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Validation and Reliability Study of the Arabic Version of the Multicultural Personality Questionnaire (AV-MPQ)

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Abstract

Introduction. In the global fight against terrorism and the pursuit of cultural harmony, Saudi Arabia prioritizes fostering cross-cultural understanding amidst ongoing societal change. This necessitates evaluating cultural conflict among youth in Saudi Arabia, justifying the selection of the Multicultural Personality Questionnaire (MPQ) for this study. **Objective.** The aim of this study is to identify a suitable multicultural personality scale and translate it into Arabic. Additionally, the study seeks to assess the psychometric properties of the adapted scale, focusing on its validity and reliability in measuring relevant personality traits. **Methods.** To investigate the research questions, a survey was administered to a convenience sample comprising 921 participants (380 males and 541 females) from the target population. These individuals were asked to complete the Arabic Version of the Multicultural Personality Questionnaire (AV-MPQ). **Results.** The findings suggest the Arabic Version of the Multicultural Personality Questionnaire (AV-MPQ) demonstrates promising psychometric properties within the Saudi context. This is based on evidence indicating good validity and acceptable reliability indices. **Discussion.** Our findings suggest the AV-MPQ holds promise as a research tool for investigating multicultural personality within Arabic contexts. However, further research is necessary to solidify its validity and generalizability. Studies employing larger, random samples and exploring the AV-MPQ in diverse populations are crucial. This will enhance our understanding of multicultural personality and its potential role in cultural conflict.

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Keywords

For citation

Introduction

Governments worldwide, including Arab nations, have been actively combating terrorism fueled by misguided ideologies and deviant behaviors. These efforts span both security and non-security domains, using systematic, intellectual, educational, and social approaches. Civil society organizations and research entities are encouraged to contribute to counterterrorism efforts. In response, we will conduct a field study aimed at achieving unprecedented scientific objectives in this area.

While these preventive measures are in place, global initiatives are also promoting cultural affinity within and between societies. These initiatives encourage decision-makers and influencers to modify educational curricula to reject violence from cultural conflicts, promote cultural acceptance, and reward actions that foster cultural affinity. Financial and moral support for such efforts is provided in various forums.

The rejection of cultural conflict remains a strong focus in Arab societies, prompting scholars and specialists to explore related issues like prejudice, racism, intellectual deviance, and extremism. The findings have informed rehabilitative programs and laws designed to protect society from challenges arising from a lack of cultural affinity.

Currently, the emphasis on rejecting cultural conflict is evident across Arab countries, impacting security, politics, society, and science. This focus reflects the desire of governments and civil organizations to create environments characterized by security, social coexistence, and political stability. These efforts also aim to attract foreign investment, boosting national income and, consequently, citizens' income.

Saudi Arabia is particularly active in enhancing cultural affinity, undergoing significant cultural, social, economic, security, and political transformations. These changes are reshaping the country and increasing its political and economic influence regionally and globally. A key factor in achieving these goals is improving cultural affinity, enabling citizens and residents to engage with other cultures objectively and flexibly.

Given this context, a field study is needed to measure the level of cultural conflict among Saudi Arabian youth, particularly considering gender differences and academic

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disciplines. With a significant portion of Saudi society (about 65%) aged 15 to 34 years (General Authority of Statistics, 2019), there is a need for a multicultural personality scale with strong psychometric properties. The primary research questions will focus on identifying and validating the most suitable scale. The study will adapt this scale to Arabic to assess cultural conflict among university youth in Saudi Arabia, a demographic targeted by terrorist groups, using a survey-based methodology.

The study's significance is evident, especially given the lack of similar research and the absence of Arabic measures for multicultural personality, despite its importance.

The literature review highlights that scholars from various fields have developed multiple models of intercultural competence, which refers to the ability to operate effectively across cultures. These models are relevant across disciplines such as international leadership, business, management, intercultural counseling, communication, psychology, and personality (Leung, Ang, & Tan, 2014). The diverse disciplines involved underscore the broad relevance of intercultural competence.

