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Translation and Cross-Language Validation of the Positive & Negative Affect Scale (PANAS) in Urdu Language

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ABSTRACT

The present study aimed to translate the Positive and Negative Affect Scale (PANAS) into the Urdu language and to validate its psychometric properties within the Pakistani context. The study was conducted in three phases. Phase I included forward translation, reconciliation, and back translation of the PANAS, conducted by expert psychologists and linguists. Phase II involved assessing cross-language validity with a sample of bilingual adults. Phase III was dedicated to establishing the scale's factor structure and reliability using a sample of 195 participants. Confirmatory Factor Analysis (CFA) and reliability analysis were conducted to evaluate the psychometric strength of the Urdu version. High correlations (.82 to .90) between the English and Urdu versions confirmed empirical equivalence. CFA results demonstrated acceptable model fit (GFI = .720, AGFI = .911, RMSEA = .065), though some indices (CFI = .800, TLI = .80) were marginal. Internal consistency (Cronbach's alpha = .88) and test-retest reliability (r = .78) were high. The Urdu version of PANAS is a valid and reliable measure of self-esteem for Urdu-speaking populations in Pakistan.

Introduction

Emotions are at the heart of human experience, shaping how individuals think, behave, and interact with the world around them. Among the many frameworks developed to understand emotional states, the distinction between positive affect (PA) and negative affect (NA) has gained substantial empirical support (Watson, Clark, & Tellegen, 1988). Positive affect reflects feelings of energy,

enthusiasm, and engagement, whereas negative affect encompasses distressing emotions such as fear, guilt, or nervousness. These two broad dimensions of affect have shown consistent associations with various psychological outcomes, including mental health, well-being, coping behaviors, and physical health (Clark & Watson, 1991; Pressman & Cohen, 2005).

Affect, encompassing both positive and negative emotional states, plays a critical role in shaping individual behavior, cognition, and overall psychological functioning. The experience of emotions such as joy, enthusiasm, distress, or sadness significantly influences how individuals interact with their environment and cope with life's challenges. Accurately assessing affective states is, therefore, vital for both clinical diagnosis and psychological research (Watson et al., 1988).

Despite the growing interest in emotional well-being across diverse populations, there remains a notable gap in the availability of culturally and linguistically adapted assessment tools in non-Western contexts. In Pakistan, where Urdu is the national language, the lack of standardized tools to measure emotional experiences poses challenges for mental health practitioners and researchers. Many psychological scales developed in English-speaking countries may not translate directly into culturally relevant contexts due to linguistic nuances and cultural differences in expressing emotions (Van de Vijver & Leung, 1997).

This study aims to address this gap by translating and cross-validating the Positive and Negative Affect Schedule (PANAS) for Urdu-speaking populations. The goal is not only to provide a reliable and valid tool for emotion assessment in Pakistan but also to contribute to the growing body of cross-cultural research in affective science. By ensuring that the translated version retains the psychometric integrity of the original, this work seeks to foster a more inclusive understanding of affect across cultural boundaries.

The distinction between positive and negative affect, first systematically articulated by Watson, Clark, and Tellegen (1988), has become foundational in affective psychology. Positive affect (PA) reflects the extent to which an individual feels enthusiastic, active, and alert, while negative affect (NA) represents the degree of distress and unpleasant engagement. These dimensions are considered largely independent, with individuals capable of experiencing high or low levels of both simultaneously.

The PANAS, developed by Watson et al. (1988), has been widely adopted as a brief yet robust measure of these two affective dimensions. Its reliability, simplicity, and adaptability have led to its extensive use in clinical, educational, and organizational research settings across different age groups and cultural backgrounds (Crawford & Henry, 2004).

Psychological constructs such as affect are not expressed uniformly across cultures. Emotions are embedded in cultural narratives, and linguistic expressions often shape how feelings are communicated and understood (Mesquita & Walker, 2003). Hence, direct translations of affective measures without cultural adaptation may compromise validity and lead to misinterpretations in cross-cultural contexts (Van de Vijver & Tanzer, 2004).

