words which would be very formal-sounding, idiomatic words which may alter the psychological meaning or words which may lead to ambiguity. The resultant version maintained the original 10-items of the Positive Coping Style scale. The basic construct was not modified, and the final version was deemed ready for empirical evaluation. This procedure is in line with the general guideline concerning cross-cultural adaptations that the adaptation should be based on equivalence, not on linguistic similarity. Beaton et al. (2000) also state that to adapt, one should focus, besides linguistic translation, on cultural and conceptual equivalence.

Table 2

Translation Equivalence Positive Coping Style

Item	Original English Item	Final Urdu Translation	Translation Focus
1	I can quickly forget unpleasant experiences	میں ناخوشگوار تجربات کو جلدی بھول سکتا/ سکتی ہوں۔	Semantic equivalence
2	I act as if the unpleasant event never happened	میں ایسے برتاؤ کرتا/ کرتی ہوں جیسے ناخوشگوار واقعہ کبھی پیش ہی نہ آیا ہو۔	Conceptual equivalence
3	I usually think in a positive way and try to see things optimistically	میں عموماً مثبت انداز میں سوچتا/ سوچتی ہوں اور حالات کو پُر امید انداز میں دیکھنے کی کوشش کرتا/ کرتی ہوں۔	Conceptual and linguistic equivalence
4	I usually compare myself with people in similar situations and feel that it is not a big deal	میں عموماً خود کو ایسے لوگوں سے ملاتا/ ملاتی ہوں جو اسی طرح کے حالات سے گزر رہے ہوں، اور محسوس کرتا/ کرتی ہوں کہ یہ کوئی بہت بڑا مسئلہ نہیں ہے۔	Contextual equivalence
5	I can quickly transform negative factors into positive ones, such as by participating in activities	میں منفی عوامل کو جلدی مثبت عوامل میں تبدیل کر سکتا/ سکتی ہوں، مثلاً مختلف سرگرمیوں میں حصہ لے کر۔	Conceptual equivalence
6	Other people can easily make me feel happy again	دوسرے لوگ مجھے آسانی سے دوبارہ خوش کر سکتے ہیں۔	Semantic equivalence
7	I can quickly adapt to difficulties and pain	میں مشکلات اور تکلیف کے ساتھ جلدی مطابقت پیدا کر سکتا/ سکتی ہوں۔	Conceptual equivalence
8	I believe that difficulties and setbacks can strengthen a person	میرا ماننا ہے کہ مشکلات اور ناکامیاں انسان کو مضبوط بنا سکتی ہیں۔	Conceptual equivalence
9	I believe that nothing in the world is a big deal	میرا ماننا ہے کہ دنیا میں کوئی بھی چیز اتنی بڑی بات نہیں ہے۔	Cultural and semantic equivalence
10	I usually resolve embarrassing situations with humor	میں عموماً شرمندگی کی صورت حال کو مزاح کے ذریعے حل کر لیتا/ لیتی ہوں۔	Contextual equivalence

Phase II: Cross-Language Validation

To assess whether the Urdu version was found to be congruent with the original English version, cross-language validation was performed. The two language versions were administered to bilingual participants in a counterbalanced order to reduce order effects. This stage aimed at exploring whether the participants, who were able to comprehend both the languages, had same responses to conceptually similar items presented in English and in Urdu. The procedure was based on the test-retest and cross-language equivalence logic. Participants filled out one language version and filled out the other language version after a proper lapse of time. The sequence of administration was alternated with some participants first receiving the Urdu version and

the other participants first receiving the English version. Equivalence of administrations was evaluated by comparing responses from corresponding administrations. Positive relationships would reflect that the translated items were operating with a general pattern similar to the original items. Thus, the empirical cross-language procedure was used to complement the qualitative judgement of the expert panel. Cross-language evaluation is especially important in the study of translation, since even if the expert agree, it is not possible to prove that the respondents understand the final instrument in the way it was intended. Since bilingual participants are used, there is an added empirical check on equivalence.