Different models of intercultural competence take varied approaches. Some focus on specific domains, emphasizing cultural traits (Griffith and Harvey, 2000), attitudes or worldviews (Deardorff, 2006) related to intercultural interactions. Others take an integrative approach, incorporating elements from multiple domains (Ting-Toomey & Kurogi, 1998). These variations reflect differing views on work competence—some see it narrowly as skills for specific tasks, while others take a broader view, including traits, motives, knowledge, and skills. The origins of these models also vary: those rooted in personality traditions emphasize intercultural traits, while others based on intelligence literature focus on capabilities. Some models integrate insights from multiple disciplines, encompassing a wide range of constructs.

For this study, we chose the Multicultural Personality Questionnaire (MPQ), developed by Van der Zee and Van Oudenhoven in 2000, to prioritize personal factors in assessing cultural conflict. The MPQ measures five traits known to predict multicultural effectiveness: emotional stability, social initiative, open-mindedness, cultural empathy, and flexibility. It is based on the idea that stable dispositions, though modest, are reliable predictors of performance. Originally designed to assess expatriates and students, the MPQ has been widely used and has demonstrated strong predictive power for international students' adjustment, outperforming their native counterparts. It also explains variance in students' adjustment beyond self-efficacy (Van Oudenhoven & Van der Zee, 2002). The MPQ has shown consistent factor structures and good internal consistency across cultures. It is strongly linked to sociocultural adaptation, psychological well-being, health, international aspirations, job satisfaction, participation in multicultural events, and academic performance in diverse groups (Leung, Ang, & Tan, 2014).

The Multicultural Personality Questionnaire-Short Form (MPQ-SF), developed by Van der Zee et al. (2013), assesses the same five traits crucial for intercultural success. This version, derived from the 91-item original, optimizes subscale length with the minimum

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number of items needed. Initial principal components analysis (PCA) confirmed the five-factor structure across 69 items, and subsequent exploratory PCA reduced it to 40 items, explaining 48.31% of the variance. Confirmatory factor analysis supported the five-factor model's adequacy (Van der Zee, Van Oudenhoven, Ponterotto & Fietzer, 2013).

Further details about the MPQ and its versions will be provided in the following sections.

Methods

This section will furnish thorough information on participants, data collection instruments, the methodology of data collection, and the statistical analysis procedures employed.

Participants

The study aims to validate the Cultural Conflict Scale among Saudi Arabian youth. The target population includes university-aged individuals (18 to 26 years old) of both genders and from diverse cultural backgrounds. A convenience sampling method was used, selecting participants arbitrarily without systematic planning, which is common in humanities research and validation studies.

The sample size, determined according to Al-Subaihi (2003), includes 921 participants (380 males and 541 females). Table 1 provides an overview of their characteristics.

Table 1
Characteristics of The Sample

		N	%
Gender	Male	380	41.3
	Female	541	58.7
	Total	921	100
Age	18 – less than 20	230	30.3
	20 – less than 22	320	43.4
	22 – less than 24	170	22.4
	24 - 26	29	3.8
	Total	921	100
Academic Specializations	Scientific Colleges	492	53.4
	Humanities Colleges	429	46.6
	Total	921	100

Note. N = Sample Size. % = Valid Percentage.

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The study benefits from a sample of 1076 people, both male and female, who were chosen from Saudi Arabia's youth population and ranged in age from 18 to 26. The determination of sample size adheres to established protocols, demonstrating methodological accuracy. The participants' varied demographic and cultural origins contribute to the study's richer findings and improved generalizability. The study's validity is further enhanced by Table 1's open reporting of participant information.