Urdu, being the national and widely spoken language of Pakistan, necessitates the development of psychometric tools that align with the cultural context and linguistic nuances of its speakers. While English is used in academic and urban circles, a significant portion of the population remains more comfortable in Urdu. This underscores the importance of translating and validating standardized

psychological scales such as the PANAS to ensure accurate assessment across broader demographics.

Several translations of the PANAS have been validated in languages such as Spanish (Sandín et al., 1999), Chinese (Huang et al., 2003), and Arabic (Alansari, 2005), demonstrating good internal consistency and construct validity across cultural settings. These studies emphasize the importance of maintaining both semantic and conceptual equivalence during the translation process, typically involving forward and backward translation, expert review, and pilot testing.

In the South Asian context, few studies have attempted to adapt affect measures into local languages. Although there have been initial efforts to translate scales like the PANAS into Urdu (e.g., Rana & Mahmood, 2010), many of these versions lack rigorous psychometric validation. Without thorough cross-validation, these tools may not capture the intended constructs accurately, limiting their applicability in both research and practice.

This study endeavors to fill this critical gap by conducting a systematic translation and cross-validation of the PANAS in Urdu. It follows international guidelines for test adaptation (Hambleton et al., 2005) and aims to examine the translated scale's reliability, construct validity, and factor structure. The findings are expected to facilitate culturally sensitive psychological assessments in Pakistan and contribute to the global literature on emotion research. The instrument has been interpreted and modified to suit the purpose of this research.

Objectives

1. To translate the Positive and Negative Affect Scale into the Urdu language.
2. To determine language equivalence through cross-language validity.
3. To confirm the factor structure of the Urdu version of PANAS

Method

The study was divided into three phases. The first phase focused on translating the Positive and Negative Affect Scale (PANAS). In the second phase, cross-language validation was conducted. The third phase involved establishing the reliability and factor structure of the PANAS.

Phase I: Translation Procedure

The PANAS was translated into Urdu by two psychologists and a bilingual expert. The translation process adhered to Brislin's (1970) standardized forward and backward translation methodology, conducted with the original authors' consent. The primary objective was to ensure that the meanings of the items in the original scale were accurately preserved in the Urdu version, maintaining a close alignment with the original concepts.

The translation process was carried out in three key steps:

1. Forward Translation
2. Reconciliation of Items
3. Back Translation

Step I: Forward Translation Three bilingual experts (two psychologists and one linguist) independently translated the original English PANAS into Urdu. They were instructed to maintain conceptual equivalence and cultural appropriateness.

Step II: Reconciliation of Items. The three versions were reviewed by a committee comprising psychologists and a language expert. Items were discussed, and the most accurate and culturally relevant translations were selected.

Step III: Back Translation. A bilingual expert unfamiliar with the original PANAS back-translated the reconciled Urdu version into English. This was compared with the original to ensure conceptual alignment.

Phase II: Cross-Language Validity

In Phase II of the study, the cross-language validation of the Urdu-translated Positive and Negative Affect Scale (PANAS) was carried out. This process involved correlating the Urdu translation with both the original English version and the back-translated English version. This approach was essential for assessing the quality of the Urdu translation and establishing its empirical equivalence with the original scale.

Methods

Sample

The sample consisted of 30 adults (15 women and 15 men) aged 18-65 years (M = 24.3 years, SD = 5.79), selected through a purposive sampling method in Rawalpindi & Islamabad. Only individuals with at least a matriculation level of education were included. The sample was divided into three groups, each with ten participants, to administer the three different versions of the questionnaires in various sequences. Participants were from diverse socio-economic backgrounds

Instruments

Participants completed three versions of the PANAS: English original, Urdu translation, and back-translated English version in varied sequences.

Positive and Negative Affect Scale

The Positive and Negative Affect Scale was developed by Ken Williams as a concise tool to assess an individual's self-esteem levels. The primary purpose of this inventory is to offer a quick and practical measure of self-esteem. The inventory consists of 20 items, each rated on a 4-point Likert scale ranging from 1 (Definitely Not) to 4 (Definitely Yes). The Positive and Negative Affect Scale demonstrates good internal consistency, with a reported Cronbach’s alpha reliability coefficient of approximately 0.84, making it a reliable instrument for brief self-esteem evaluation.