Phase III: Psychometric Validation

Exploratory Factor Analysis. Data from 150 adolescents was analyzed by exploratory factor analysis. The aim was to see if the Urdu items constituted the expected underlying factor and if the factor structure is coherent in the Pakistani adolescent population. The Kaiser–Meyer–Olkin (KMO measure) and Bartlett's test of sphericity were used to test the adequacy of the data for factor analysis. Factor extraction was carried out according to the inter-item relations observed and the dimensional structure. Factor loadings and communalities were checked to see the contribution of each item on the latent construct. The use of EFA prior to CFA was in line with the methodological principle that a modified instrument should be explored in the target population and then confirmatory tested in an independent sample. Recent scale development literature suggests that the focus of psychometric evaluation should be on dimensionality and the performance of scale items (Boateng et al., 2018).

Confirmatory Factor Analysis. An independent sample of 200 adolescents was then used to assess the validity of the factors using confirmatory factor analysis. The intent was to see if the one-factor solution found in the

exploratory analysis was sufficient to account for the covariance structure of the Urdu Positive Coping Style items. Model fit was assessed using the chi-square statistic, degrees of freedom, chi-square/degrees-of-freedom ratio, comparative fit index (CFI, standardised root mean square residual (SRMR, root mean square error of approximation (RMSEA, and probability of close fit (PClose. These indices were used as a group and not just one. Established literature in structural equation modelling was used to help interpret the model of fit. Hu and Bentler (1999) showed that a combination of CFI, SRMR and RMSEA can be useful to give evidence for model adequacy and warned against using single index rules alone.

Internal Consistency. Cronbach's alpha was used to measure the internal consistency. Final Urdu Positive Coping Style scale coefficient was computed to assess the level of cohesion among the items as indicators of one construct. Cronbach's alpha was used to judge internal consistency, but not as a valid criterion alone. It is important because a scale can have high internal consistency but not be representative of the construct. Therefore, the results of reliability were also taken into account in the evaluation of the factor-analytic evidence.

Results

Table 3

Measuring sample adequacy for Urdu Positive Coping Style Scale (N= 150)

KMO		Bartlet test for sphericity		
		Chi-Square	df	Sig
Positive Coping Style	.965	1130.17	45	.001

The EFA results provided strong evidence that the 10 Urdu Positive Coping Style items were suitable for factor analysis. The Kaiser–Meyer–Olkin measure of sampling adequacy was .965, indicating that the correlation matrix was highly appropriate for factor extraction. Bartlett's test of

sphericity was statistically significant, $\chi^2(45) = 1130.17$, $p < .001$, demonstrating that the observed correlation matrix differed significantly from an identity matrix.

Table 4

Factors Loading and Communalities for Urdu Positive Coping Style Scale (N=150)

Sr. #	Items	Factor 1	h^2
1	PCS8	.858	.736
2	PCS9	.856	.732
3	PCS3	.818	.669
4	PCS4	.815	.664

5	PCS1	.808	.653
6	PCS7	.798	.637
7	PCS2	.793	.628
8	PCS10	.790	.623
9	PCS6	.772	.595
10	PCS5	.763	.582
Eigen Values		6.520	
% Variance		65.20	
Cum. %		65.20	

An Exploratory Factor analysis was conducted on the 10-item PCS using Principal axis factoring with oblimin rotation. The analysis yielded a clear single-factor solution. The extracted factor had an eigenvalue of 6.520 and accounted for 65.20% of the total variance. The magnitude of the explained variance indicated that a substantial proportion of the common variation among the items could be represented by one underlying Positive Coping Style construct. Factor loadings were satisfactory

ranging from .763 to .858. The item communalities were in the range of .582 to .736, which suggested that the extracted factor explained a significant amount of variance of each item. All 10 items had high loadings, suggesting that each item was meaningful to the construct. None of the items demonstrated a factor loading sufficiently weak to warrant deletion. The retention of all items also preserved the conceptual coverage of the original Positive Coping Style dimension.