Measures

The Multicultural Personality Questionnaire

The Multicultural Personality Questionnaire (MPQ) is a personality assessment tool designed explicitly to characterize behavior during interactions with individuals from different societies. The MPQ may be used to predict how smoothly people are likely to adjust to other cultures and develop a sense of comfort and belonging within those cultural settings.

The moderate version of the MPQ consists of 78 items, divided into five factors, each of which measures a separate multicultural personality trait (Van der Zee & Van Oudenhoven, 2001). These factors include: (1) Cultural Empathy (the feelings, thoughts, and behaviors of individuals from a different culture), (2) Emotional Stability (the individual's ability to stay calm under stressful conditions), (3) Flexibility (the ability to switch easily from one behavioral strategy to another), (4) Open-mindedness (unprejudiced attitude toward cultural differences), and (5) Social Initiative (tendency to actively approach social situations, initiating communication rather than waiting and watching) (Hofhuis, Jongerling, Van der Zee, and Jansz, 2020). Each dimension was assessed through distinct number of items, prompting participants to indicate, on a 5-point Likert Scale, the extent to which specific personality traits apply to them based on self-reporting (1 = totally not applicable; 5 = totally applicable).

A 40-item short form of the instrument was developed (MPQ-SF), which has been shown to display strong correlations with the full version of the MPQ (Van der Zee, Van Oudenhoven, Ponterotto, and Fietzer, 2013).

Personal information form

The personal information form was created to collect specific demographic information of the participants such as age, gender, and academic specialization. The demographic information was used to contrast the findings of this study with other MPQ validation studies.

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Adaptation of the Arabic Version of the Multicultural Personality Questionnaire (AV-MPQ)

The researchers followed the guidelines for translating and adapting tests reported by Hernández, Hidalgo, Hambleton, & Gómez, (2020) and other studies (such as: Beaton et al, 2000; Tsang, Royse, & Terkawi, 2017; Hambleton, R. K., & Lee, 2013; Brislin, 1976; Hambleton, 1994; Sousa & Rojjanasrirat, 2011).

Four primary procedures were employed for translating the MPQ into Arabic. These procedures include Forward Translation, where three independent translators with strong English proficiency and measurement knowledge translated the original version from English to Arabic. Backward Translation involved the back-translation of the initial translated version by different translators with a solid background in both English and measurement. The Expert Committee Translation consisted of specialists in scale construction, a methodologist, and translators who thoroughly examined all versions to ensure semantic, idiomatic, experiential, and conceptual equivalence between the translated and original versions. Lastly, Preliminary Pilot Testing Translation involved testing the prefinal version of the translated MPQ on a small sample of university students in Saudi Arabia, who were asked to provide detailed explanations of their interpretation of each item and its corresponding response.

Data Collection Process

The data of this study was collected from a sample of college students using the convenience sampling technique, a nonprobability sampling method. Initially, participants were briefed on the study's objectives and subsequently requested to respond to the MPQ questions voluntarily using a 5-point Likert Scale (1 = totally not applicable; 5 = totally applicable). Most of the participants spent between 20-30 minutes to clearly and successfully complete the MPQ scale.

Data Analysis

Data analysis for the study was conducted using SPSS 25.0 and AMOS 24. The structure of the AV-MPQ was confirmed through Confirmatory Factor Analysis (CFA) using AMOS 24.

Given that the adapted scale demonstrates structural validity and reliability, the model's construct validity was assessed through CFA. CFA is a subset of structural equation modeling (SEM), focuses on assessing measurement models, exploring the connections between observed measures (e.g., test items or scores) and factors (Brown, 2015). Prior to conducting CFA for the scale, factor analysis assumptions (Ullman, 2001; Brown & Moore, 2012) were carefully examined. It was confirmed that there were no outliers, multicollinearity issues, or singularity problems. Additionally, no extreme values that could adversely impact the analysis were identified. Cronbach's alpha (α) and Guttman Split-Half Coefficient were computed to assess the scale's reliability. The next section shows detailed information about the AV-MPQ validity and reliability.