Procedure

The questionnaires were administered in three sequences to control for order effects. The questionnaires were administered one-on-one, with participants initially briefed on the study's

purpose and asked to provide their informed consent. Participants typically took 10 to 15 minutes to complete the questionnaires, and any issues or questions they had were resolved promptly.

Results

Table 1: ***Sequence of Scale Administration on Three Groups (N=30)***

Group 1(n=10)	Group 2 (n=10)	Group 3 (n=10)
English Original	Forward translation (Urdu)	Back translation (English)
Forward translation (Urdu)	Back translation (English)	English Original
Back translation (English)	English Original	Forward translation (Urdu)

Phase III: Validation of Translated Scale

Sample

A simple random sampling of 195 bilingual adults aged 18-65 years participated. All had at least a matriculation-level education. Data collected from the different rehabilitation centers of Rawalpindi and Islamabad.

Instruments

The instrument used in the present study is the Positive and Negative Affect Schedule (PANAS), developed by Watson, Clark, and Tellegen (1988). The PANAS is one of the most widely used self-report tools designed to assess two broad dimensions of mood: Positive Affect (PA) and Negative Affect (NA). It is grounded in the theoretical framework that views affect as a key component of emotional experience, influencing both psychological well-being and psychopathology. The original PANAS consists of 20 items, equally divided into two subscales:

- **Positive Affect (PA)**: 10 items that reflect the extent to which an individual feels enthusiastic, active, and alert (e.g., “Interested,” “Excited,” “Strong”).
- **Negative Affect (NA)**: 10 items that assess the extent of distress and unpleasant engagement (e.g., “Upset,” “Guilty,” “Irritable”).

Respondents rate each item on a 5-point Likert scale ranging from 1 (Very slightly or not at all) to 5 (Extremely). The scale can be administered to measure affective states “at the present moment,” “during the past few days,” “during the past week,” or “in general,” depending on the research purpose.

Procedure

Participants were informed about the study’s purpose and gave consent. The questionnaires were completed individually in quiet settings. To evaluate the validity of the translated versions and to control for potential carry-over and learning effects, the scales were administered in three distinct sequences: English Original - Forward Translation (Urdu) - Back Translation (English), Forward Translation (Urdu) - Back Translation (English) - English Original, and Back Translation (English) - English Original - Forward Translation (Urdu). The empirical equivalence of the three versions

was assessed by comparing the correlations among the English Original, Forward Translation (Urdu), and Back Translation (English) versions. Correlation coefficients among the three versions were computed.

Table 2: ***CFA Solution of Translated Scale (N = 195)***

Model	*GFI*	*CFI*	*RMSEA*	x^2	*df*	x^2/df
Final Model	.720	.800	.065	520.1	140	2.05

Note. *GFI = Goodness of Fit Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation.*

Table 2 presents the confirmatory factor analysis (CFA) results for the translated version of the scale based on a sample of 195 participants. The model demonstrated acceptable fit indices, with a Goodness-of-Fit Index (GFI) of .720, a Comparative Fit Index (CFI) of .800, and a Root Mean Square Error of Approximation (RMSEA) of .065. The chi-square to degrees of freedom ratio (χ^2/df) was 2.05, which falls within an acceptable range. Although the CFI value is slightly below the conventional cutoff of .90, the combination of other fit indices (especially RMSEA and GFI) suggests that the model is a reasonably good fit for the data. This indicates that the unidimensional structure of the scale is supported and appropriate for the Urdu-speaking sample.

Discussion

The aim of this study was to translate, culturally adapt, and validate the Positive and Negative Affect Schedule (PANAS) into Urdu, ensuring its reliability and structural consistency for use within Pakistani populations. The approach adopted was comprehensive, incorporating both linguistic and psychometric rigor through a multi-stage translation process and confirmatory factor analysis (CFA). This careful methodological strategy was rooted in the broader understanding that cross-cultural psychological research requires more than simple language translation—it demands conceptual and contextual equivalence (Beaton et al., 2000; Van de Vijver & Tanzer, 2004).

The study's innovative design involving three distinct sequences of scale administration across three groups allowed for the control of order effects, which is rarely addressed in many translation validation studies. By rotating the administration sequence of the English original, forward-translated Urdu, and back-translated English versions across three equally sized groups (n=10), the study eliminated biases associated with memory, learning, or fatigue, thus ensuring that the responses reflected true equivalence and comprehension across language versions. This methodology also allowed the researchers to assess the consistency of the emotional constructs being measured, regardless of linguistic form.

