

Research Article

Psychometric Properties of Emotional Tolerance Scale for Couples

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Abstract: This investigation assessed the psychometric properties of the Emotional Tolerance Scale within the context of married couples in Riyadh. In pursuit of the research objectives, the 15-item, four-dimensional scale was translated and administered to the designated cohort. The study sample comprised 628 married participants. The investigation conducted a comprehensive assessment of validity types, wherein translation, content, and internal consistency were established as satisfactory. Exploratory factor analysis delineated four distinct factors within the measurement framework: tolerance, recommendation, comprehension, and organization. The Kaiser-Meyer-Olkin (KMO) test yielded a result of 0.638, surpassing the requisite threshold of 0.6, affirming the adequacy of the sample size for factor analysis. Significance in Bartlett's sphericity test underscored the relevance of item linkages, rendering the item correlation matrix conducive to factor analysis at a significance level of 0.05. The application of Guilford's rule in factor analysis revealed item saturation, accepting bifurcations with values greater than or equal to 0.3. Additionally, factors meeting or exceeding an eigenvalue of one, as per the Kaiser criterion, were retained. The Emotional Tolerance Scale's constituent elements and dimensions for spouses were observed to coalesce into a singular factor. All correlation coefficients were statistically significant at the 0.01 level, ranging from 0.620 to 0.0725, indicative of the interconnectedness of all items within the tool. Furthermore, the instrument demonstrated robust internal consistency, as evidenced by Cronbach's alpha and the semi-reliability coefficient, both surpassing 0.80. These values align with the research objectives, affirming the reliability of the instrument and its congruence with the study's empirical foundations.

Keywords: Psychometric Properties, Emotional Tolerance Scale, Couples.

1. Introduction

Interpersonal discord within marital relationships is inherent to human nature. Inevitably, conflicts emerge as a natural facet of partnerships. The adept handling of these interpersonal disagreements holds the potential to fortify relational bonds, afford novel perspectives on formidable challenges, and engender enhanced problem-solving capabilities [1]. Tolerance denotes the acceptance of divergent perspectives and differences. In the context of contentious subjects, tolerance extends to embracing disagreement. However, it is essential to underscore that tolerance does not mandate the acceptance of words, behaviours, or thoughts that fundamentally conflict with one's principles and values [2]. Unbeknownst to individuals, emotions exert an influence on cognitive processes, particularly among those grappling with heightened negative emotional states. Deliberative reflection

may serve as a constructive mechanism enabling such individuals to discern instances where emotions ought to impact the process of reasoning. [3]. Emotionally resilient couples require a foundation of tolerance. Rigorous psychometric evaluation is essential for precision and reliability in research and therapeutic applications of any emotional tolerance scale. Key indicators include global measures assessing overall emotional tolerance, covering acceptance of a partner's sentiments, conflict resolution, and positive communication. Multidimensional assessments encompass the ability to tolerate positive (e.g., joy, affection) and negative emotions (e.g., anger, grief), along with expressive articulation. O'Neill [4] and Mohsenpour, et al. [5] observes that contemporary divorce laws have streamlined the marital dissolution process compared to preceding decades. Certain couples may opt for divorce instead of cultivating mutual acceptance of their differences through emotional tolerance.

Individual responses to emotional distress and challenging circumstances vary, with some demonstrating a more adept capacity for management [6, 7]. Certain individuals can endure intense distress while effectively concealing it, persisting in their daily routines. Conversely, there are those who grapple with difficulty in managing unpleasant emotions, resorting to self-harm, substance misuse, and even attempting suicide [8].

Essential for success in all relationships, be they romantic or platonic, tolerance involves accepting and respecting differences, refraining from judgment on ideas, values, or actions. Constructive conflict resolution and forgiveness are equally crucial [9]. Tolerance fosters mutual growth, trust, and understanding. It is important to note that tolerance does not endorse abusive or harmful behaviour, necessitating the setting of boundaries and self-defence [3]. The quality of a relationship is contingent upon the manner in which couples navigate their emotional dynamics. Currently, there exists an absence of validated assessments gauging the accuracy and dependability of measures directed at the emotional regulation objectives within romantic dyads [10]. Emotional tolerance is delineated as an individual's capacity to undergo and endure adverse psychological states [11]. Tolerance plays a pivotal role in fostering harmony and stability within marital unions. In accordance with Islamic traditions, the promotion of tolerance is advocated as an exemplary approach for the resolution of conflicts within the context of marriage [12]. Emotional tolerance is characterized by the adept management of both one's own and others' emotions in a healthy and positive manner. It involves the capacity to embrace, comprehend, and respond to both positive and negative emotions without succumbing to stress or reactive behaviours [13].