Figure 1

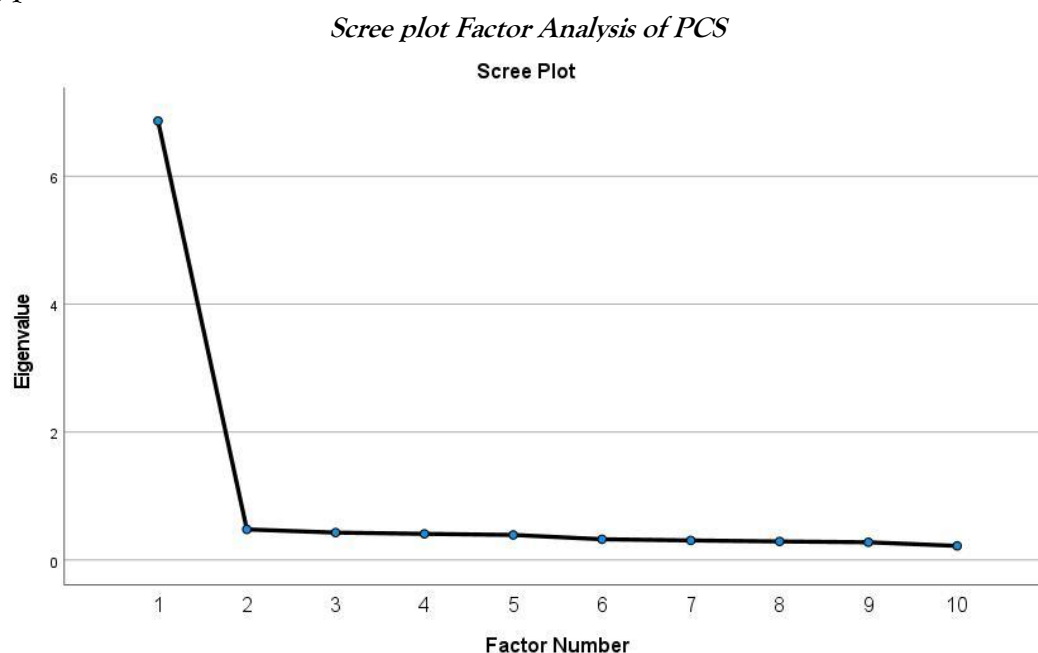


Figure displays the eigenvalues of a factor extracted from the data, plotted against the factor's numbers. It suggests to retain one where the eigenvalues sharply decrease after first factor.

Confirmatory Factor Analysis. The one-factor structure identified through EFA was subsequently examined through CFA using

AMOS 26 and maximum likelihood estimation on an independent sample of 200 adolescents. The results provided strong support for the hypothesised one-factor structure.

Table 5

Goodness of fit indices for CFA model of the Urdu Positive Coping Style Scale (N=200)

Fit Index	Obtain Value	Threshold/ Acceptable Criterion	Interpretation
χ^2	38.85	Non-Significant	Model fits well
Df	35		
χ^2/df	1.022	Between 1 and 3	Excellent
CFI	1.00	>0.95	Excellent
SRMR	0.020	<0.08	Excellent
RMSEA	0.00	<0.06	Excellent
PClose	0.985	>0.05	Excellent

Table shows the model fit indices computed for the confirmatory factor analysis of the PCS. A confirmatory factor analysis was conducted in AMOS 26 using Maximum likelihood estimation to test a factor structure identified in the EFA. According to Hu and Bentler (1999) The non-significant chi-square and excellent values on all fit indices support the validity of the factor structure in this sample. The Bollen-Stine bootstrapping with 2000 samples p-value was indicating no significant misfit. The obtained fit statistics indicate that the proposed one-factor model represented the observed data very well.

The CFI of 1.00 indicates excellent comparative fit, while the SRMR of .020 indicates a very small average residual discrepancy. The RMSEA of .000, together with the high PClose value, provided further evidence that the hypothesised model was not inconsistent with the observed covariance structure. These findings are considerably stronger than simply demonstrating an acceptable fit. Importantly, the same conceptual structure identified during EFA was supported in a separate CFA sample, providing convergent evidence for the dimensional stability of the Urdu measure.