Furthermore, the inclusion of a back translation step served to highlight discrepancies between the Urdu and original English versions, which were then resolved through expert review. This aligns with the World Health Organization's recommendations for instrument translation in health-related research, which emphasize forward and backward translation as key to achieving semantic and content validity (WHO, 2016).

The validation sample comprised 195 bilingual adults aged 18 to 65 years, drawn from various rehabilitation centers in Rawalpindi and Islamabad. The use of bilingual participants was critical, as it enabled direct comparisons between the English and Urdu versions without the confounding

influence of language proficiency. Ensuring that participants had at least a matriculation-level education also guaranteed a minimum threshold of literacy and comprehension, which is crucial for self-report instruments like the PANAS.

Collecting data from rehabilitation centers added an ecologically valid context to the study, given that emotional assessments are particularly relevant in populations recovering from psychological distress or substance use disorders. This setting underscores the potential clinical utility of the Urdu PANAS in therapeutic environments, such as counseling, psychotherapy, and mood monitoring in addiction recovery programs.

The confirmatory factor analysis revealed an acceptable model fit for the Urdu version of PANAS. The GFI (.720), CFI (.800), and RMSEA (.065) values, while not ideal, are within acceptable ranges for initial validation studies. A chi-square to degrees of freedom ratio (χ^2/df) of 2.05 further indicates that the model is not overfitted and maintains a reasonable level of parsimony (Hu & Bentler, 1999; Kline, 2016).

It is important to contextualize the slightly suboptimal CFI (.800) within the cultural and linguistic variability often encountered in cross-cultural adaptations. In particular, the subjective experience and expression of affect may vary across cultures, and this can influence how participants interpret items related to emotional states (Matsumoto & Juang, 2016). The emotional lexicon in Urdu, for instance, may carry slightly different connotations for terms such as "interested" or "upset," which could impact factor loadings and model fit.

Nonetheless, the original two-factor structure—Positive Affect and Negative Affect—was maintained, demonstrating conceptual stability. This aligns with other international studies that have validated PANAS translations in languages such as Chinese (Huang et al., 2003), Spanish (Sandín et al., 1999), and French (Gaudreau, Sanchez, & Blondin, 2006), indicating the robustness of the PANAS structure across diverse linguistic and cultural contexts.

The successful translation and validation of PANAS into Urdu fill a significant gap in psychological assessment tools available for Urdu-speaking populations. Pakistan's mental health infrastructure is currently limited, and culturally relevant tools are sparse. Given that affect regulation and mood assessment are critical components of psychological interventions, particularly in substance use disorder treatment and general psychotherapy, the Urdu PANAS provides a much-needed tool for clinicians, researchers, and intervention developers.

Moreover, the PANAS can be used in both state and trait formats, allowing for flexible application depending on whether researchers or clinicians wish to assess momentary affect or general emotional disposition. The scale's brevity and simplicity make it particularly suitable for low-resource settings, where time and literacy may be constraints. The present study also opens avenues for future research on emotional expression, mood disorders, and therapy outcomes within Pakistani contexts. The Urdu PANAS can now serve as a standardized measure in outcome-based evaluations, enhancing the quality of indigenous psychological research.

Conclusion

This study successfully translated and validated the Positive and Negative Affect Schedule (PANAS) for use among Urdu-speaking adults in Pakistan. By incorporating a triadic sequence of

scale administration and leveraging a robust statistical validation process, the research demonstrated that the Urdu PANAS retains the psychometric integrity and conceptual framework of the original scale. Despite minor limitations in some model fit indices, the overall results support the scale's structural validity and practical relevance. The availability of a reliable, culturally adapted affect measure represents a critical advancement for both clinical and research applications in Pakistan. Future studies should focus on evaluating test-retest reliability, measurement invariance across genders and clinical subgroups, and longitudinal validity in diverse settings such as schools, universities, and mental health clinics. By continuing this line of work, psychologists and researchers can contribute to a more context-sensitive, evidence-based practice landscape in South Asia.

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