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Results

This section includes descriptive statistics of the scale as well as findings regarding its validity and reliability.

Construct Validity Studies of the AV-MPQ

CFA plays a crucial role in establishing construct validity by providing a statistical framework to test and confirm the factor structure of a measurement instrument. It helps researchers ensure that their instrument is measuring the intended constructs reliably and validly (Bollen, & Long, 1993). Before conducting the CFA to assess the validity of AV-MPQ's structure, the assumptions, including *outliers, multicollinearity,* and *singularity* issues, were reviewed. Outliers refer to extreme or unusual observations that significantly differ from the rest of the data points. Table 1 indicates the absence of *outliers* among participants. Likewise, the summary statistics in Table 2 for participants' scores to the AV-MPQ reveal no instances of outliers.

Table 2
Descriptive Statistics

| Factor Name	Min	Mean	Max	S. D.	SEM*
FX	20	37.02	55	5.757	.190
OP	21	48.36	68	7.507	.247
CE	18	51.35	67	6.298	.208
ES	33	64.02	89	8.327	.274
SI	25	54.86	80	8.056	.265
Total Score	144	255.62	330	22.249	.733

Note. *FX = Flexibility. OP = Open-mindedness. CE = Cultural Empathy. ES = Emotional Stability. SI = Social Initiative. Min. = Minimum Raw Score of AV-MPQ. Max. = Maximum Raw Score of AV-MPQ, SD = Standard Deviation, The SEM estimates the precision of the sample mean as an estimator of the population mean, the smaller value suggests that the sample mean is likely a more accurate estimate of the population mean (i.e., no outliers).*

Multicollinearity occurs when two or more test items are highly correlated with each other (i.e., $r^2 = 0.80$ to 0.90) (Kim, 2019). Multicollinearity isn't simply present or absent; rather, it exists on a spectrum. As the degree of multicollinearity increases, so does the probability of encountering its disruptive consequences. In this study, the descriptive statistics of the pairwise correlation matrix (r) of the scale items are as follows: Min (-0.265), Mean (0.056), Max (0.478), which indicates no problem of multicollinearity

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among the items of AV-MPQ. *Singularity* problems arise when there is a flawless linear relationship among AV-MPQ items, causing instability in estimating factor loadings. This occurs when one or more items are accurately predicted by a linear combination of other items. To assess the presence of singularity, an examination of the descriptive statistics of the correlation matrix is conducted. In this case, since no items exhibit a perfect linear relationship, there are no singularity issues.

The CFA was executed using procedure described by Leone, Van der Zee, Oudenhoven, Perugini, & Ercolani (2005). The procedure involved grouping items of the same factor into three sets using an appropriate mathematical function tailored to the scale's nature (median was employed here). The objective was to achieve more stable parameter estimates within CFA models and minimize errors when calculating observed indicators (Bagozzi, 1993; Bentler, 1990). Analyzing all items in CFA leads to less precise outcomes due to measurement error and sample specificity (Leone et al., 2001). The obtained results are detailed below and illustrated in Figure 1.