1:2 Basic Features of Emotional Tolerance

- 1. Self-Awareness:** The underpinning of emotional tolerance encompasses the acceptance of one's emotions, the comprehension of their origins, and the discernment of distinct emotional states. Cultivating self-awareness aids individuals in purposefully responding to their emotions.
- 2. Accepting Emotions:** Emotional tolerance is characterized by the acceptance and embracing of one's feelings, even those that may be discomforting, without the imposition of judgment or suppression. It necessitates acknowledging that all sensations are permissible, beneficial, and conducive to both healthy experiencing and expression.
- 3. Regulation and Coping:** Emotional Tolerance encompasses the domains of emotional regulation and management, involving the adept handling of intense emotions, modification of their expression, and the application of suitable coping strategies to effectively confront emotional challenges obstacles [6, 14-16]. Tolerance diminishes stress arising from relational challenges, serving as a pivotal factor in comprehending the enduring stability of marriages over extended periods [17].

1:3 Previous Studies

An examination of previous studies on emotional tolerance scales revealed their utilization across diverse domains and contextual settings. Fatima, et al. [18] psychometric attributes of the 15-item Tolerance of Disagreement Scale (comprising seven positive and eight negative items) were scrutinized. A sample of 30 married individuals assessed the reliability of the translated instrument, revealing high reliability ($\alpha = .90$), rendering it applicable

for implementation with Pakistani couples. Subsequent analysis involved confirmatory factor analysis conducted on a cohort comprising 400 participants, including 200 men and 200 spouses. Confirmatory factor analysis validated the translated scale for use in Pakistan. Furthermore, Melli, et al. [12] assessed the psychometric properties of the Italian DTS in 477 participants, scrutinizing factor structure, internal consistency, temporal stability, and concept validity.

To examine the psychometric questionnaire [10], content validity was evaluated by 23 experts (47.8%) from diverse fields, including social and health psychology, psychology of emotions, couples therapy, and social science techniques. Following the completion of an online questionnaire by 528 Chilean participants, the results indicated the instrument's validity through its associations with other variables. Notably, a direct positive relationship was observed between the Constructive Engagement with Emotional Reactions (CEER) and Relationship Assessment Scale (RAS), both overall and across their respective factors. This suggests the utility of the measure in identifying Chilean couples with at least one negative impression about their relationship, warranting consideration for couple therapy [19].

A self-report emotional tolerance scale was developed and validated by Kutz, et al. [20], with the primary measure established in Study 1 (N=642). The scale demonstrated convergent and discriminant validity through expected correlations with other emotional functioning measures. In Study 2 (N=823), the first-factor analysis revealed four first-order factors in the DTS, indicating a single general second-order stress tolerance factor. Both studies indicated that men exhibit a higher emotional tolerance than women.

The psychometric properties of the Polish Emotional Tolerance Scale were subjected to examination [21]. The research encompassed 1,210 participants aged 18-69 years (45% men, 51% women). Following the acquisition of the Polish translation, we assessed construct validity using EFA & CFA. Incorporating regulation into EFA's DTS two-factor framework, the original and updated CFA models, with regularization as a first-order factor, exhibited poor fit. A streamlined three-factor DTS demonstrated superior CFA fit. Both three- and four-factor versions displayed robust internal consistency, temporal stability, and convergent and discriminant validity, barring the Regulation subscale [22]. As anticipated, distress tolerance correlated positively with life satisfaction, self-control, and positive affectivity, and inversely with perceived stress, negative affectivity, and emotion regulation challenges. Gender disparities were noted, with women reporting lower stress tolerance than men. The Organization subscale exhibited lower validity and deviated from persistent distress. Consequently, we advocate for the utilization of a valid and reliable three-factor version in subsequent research endeavours.

The study [11] aimed to analyse the psychometric qualities and factor structure of the Spanish Tolerance Scale and its correlation with psychopathological and personality symptoms. Administered to 650 participants, validation results revealed strong internal consistency and temporal stability. Confirmatory factor analysis supported the four-factor structure (Appraisal, Regulation, Absorption, and Tolerance) loading on a universal higher-order component. Structural equation modelling confirmed construct validity. Distress tolerance inhibited neuroticism and partially mediated its effects on current symptoms, highlighting Spanish-mediated personality traits and psychological problems. Mehr, et al. [23] developed and validated a spouse tolerance scale. In Study 1, reliability was calculated with Cronbach's alpha ($\alpha = 0.93$) using 80 married

participants. Study 2, involving 540 married individuals, employed exploratory factor analysis (EFA) on 20 items, revealing four factors. Reliability coefficients for each factor were assessed with Cronbach's alpha ('α') and demonstrated correct internal consistency. Concurrent validity was confirmed in the third trial with 100 couples, and reliability was established through a retest approach in the fourth study with 30 participants.

Confirmatory factor analysis validated the 4 -component scale in the fifth trial with 369 married individuals. The Tolerance in Marital Relationships Scale (TSRS) measured tolerance. Bugay [24] investigated the reliability and validity of the Turkish adaptation of the Marital Dispositional Forgiveness Scale (MDFS). A total of 104 couples (Mean age = 36.6 years, SD = 9.4), residing in Turkey, completed the Turkish versions of the MDFS and the Relationship Assessment Scale (RAS).