Table 6

Standardized Factor Loading of Confirmatory Analysis, Item total correlation and Reliability for PCS (N=200)

Sr. #	Items	Factor 1	r	α
1	PCS1	.83	.81	
2	PCS2	.80	.78	
3	PCS3	.82	.80	
4	PCS4	.83	.81	
5	PCS5	.78	.76	
6	PCS6	.80	.78	
7	PCS7	.80	.79	
8	PCS8	.85	.83	
9	PCS9	.85	.83	
10	PCS10	.81	.78	
	Positive Coping Style			.90

Table show that all standardized factor loading were statistically significant and range from .78 to .85, indicating that each item made a substantial contribution to the latent Positive Coping Style factor. The final model retained 10 items across scale. All 10 items of PCS have Positive correlation ranging from 0.76 to 0.83 with total scores of this scale and all exceeding the recommended .30 threshold. The Urdu Positive Coping Style scale demonstrated high

internal consistency, with Cronbach's $\alpha = .90$. This coefficient indicates strong coherence among the 10 items and supports the reliability of the scale as a measure of positive coping tendencies among Pakistani adolescents. The relatively narrow range of loadings suggests that the items were functioning consistently as indicators of the same latent construct. No item demonstrated a loading that would provide an empirical justification for removal. The CFA

therefore retained the complete 10-item structure.

Figure 2

Factor loading of Positive Coping Style Scale

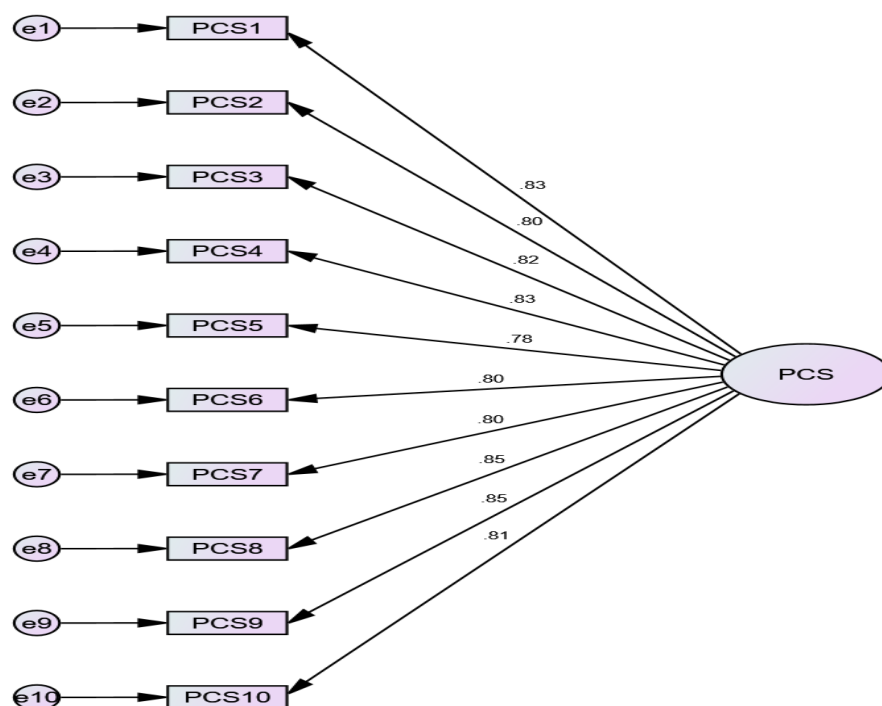


Figure shows that all items loaded significantly onto their respective factors with standardized loadings.

Discussion

The current study was designed to create a Urdu version of the Positive Coping Style measure which is appropriate for Pakistani adolescents and to demonstrate its linguistic equivalence, structural validity and internal consistency. Results indicate converging evidence on the Urdu adaptation of the instrument retaining the original one factor structure and high psychometric properties. The translation was done deliberately according to conceptual equivalence and not literal equivalence. This distinction is relevant for psychological assessment as direct linguistic substitution can lead to the creation of grammatically correct, but psychologically unfamiliar or culturally inappropriate items. Such discrepancies were identified and corrected during the forward translations, through the reconciliation process, by an independent backward translation and

committee review. This is in line with the recommendations for cross-cultural adaptation (Beaton et al., 2000; Wild et al., 2005) and current methodological guidelines that consider translation and psychometric validation as a two interrelated but separate steps (Wild et al., 2005). The cultural adaptation was especially crucial as coping does not happen in a vacuum of the social setting. Stressful events' impact on adolescents depends on their perceived interpersonal resources, expectations about family relationships and culturally negotiated understandings of "good" behaviour. Therefore, language had to be meaningful in the social world of Pakistani adolescents in which the phenomenon is happening.