Figure 1
CFA of the AV-MPQ
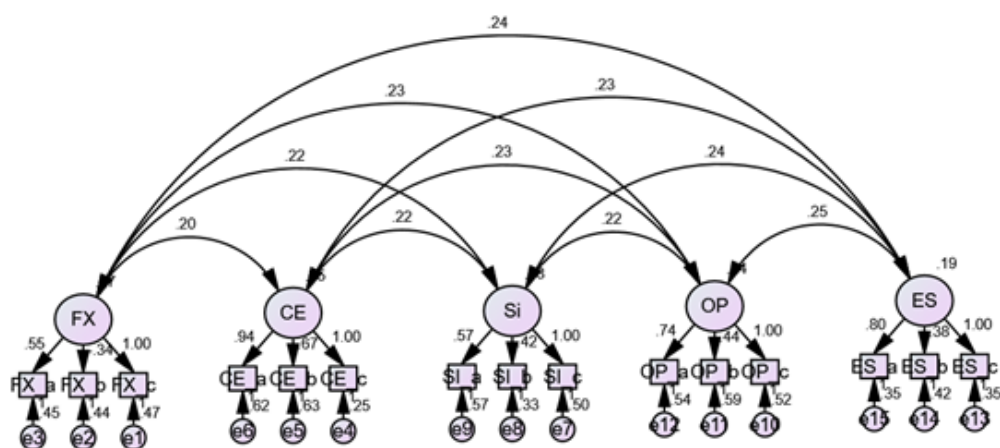
Note. *FX = Flexibility. OP = Open-mindedness. CE = Cultural Empathy. ES = Emotional Stability. SI = Social Initiative*

The goodness-of-fit of the model for the CFA confirms the scale's validity. In this study, indices used in (Leone, Van der Zee, Oudenhoven, Perugini, & Ercolani, 2005) reported to compare the results of this study with other MPQ validation studies for similarity. Table 3 shows that the proposed model fits the observed data well (i.e., the construct validity has been achieved).

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Table 3
CFA Indices Values

Category Name	Index's Name	Acceptance Level	Calculated Level
Absolute fit (assess	Chi-square Mean	*p* value > 0.05	0.089
overall theoretical model against observed data)	The Root Mean Square Error of Approximation	RMSEA < 0.08	0.065
Incremental fit (used to evaluate how well a proposed model improves upon a more basic or null model)	Comparative Fit Index	CFI > 0.90	0.856
Parsimonious fit (is finding a balance between model fit and simplicity)	Chi-Suare/ df	$(\chi^2/df) < 2.0$	0.792
The minimum sample size required for a given model to achieve statistical significance.	Hoelter's	critical N >200	265

Afterwards, the reliability of both the overall AV-MPQ and each of its sub-dimensions was assessed. The subsequent section will present the specific outcomes of the reliability calculations.

The Reliability of the AV-MPQ

Reliability indicates the extent to which the AV-MPQ produces consistent and accurate results over repeated administrations. In assessing internal consistency reliability, Cronbach's alpha (α) was employed (Cronbach, 1951), considering the commonly accepted guideline that a range of 0.6-0.7 indicates an acceptable level of reliability, while 0.8 or higher signifies a very good level (Downing, 2004; Ursachi, Horodnic, & Zait, 2015; Mohajan, 2017).

The Guttman Split-Half Coefficient is another measure of internal consistency reliability of an instrument commonly used in psychometrics by dividing it into two halves and comparing the responses between the two halves (Guttman, 1945). A Guttman Split-Half Coefficient of 0.70 or higher is often viewed as an acceptable level of internal consistency

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reliability in psychometrics (). Although the Cronbach's alpha and the Guttman Split-Half Coefficient common goal is to assess the consistency of items within a measurement instrument measuring the same underlying construct, they diverge in their calculation and evaluation of this consistency. Notably, Cronbach's alpha is frequently preferred for its versatility and robustness.

Table 4 displays that the indices for both internal consistency reliability measures exceeded the designated cutoff values, confirming the reliability of the AV-MPQ.

Table 4

Cronbach's alpha (α) and The Guttman Split-Half Coefficient

Factors	Number of Items	Cronbach's alpha (α)	The Guttman Split-Half Coefficient
CE	14	0.735	0.721
ES	20	0.766	0.759
OP	14	0.750	0.719
SI	17	0.720	0.725
FX	13	0.712	0.747
Total	78	0.818	0.787

Note. FX = Flexibility. OP = Open-mindedness. CE = Cultural Empathy. ES = Emotional Stability. SI = Social Initiative