Adequate Cronbach's coefficients α were observed for the negative dimension (husbands = .80, wives = .82) and positive dimension (husbands = .79, wives = .80).

2. Materials and Methods

2.1 Participants

The study involved 628 married participants, comprising both genders, selected randomly via an electronic link on Google Forms. All participants met the specified criteria for inclusion, namely: 1. Membership in the target study demographic. 2. Marital status. 3. Residency with family members.

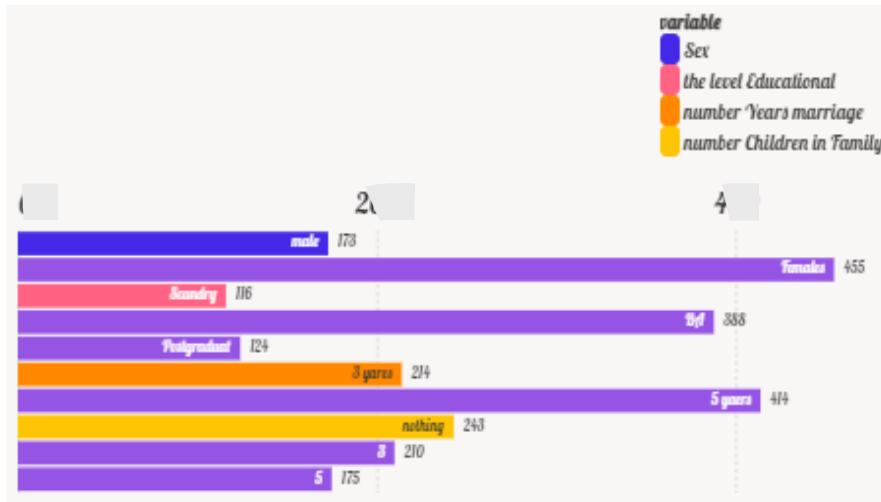


Figure 1: Shows the Distribution of The Participants.

3. Measures

The Emotional Tolerance Scale, previously developed by Brown, et al. [25] comprises 15 items distributed across 4 dimensions: 1. Tolerance (items 1, 3, 5), 2. Recommendation (items 6, 7, 9, 10, 11, 12), 3. Comprehension (items 2, 4, 15), and 4. Organization (items 8, 13, 14). To enhance the scale, a five-point Likert scale (1-5), ranging from strongly agree to strongly disagree, was employed. Internal consistency, assessed through Cronbach's alpha, yielded values of 0.73, 0.79, 0.72, and 0.71 for the respective dimensions, while the overall reliability of the tool reached 0.73.

4. Results

4.1 Married Couple Emotional Tolerance Scale Validity Implications:

To establish the validity of the scale, various methods, including construct validity, factor analysis, internal consistency coefficients at the individual level, and content validity, were employed as indicators. The validation process incorporated theoretical examination, exploration of emotional tolerance within married couples, and the assessment and validation of paragraphs authored by professionals. The following outlines the steps undertaken for validating the scale's validity.

First, content validity: Professionals in counselling, psychotherapy, measurement, and evaluation undertook the translation of the scale's terms from Arabic to English. To ensure linguistic consistency, five faculty members at the

doctoral level in the College of Languages and Translation engaged in a meticulous review of the two versions (Arabic translation and original foreign) to select the most accurate and contextually appropriate vocabulary and phrases for the translated text in its original language. Certain paragraphs and words in the translated scale were modified accordingly. An Arabicized iteration of the emotional tolerance scale for married couples, comprising 15 items, emerged through the collaborative efforts of specialized arbitrators and translators, who demonstrated a consensus (80%) upon reviewing the scale.

Second: The veracity of the arbitrators was corroborated by subjecting them to scrutiny by six psychological specialists (N=8), comprised of faculty members with expertise in psychology, measurement, and evaluation. The evaluation sought to confirm the clarity of the statements, their alignment with the study's dimensions, and the absence of any ambiguities. In response to the arbitrators' feedback and achieving a consensus rate of 80%, certain paragraphs underwent modifications exclusively in terms of linguistic expressions, while the scale retained its original 15 paragraphs, incorporating alterations and linguistic refinements for specific phrases.

Third: Structural validity: Prior to assessing the structural model, several tests were conducted to validate the data collected through the study instrument. Upon achieving congruence with specified criteria, the model acceptance is confirmed, and subsequent diagnostic tests are conducted. These examinations elucidated the associations between variables and their respective measures, guaranteeing the

integrity and validity of all variables within the model, thereby contributing to professional awareness:

Factor analysis: The validation of the emotional tolerance scale for married couples involved employing factor analysis. Prior to undertaking confirmatory factor analysis using the

principal components method, an assessment of the data's appropriateness was conducted by computing the KMO to ascertain the adequacy of the sample size. Additionally, the Bartlett circularity test was administered to evaluate the strength of relationships among items, as delineated in Table 1.