The psychometric results were highly favorable and indicated the high quality of the adaptation achieved. The EFA yielded a simple one-factor solution with a KMO of .965 and a very

significant Bartlett's test. The total variance accounted for by the factor was 65.20%, and all the items had high factor loadings ranging from .763 to .858. These results indicate that there is a large common variance among the Urdu items and that they are clustered around one Positive Coping Style construct. Results are in line with the conceptual framework of the TCSQ positive coping dimension. Past studies characterize the TCSQ as a measure of positive and negative approach to coping with stressful situations, with positive coping indicating an adaptive coping style (Jiang, 1999; Jiang & Zhu, 1999). In the recent empirical research, positive coping is still a meaningful construct in the research related to psychological adjustment, stress, social supports, and mental health. The CFA results give especially high support of structural validity of the Urdu version. The one-factor model showed $\chi^2/df = 1.022$, CFI = 1.00, SRMR = .020, RMSEA = .000, and PClose = .985. All these indices show that the proposed structure was a very good fit for the data. The standardised loadings in the range of .78-.85 also indicate that the items had high loadings on the latent factor. One strength of the study is that EFA and CFA were conducted in separate samples. This is important since factor structure may seem more robust than it is if both the exploration and confirmation are run on the same subjects. Independent samples are used to get a tougher test of structural stability. This aligns with the psychometric advice regarding the assessment of latent structures and research that sample size should be assessed in terms of communalities and factor overdetermination (MacCallum et al., 1999; Boateng et al., 2018).

Further evidence of the reliability of the Urdu version was the internal consistency coefficient of .90. The coefficient indicates that the 10 items are grouped together as a measure of positive coping. It is important to note, however, that the high alpha value cannot be viewed as a stand-alone validity test, but only in conjunction with the results from the factor analysis. The utility of the data is the strong item loadings, a coherent one-factor structure, and high internal consistency that can be used to support the data, in addition to reliability analysis. The results are also relevant to the larger body of literature on translated psychological instruments in

Pakistan. In recent Urdu adaptation studies, it has been shown that psychological instruments do not always need to be translated directly into Urdu but rather systematically evaluated culturally and psychometrically. For instance, in recent studies on the Urdu version of the Comprehensive Assessment of At-Risk Mental State, a structured translation process was followed, with subsequent reliability and validity checks underscoring the significance of culturally tailored Urdu assessment instruments in the realm of psychological research within the Pakistani context (Jaffar et al., 2025). In a similar fashion, a recent study of the Simplified Coping Style Questionnaire in Pakistan showed that various coping sub-scales demonstrated different performance after translation, which again emphasizes the need to obtain psychometric evidence in the target population and not assume it will be the same as in the source population. Therefore, the present results are significant as it has provided the evidence of a positive coping means specific to Pakistani adolescents. Adolescents are an especially critical age group for such a tool as coping styles can have a profound impact on youth's reactions to academic stress, family conflict, peer problems, emotional struggles, and shifting social contexts. An appropriate intervention will provide a culturally acceptable way to study these processes without adding an extraneous linguistic barrier. Urdu Positive Coping Style Scale can also be used in the research studies related to positive mental health and psychological adjustment. Positive coping can serve as a personal resource of the adolescent that can be adaptive in helping them cope with stressful experiences and keep their responses more positive. In this regard, the measure can be used as part of research investigating the interaction among personal resources, family relations, relations between parents and adolescents, social support, self-evaluation and psychological well-being. The measure might also be useful for studies on technology-related behaviours. The challenges facing teens in relation to their smartphones, internet access, games, and social media are growing. To understand if positive coping is related to these behaviours you need a measure that can be understood in language and cultural terms in the target population. An Urdu

measure would help such research as otherwise adolescents may have to do English language measures.