Reliability of the MPQ dimensions were computed for two different societies: Italian and Dutch. In the Italian sample the dimensions showed satisfactory internal consistencies (α =.76 for Cultural Empathy; α =.83 for Open-mindedness; α =.86 for Social Initiative and α =.85 for Emotional Stability), the only exception being Flexibility that showed a modest coefficient (α =.65). In the Dutch sample, scale reliabilities were α = .82 for Cultural Empathy, α =.83 for Open-mindedness, α =.89 for Social Initiative, α =.88 for Emotional Stability, and α = .74 for Flexibility (Leone et.al., 2005). The consistency in Cronbach's α values for AV-MPQ, surpassing the accepted threshold of α = 0.70, aligns with findings from Italian and Dutch studies, affirming the robust reliability of AV-MPQ.

Discussion

The discussion centers on the construct validity and reliability of the AV-MPQ (Arabic Version of the Multicultural Personality Questionnaire) as indicated by the results presented above.

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Firstly, the study utilized confirmatory factor analysis (CFA) to establish construct validity by examining the factor structure of the AV-MPQ as stated by Said, Badru & Shahid (2011). Before conducting CFA, potential issues such as outliers, multicollinearity, and singularity were assessed. The absence of outliers, minimal multicollinearity, and absence of singularity issues suggested the validity of the scale's structure. The results of the CFA confirmed the goodness-of-fit of the model, indicating that the AV-MPQ accurately measures the intended constructs (e.g., cultural empathy, open-mindedness), aligning with the original MPQ structure.

Secondly, reliability assessments were conducted using Cronbach's alpha (Cronbach, 1951) and Guttman Split-Half Coefficient (Guttman, 1945). Both measures demonstrated satisfactory internal consistency reliability, surpassing the designated cutoff values. Additionally, the reliability of the AV-MPQ dimensions was compared across different societies (Italian and Dutch samples), showing consistent results with previous studies, and affirming the robust reliability of the scale.

In summary, the discussion underscores the strong construct validity and reliability of the AV-MPQ, rendering it a dependable instrument for assessing multicultural personality traits among Arabic-speaking populations. The findings align with previous research conducted in various cultural contexts, further validating the efficacy of the AV-MPQ as a cross-cultural measurement tool. The instrument effectively captures the intended personality dimensions within the Arabic cultural context.

Conclusion

The aim of the present study was to assess the psychometric properties of the Arabic Version of the Multicultural Personality Questionnaire (AV-MPQ). This version is an adaptation of the original MPQ scale, designed to gauge five personality dimensions associated with multicultural orientation and adaptation. Due to the lack of studies in literature about validation and reliability of AV-MPQ, it is thought that this adaptation study will make a great contribution to the literature. It is anticipated that this scale will prove useful for conducting studies on multicultural personality, emerging as a novel concept in the realm of cultural conflict. Furthermore, it is believed that the scale will pave the way for future research, focusing on developing models to elucidate the dynamics of multicultural personality dissolution and working towards mitigating cultural conflict among the youth. Considering the significance of assessing cultural conflict, which holds a pivotal role in terrorist operations and poses a threat to both local and international peace, the findings of this study will prove valuable in preventive, and therapeutic psychological counseling. Additionally, the Arabic Version of MPQ will stimulate further academic work in this field.

The original scale, as developed by Van der Zee and Van Oudenhoven in 2000 with 91 items measuring five dimensions of intercultural competencies. These are: cultural empathy (18), open-mindedness (18), emotional stability (20), social initiative (17), and

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flexibility (18). Respondents evaluated if each item is applicable to themselves based on a Likert Scale ranging from 1 "totally not applicable" to 5 "totally applicable". The correlations between the main five dimensions and associated instruments aligned with expectations. Additionally, the data affirmed the predictive capability of the multicultural activity instrument, demonstrating its incremental value beyond the Big Five in forecasting international orientation and aspirations for an international career. The MPQ can serve as a tool for selecting expatriates or as a diagnostic instrument to assess additional training requirements.