Table 1: provides the KMO and Bartlett's Test findings.

Kaiser-Meyer-Olkin Test of Sample Adequacy		.638
Meyer-Olkin Measure of Sampling Adequacy	1717.023	5615.788
Bartlett's Test of Sphericity	105	171
	.000	.000

a Based-on correlations

Table 1 reveals a KMO test result of 0.638, surpassing the recommended threshold of 0.6, signifying the adequacy of the sample size for factor analysis. The Bartlett circularity test, assessing item relationships, achieved statistical significance at the 0.05 level, enhancing the credibility of the correlation matrix between items and suggesting the appropriateness for factor analysis. Following Guilford's rule, which acknowledges

bifurcations with values greater than or equal to 0.3, and retaining factors with latent roots reaching one integer or higher based on the Kaiser test or Eigenvalue rule, the factor analysis demonstrated item saturation. The depiction of items and dimensions in the emotional tolerance scale for married couples indicates a unidimensional structure.

Scree Plot

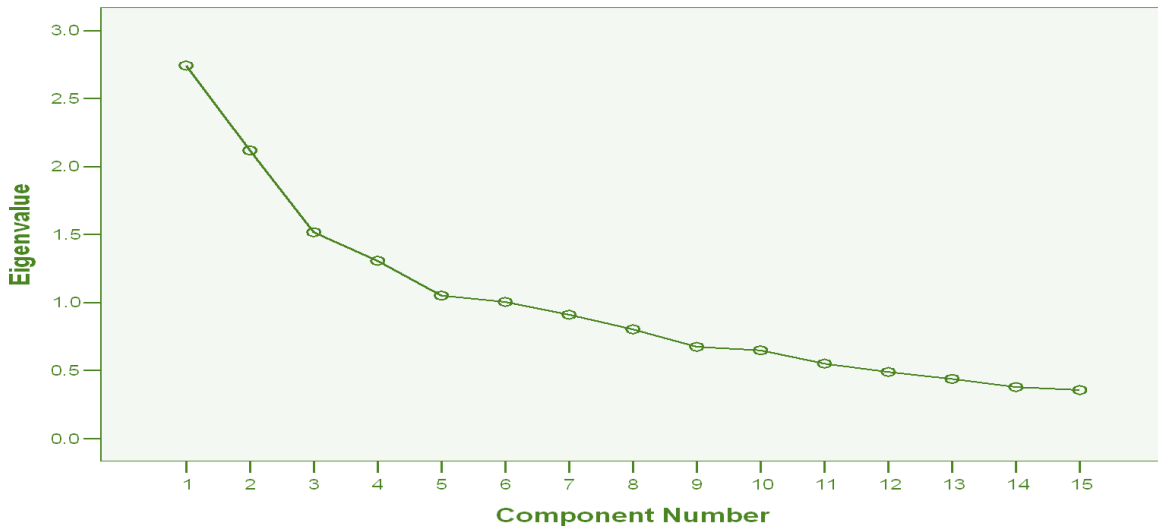


Figure 2: Shows that the Confirmatory Component Analysis Saturates All Scale Items on One Factor That Explains 100% of the Variation.

Table 2: Married Couples' Emotional Tolerance Scale Saturation on the Overall Scale.

Component	Underlying			Extraction Sums of Squared Loadings		
	Value of the Latent	% Variance	Clustering Percentage of Explained Variance	Value Of the Latent	% Variance	Clustering Percentage of Explained Variance
1	2.742	18.282	18.282	2.742	18.282	18.282
2	2.119	14.125	32.407	2.119	14.125	32.407
3	1.517	10.116	42.523	1.517	10.116	42.523
4	1.308	8.717	51.240	1.308	8.717	51.240
5	1.051	7.010	58.250			
6	1.005	6.701	64.951			
7	.911	6.074	71.025			
8	.804	5.358	76.383			
9	.675	4.502	80.884			
10	.649	4.329	85.214			
11	.551	3.677	88.890			
12	.490	3.269	92.159			
13	.439	2.928	95.087			
14	.380	2.530	97.617			
15	.357	2.383	100.000			

Extraction Method: Principal Component Analysis

Table 2, derived from factor analysis, delineates that four

factors account for 51.2% of the variance in scale saturation. It presents the saturation levels of scale items based on the

extracted components, latent root values, and the percentage

	Factors			
	1	2	3	4
q1	.797			
q2			.777	
q3	.676			
q4			.675	
q5	.797			
q6		.395		
q7		.514		
q8				.705
q9		.505		
q10		.811		
q11		.789		
q12		.653		
q13				.653
q14				.653
q15			.546	

Table 2 illustrates that the correlation coefficients among the items exceeded 0.20, attaining acceptable and statistically significant scores aligning with the study objectives. In accordance with Garcia [26] categorization, where a correlation coefficient less than 0.30 is considered weak, 0.30-0.70 is deemed moderate, and 0.70 or higher is considered substantial, no paragraphs of the tool were excluded as all coefficients fell within the defined ranges.