Contribution to the Literature

The main strength of this study is that a psychometrically supported Urdu version of Positive Coping Style has been specifically evaluated among adolescents in Pakistan. Coping has been investigated cross-culturally with many instruments; however, the assumption of measurement equivalence cannot be taken for granted when an instrument is moved from one language and culture to another. This problem is tackled in the current study with the combination of translation, cultural adaptation, exploratory and confirmatory validation. EFA and CFA independently confirmed the one-factor structure, which revealed that items had good loadings and model fit was excellent. This study thus contributes to the limited infrastructure of measuring psychologic constructs among adolescents in Pakistan. The second contributions relate to the difference between positive and negative coping. Rather than seeing adaptive coping as only the lack of maladaptive coping, this present measure allows for the study of adaptive coping as a distinct psychological resource. This is especially helpful for strengths-based and resilience research, psychological adjustment and positive mental health. The third contribution is methodological. Using separate EFA and CFA samples gives more strong evidence for structural stability than validation by using single sample. It thus can serve as a tool for future research to explore the concept of positive coping in the context of other psychological constructs such as family relations, social support, self evaluation, mental health, aggression, and technology-related behaviors.

Implications

The Urdu Positive Coping Style Scale can be used in many ways. First, it is a culturally and linguistically appropriate instrument for measuring positive coping in Urdu speaking adolescents. Second, the scale could be included in research that examines the factors and results of adolescence psychological adjustment. Third,

the instrument can be employed to research interventions. The measure can be used in programmes to study changes in positive coping tendency over time, that aim to strengthen the adaptive coping of adolescents. Further studies on sensitivity to change and longitudinal reliability would be needed before conclusions can be drawn regarding responsiveness in such use. Fourth, this measure can be used to research interpersonal and cultural aspects of coping. Adolescent coping in Pakistan might be intricately linked to family relations, family support, peer relations and wider social resources. Based on this, the Urdu scale can be used in studies to explore the combined effect of personal and interpersonal resources on adolescent adjustment. Availability of this instrument can also help in enhancing inclusiveness in psychological research. When items are asked in familiar Urdu wording, it may provide adolescents who are not as comfortable in English with an opportunity to express their experiences. This can help to minimize the measurement error due to language comprehension and not due to the psychological construct.

Limitations

Several limitations should be considered. First, the present validation was conducted with Pakistani adolescents; therefore, the psychometric findings should not automatically be generalised to adults or to Urdu-speaking populations outside Pakistan. Future research should examine whether the scale demonstrates measurement invariance across age groups, gender, educational settings, and geographical regions. Second, although the study used separate EFA and CFA samples, both samples were drawn from the same broader cultural population. Replication in independent Pakistani samples would strengthen confidence in the stability of the factor structure. Third, the present study focused primarily on structural validity and internal consistency. Further studies should examine additional forms of validity, including convergent validity, discriminant validity, criterion-related validity, and known-groups validity. Longitudinal research should also assess test-retest reliability and responsiveness to changes in coping. Fourth,

although systematic translation and expert review were used, future research could strengthen the adaptation process through formal cognitive interviewing with adolescents. Cognitive interviewing can identify subtle difficulties in interpretation that may not become evident through expert review alone. Finally, coping is context-dependent, and the Positive Coping Style scale should not be interpreted as a complete representation of all coping processes. The measure captures positive coping tendencies, whereas adolescents may simultaneously use different coping responses depending on the nature of the stressor, available resources, and social circumstances.

Conclusion

An Urdu version of Positive Coping Style Scale has been designed and evaluated in the present study for use among the adolescents of Pakistan. A systematic forward-backward translation and cultural adaptation process was used to ensure that there was a conceptual and linguistic equivalence between the English and Urdu versions. Psychometric results showed good evidence of a clear 1-factor structure. The results of exploratory factor analysis revealed a single factor with a variance of 65.748% and high loadings of the items from .76 to .85. The same one factor structure was confirmed in an independent sample with $\chi^2/df = 1.022$, CFI = 1.00, SRMR = .020, RMSEA = .000 and PClose = .985. Standardized factor loadings were between .76 and .83 and Cronbach's alpha was .90. These results suggest that Urdu Positive Coping Style Scale was reliable and structurally valid in measuring positive coping tendencies among the adolescents of Pakistan. The instrument is a valuable tool for future studies investigating adolescent mental health, psychological adjustment, family relationships, social support, self-evaluation, aggression and technology related behaviours in the context of Pakistan. However, further research is needed to explore its longitudinal reliability, convergent and discriminant validity, measurement invariance, and responsiveness, which will then indicate its full validity across different Urdu-speaking groups.

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