Then a revised version with 78-item was developed based on exploratory and confirmatory factor analyses of an original set of items. The confirmatory factor analysis (CFA) revealed a five-factor structure consistent with the original scale. The fit indices demonstrated satisfactory results: χ^2/p-value = 0.089, RMSEA = 0.065, CFI = 0.856, χ^2/df = 0.792, and critical N = 265.

Lately, a new 40-item short form, known as MPQ-SF, has been created by (Van Der Zee, Van Oudenhoven, Ponterotto, & Fietzer, 2013). This shorter version proves valuable in situations where time constraints exist, or the likelihood of respondent dropout is high.

The Cronbach alpha internal consistency coefficient of the MPQ scale was calculated as α = 0.90 and the different factors show α = 0.84 (cultural empathy), α = 0.82 (open-mindedness), α = 0.82 (social initiative), α = 0.80 (emotional stability) and α = 0.67 in the flexibility dimension (Sousa et al., 2019). Comparing that with the internal consistency coefficient of the AV-MPQ scale, which is α = 0.818 and the different factors show α = 0. 735 (cultural empathy), α = 0. 750 (open-mindedness), α = 0. 720 (social initiative), α = 0. 766 (emotional stability) and α = 0. 712 in the flexibility dimension.

The variation in the Cronbach's alpha results between the original scale and the adapted scale can be attributed to cultural and linguistic distinctions (Hambleton, 2005). Given that all Cronbach alpha values are higher than the thresholds mentioned in the literature (α = 0.70), this provides confidence to users regarding the reliability of the AV-MPQ scale for utilization.

The evidence supporting the validity and reliability of the AV-MPQ suggests its appropriateness for use not only in Saudi culture but also in similar cultures. The scale proves to be practical and easy to administer and score. Several recommendations arise from the research findings. The study employed a convenient sampling method for participant selection. Future research using a random sampling method and involving a larger sample size could enhance the generalizability of the results. Utilizing the scale in diverse studies and with different samples may further our understanding of its psychometric properties. It is anticipated that future studies may uncover additional factors and structures related to the concept of cultural conflict. As validity and reliability studies are contingent on measurements, it would be beneficial to examine the psychometric properties of the AV-MPQ with data obtained from larger and varied sample groups in the future. Lastly, it is expected that studies exploring different variables associated with

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multicultural personality in relationships will contribute new evidence to the scale's validity and reliability, thus enriching the literature on the subject.

Limitations

One limitation of this study is the use of a convenience sample, which entails participants being readily available rather than selected randomly. This raises concerns regarding the generalizability of the findings to the entire population of interest, such as Saudi youth. Additionally, the sample size of 921 participants may be insufficient to conclusively establish the scale's validity and reliability across a larger population.

Another limitation pertains to the study's sole focus on a Saudi Arabian context. Applying the findings to other cultures without further testing may not be accurate.

The final limitation is that while the study assessed the AV-MPQ's reliability and provided initial evidence for validity, further research is required to conclusively confirm these findings.

Ethics Statement

This study followed ethical principles throughout the research process. Informed consent was obtained from participants after providing comprehensive information about the study's aims, procedures, potential risks and benefits, and their right to withdraw at any point. Confidentiality measures were implemented to anonymize and maintain the confidentiality of all participant data, ensuring the security and privacy of the information collected. Additionally, the study design minimized any potential risks or discomfort to the participants.

Acknowledgements

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Haifa T. Al-Bokai conceptualized the idea and developed the theory, engaged in discussions about the results and made contributions to the final manuscript.
Ali A. Al-Subaihi conducted the computations and verified the analytical methods, engaged in discussions about the results and made contributions to the final manuscript.
Abdulrahman A. Al-Subaihi conducted the computations and verified the analytical methods, engaged in discussions about the results and made contributions to the final manuscript.

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Conflict of Interest Information

The authors have no conflicts of interest to declare.