Building upon previous factor analysis outcomes, four singular variables elucidate 100% of the variance, thereby influencing the saturation of all items within the Emotional Tolerance Scale designed for married couples. The components of the scale were subjected to rigorous testing for reliability and factor structure, with an anticipated outcome of a singular factor saturating all scale assertions [27]. The factor analysis revealed the presence of one first-order component, and adherence to the approved standard indicated item saturation indicators of 0.40 or greater, denoting shared variance among variables and measurements. Figure 3 illustrates that all scale items exhibited dimensions exceeding 0.50, affirming the acceptability of all dimensions within the study model, as the values exceeded 0.20:

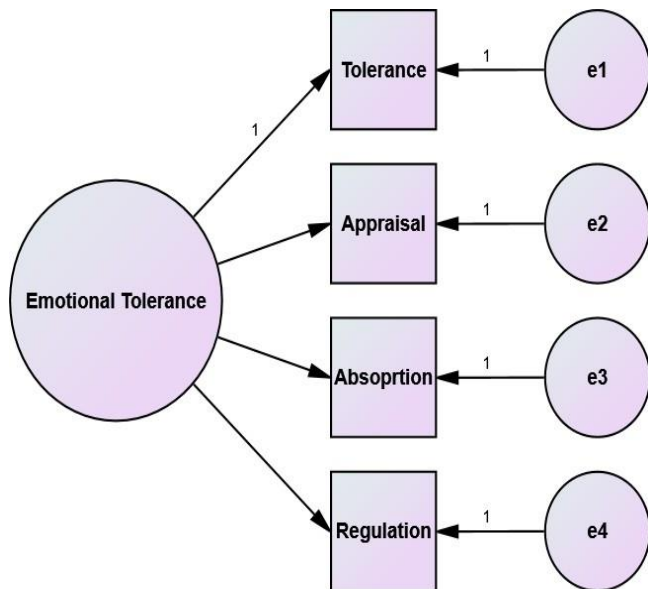


Figure 3: Shows The Emotional Tolerance Scale for Married People Component Analysis.

Figure 4 depicts the factor analysis of all variables in the model, specifically focusing on married couples' emotional

of variation explained for each of the four factors. tolerance. Utilizing factor analysis, data characterized by varying degrees of correlation were systematically classified into distinct categories following qualitative categorization principles. The saturation coefficient was computed, affirming the single-factor structure of the scale, as evidenced by its high, appropriate, and saturated items loading onto the postulated component. The chart serves to visually demonstrate the congruence of the proposed emotional tolerance scale model for married couples.

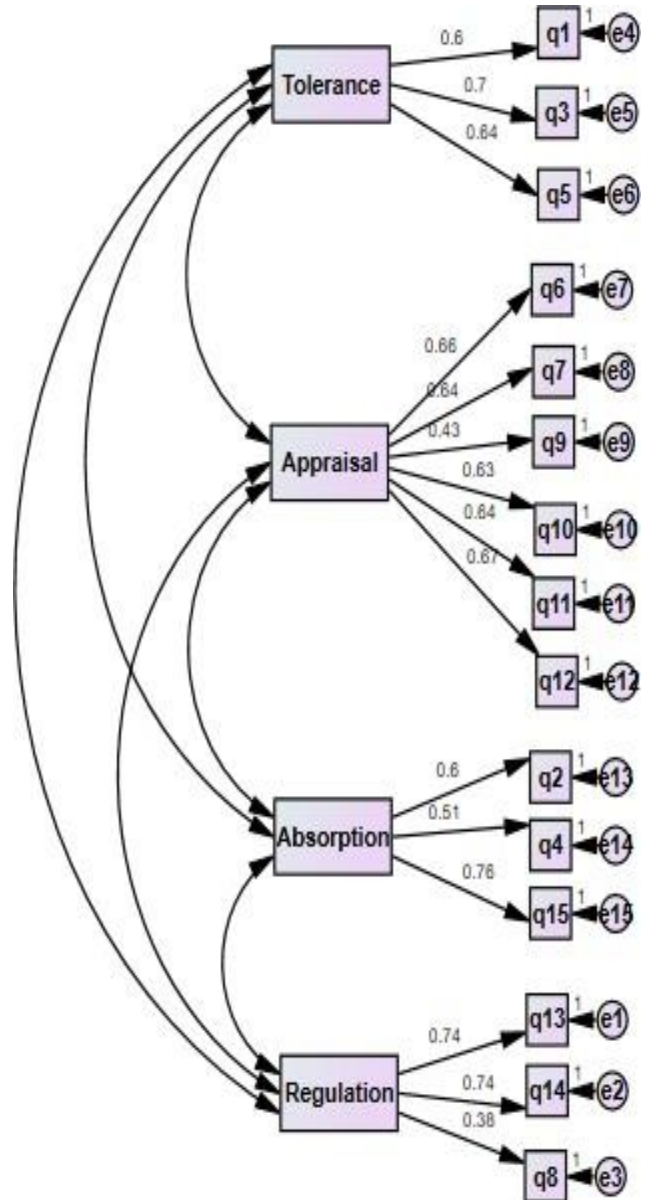


Figure 4: Depicts The Scale's Factor Structure and Dimensions.

Internal consistency validity: The validation of the Professional Awareness Scale involved the computation of Pearson correlation coefficients to assess the correlation between individual item scores and the total scale score. Correlation coefficients were employed to establish the relationships between the overall questionnaire score and the scores of individual items. This correlation analysis is presented in the accompanying table 3.

Table 3: Correlation Coefficients Between Domain Items, Domain, And (Total) Tool for The Emotional Tolerance Scale for Married Adults.

Domains	Items	Correlation With	
		the Domain	With the Scale
Tolerance	Feeling distressed or upset is unbearable	.602(**)	.457(**)
	I cannot handle feeling distressed or upset	.699(**)	.444(**)
	There is nothing worse than feeling distressed or upset	.640(**)	.310(**)
Appraisal	My feelings of distress or being upset scare me.	.656(**)	.432(**)
	I am ashamed of myself when I feel distressed or upset	.638(**)	.307(**)
	Being distressed or upset is always a major ordeal for me	.428(**)	.299(**)
	Other people seem to be able to tolerate feeling distressed or upset better than I can.	.636(**)	.305(**)
	My feelings of distress or upset are unacceptable	.575(**)	.352(**)
Absorption	I can tolerate being distressed or upset and most people	.493(**)	.194(**)
	When I feel distressed or upset, I cannot help but concentrate on how bad the distress actually feels	.762(**)	.548(**)
	My feelings of distress are so intense that they completely take over	.511(**)	.290(**)
	When I feel distressed or upset, all I can think about is How bad do I feel?	.595(**)	.558(**)
Regulation	I will do anything to avoid feeling distressed or upset.	.376(**)	.281(**)
	I will do anything to stop feeling distressed or upset.	.739(**)	.550(**)
	When I feel distressed or upset, I must do something about it. immediately	.737(**)	.505(**)

Table 3 indicates that all statements reached statistical significance at the 0.01 level, with correlation coefficients ranging from 0.620 to 0.0725. This range suggests a significant association between all items and the tool.

4.2 Student Emotional Tolerance Scale Reliability Implications

Internal consistency reliability: To ascertain the reliability of the Emotional Tolerance Scale, Cronbach's alpha reliability coefficient, split-half reliability for dimensions and the total score, and a reliability coefficient were employed. The outcomes were as follows:

Table 4: Displays The Marital Emotional Tolerance Scale's Reliability Coefficients (Cronbach's Alpha and Split-Half Reliability).

domains	split-half reliability	Cronbach's alpha
Tolerance	0.853	0.833
Appraisal	0.810	0.854
Absorption	0.859	0.812
Regulation	0.821	0.882
Emotional tolerance scale	0.84	0.87

Table 4 demonstrates the reliability of the tool's dimensions. Meanwhile, Table 5 reveals that both the internal consistency reliability coefficient (Cronbach's Alpha) and the split-half reliability for the entire tool exceeded 0.80, indicative of a high reliability coefficient. Consequently, these values were deemed suitable for the present investigation, aligning with its objectives and instilling confidence in the obtained results.

2. Repetition stability: The test was reiterated on a specific subset of the target study population, serving as a reconnaissance sample with comparable characteristics, to assess the tool's stability over a two-week period. The obtained results were 0.82 and 0.80, respectively.

5. limitations

The study's limitations stem from the utilization of emotional tolerance tools exclusively on married couples in Riyadh who met the study's criteria. The specificity of both the study category and the employed tool may impact the generalizability of the findings.

6. Discussion

The study revealed robust correlation coefficients between

each dimension and the total score of the emotional tolerance scale for married couples, indicating a favourable alignment of the scale with the data from the study sample. All values fell within the ideal range and were statistically significant at a degrees-of-freedom parameter of 25. The KMO test yielded a result of 0.638, surpassing the recommended threshold of 0.6. Significantly, Bartlett's circularity test highlighted item linkages, enhancing the realism of the item correlation matrix and supporting the conduct of factor analysis at a 0.05 significance level. The observed saturation of factors aligns with Guilford's rule, demonstrating congruence with the methodological, applied, and analytical frameworks of numerous studies [3, 8, 16, 18, 20, 24, 28-31]. The factor analysis showcased four dimensions, affirming internal consistency through item saturation on standardized factors. The consistent saturation on both the original and scaled descriptions underscores reliability, validating the outcome accuracy. Extensive usage in Arab, Spanish, Turkish, and other societies indicates the scale's robust psychometric efficiency, with its applicability demonstrated in local studies across diverse groups.

Numerous considerations bolster the validity and rationale of the aforementioned findings, asserting that emotional tolerance is imperative for married partners irrespective of gender, location, or temporal context. Theories on married couples' interactions further emphasize tolerance as a foundational marital prerequisite. Beyond societal norms, humans inherently seek to cultivate relationships and fulfil fundamental needs [6, 7, 14, 15, 20, 28-31]. Sustaining the longevity and effectiveness of marital and romantic bonds necessitates the cultivation and sustenance of a thriving marital union for all couples. These theories underscore elements such as affection, love, tolerance, enrichment, respect, and attention as integral components for constructing a positive, successful relationship grounded in love and affection. Moreover, interactive theories highlight the significance of attributes like mindfulness, emotional intelligence, and tolerance for emotional resilience in ensuring marital continuity [3, 8, 10, 12, 16-18, 23, 24, 32]. The research further validated the stability and psychometric efficacy of the tools, recognizing them as pivotal factors in fostering an interactive relationship that establishes marital compatibility and cultivates a positive connection grounded in affection and meaningful interaction [3, 8, 10, 12, 16-18, 23, 24]. Marital sustainability necessitates love and appreciation between spouses. On an individual level, the development and maintenance of partnerships require social bonds, affection from others, authenticity, support, and influence.

7. Conclusion

The psychometric characteristics of the instrument were

examined, and exploratory factor analysis identified four primary scale factors. All statements within the scale exhibited statistical significance and were deemed appropriate for both the tool and its respective dimensions. Furthermore, the tool demonstrated a high and sufficient reliability coefficient, affirming its suitability for use in Arab contexts and beyond.

8. Recommendations

1. Examining the applicability of the scale across diverse settings and its correlation with the psychological characteristics of varied groups.
2. Employing this scale in investigations and scholarly research focused on the dynamics of couple relationships and tolerance.
3. Utilizing the scale for the examination, analysis, and diagnosis of psychological issues within marriage therapy and counselling institutions.

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Conflict of interest

The authors declare that the research was conducted without any commercial or financial relationships that could be understood as potential conflicts of interest.

References

- [1] J. J. Teven, J. C. McCroskey, and V. P. Richmond, "Measurement of tolerance for disagreement," *Communication Research Reports*, vol. 15, no. 2, pp. 209-217, 1998, doi: <https://doi.org/10.1080/08824099809362115>.
- [2] H. Shahid and W. Shahid, "A Study on Tolerance Role in Marital Satisfaction," *International Journal for Social Studies*, vol. 2, no. 6, pp. 13-26, 2016, doi: <https://doi.org/10.26643/ijss.v2i6.6748>.
- [3] A. M. Harvey and M. A. Kiskey, "Effects of emotion, emotional tolerance, and emotional processing on reasoning," *Cognition and Emotion*, vol. 37, no. 6, pp. 1090-1104, 2023, doi: <https://doi.org/10.1080/02699931.2023.2228539>.
- [4] D. D. O'Neill, "Non-clinical couples' experiences of acceptance through tolerance in marriage: a phenomenological study," Unpublished Doctoral Dissertation, State California University, 2016.
- [5] S. Mohsenpour, S. Alaei Khorayem, and N. Heidari Raziabad, "The Role of Object Relations in Predicting Emotional Expression, Distress Tolerance and Marital Quality," *Journal of Family Relations Studies*, vol. 3, no. 9, pp. 46-52, 2023, doi: <https://doi.org/10.22098/jfrs.2023.11960.1090>.
- [6] J. R. Cogle, A. Bernstein, M. J. Zvolensky, A. A. Vujanovic, and R. J. Macatee, "Validation of Self-Report Measures of Emotional and Physical Distress Tolerance," *Journal of Psychopathology and Behavioral Assessment*, vol. 35, no. 1, pp. 76-84, 2013, doi: <https://doi.org/10.1007/s10862-012-9317-2>.
- [7] M. D. Anestis, J. M. Lavender, E. C. Marshall-Berenz, K. L. Gratz, M. T. Tull, and T. E. Joiner, "Evaluating Distress Tolerance Measures: Interrelations and Associations with Impulsive Behaviors," *Cognitive Therapy and Research*, vol. 36, no. 6, pp. 593-602, 2012, doi: <https://doi.org/10.1007/s10608-011-9377-8>.
- [8] J. D. Doorley, T. B. Kashdan, L. A. Alexander, D. V. Blalock, and P. E. McKnight, "Distress tolerance in romantic relationships: A daily diary exploration with methodological considerations," *Motivation and Emotion*, vol. 43, no. 3, pp. 505-516, 2019, doi: <https://doi.org/10.1007/s113-09751-019-031>.
- [9] K. Al-Maqrashi, F. Al-Musalhi, I. Elmojtaba, and N. Al-Salti, "Mathematical Analysis and Parameter Estimation of a Two-Patch Zika Model," *Letters in Biomathematics*, vol. 10, no. 1, pp. 29-41, 2023, doi: <https://doi.org/10.30707/LiB10.1.1682014077.806265>.
- [10] A. Kinkad, S. Sanduvete-Chaves, S. Chacón-Moscoso, and C. E. Salas, "Couples extrinsic emotion regulation questionnaire: Psychometric validation in a Chilean population," *PLoS One*, vol. 16, no. 6, p. e0252329, 2021, doi: <https://doi.org/10.1371/journal.pone.0252329>.
- [11] B. Sandín Ferrero, J. S. Simons, R. M. Valiente García, R. M. Simons, and P. Chorot Raso, "Psychometric properties of the Spanish version of The Distress Tolerance Scale and its relationship with personality and psychopathological symptoms," *Psicothema*, vol. 29, no. 3, pp. 421-428, 2017. [Online]. Available: <http://hdl.handle.net/11162/149693>.
- [12] G. Melli, C. Chiorri, A. Lebruto, M. J. Drabik, C. Puccetti, and L. Caccico, "Psychometric Properties of the Italian Version of the Distress Tolerance Scale (DTS)," *Journal of Psychopathology and Behavioral Assessment*, vol. 43, no. 3, pp. 698-706, 2021, doi: <https://doi.org/10.1007/s10862-021-09876-1>.
- [13] C. Sebastian, "The Roles of Emotion Regulation and Distress Tolerance in the Relationship Between Mindfulness and Both Depression and Problematic Alcohol Use in Firefighters," Doctoral Dissertation, Michigan School of Psychology, 2023. [Online]. Available: <https://www.proquest.com/openview/0fffc6d6172fb20d8e0eeb864dc8e73b>.
- [14] Z. Hoseinzade, J. Khalatbari, and M. A. Rahmani, "The effectiveness of emotionally focused couple therapy on couple's functional flexibility and distress tolerance," *Applied Family Therapy Journal (AFTJ)*, vol. 1, no. 3, pp. 23-38, 2020. [Online]. Available: <https://journals.kmanpub.com/index.php/afj/article/view/251>.
- [15] B. Güngen, Y. Aydemir, Y. Aras, A. Güngen, D. Kotan, and S. Bal, "The effects of a pulmonary rehabilitation program on exercise tolerance, quality of life, sleep quality and emotional status in the patients with Parkinson's disease," *Biomedical Research*, vol. 28, no. 2, pp. 1-5, 2017. [Online]. Available: <https://hdl.handle.net/20.500.12619/65860>.
- [16] B. T. Aka, "Cultural Dimensions of Emotion Regulation," *Psikiyatride Güncel Yaklaşımlar*, vol. 15, no. 3, pp. 441-450, 2023, doi: <https://doi.org/10.18863/pgy.1103621>.
- [17] S.-J. Kim and B.-H. Hyun, "Effects of Psychological Variables on the Relationship between Customer Participation Behavior and Repurchase Intention: Customer Tolerance and Relationship Commitment," *Economies*, vol. 10, no. 12, p. 305, 2022, doi: <https://doi.org/10.3390/economies10120305>.
- [18] N. Fatima, S. Masood, M. Ahmad, and S. Bukhari, "Translation and adaptation of Tolerance for Disagreement Scale among Pakistani married couples," *Foundation University Journal of Psychology*, vol. 3, no. 1, pp. 56-79, 2019, doi: <https://doi.org/10.33897/fujp.v3i1.29>.
- [19] A. A. Boni, D. M. Gross, M. A. Gunn, and D. S. Levine, "Companies Recognized as Innovators for 2021," *Journal of Commercial Biotechnology*, vol. 26, no. 2, 2021, doi: <https://doi.org/10.5912/jcb986>.
- [20] A. Kutz, E. Marshall, A. Bernstein, and M. J. Zvolensky, "Evaluating emotional sensitivity and tolerance factors in the prediction of panic-relevant responding to a biological challenge," *Journal of Anxiety Disorders*, vol. 24, no. 1, pp. 16-22, 2010, doi: <https://doi.org/10.1016/j.janxdis.2009.07.025>.
- [21] M. Rokosz and R. Poprawa, "A Polish adaptation and validation of the Distress Tolerance Scale," *Roczniki Psychologiczne*, vol. 23, no. 4, pp. 347-366, 2020, doi: <https://doi.org/10.18290/rpsych20234-3>.
- [22] L. Sun and E. Choi, "Substrate Transport in Cylindrical Multi-Capillary Beds with Axial Diffusion," *Letters in Biomathematics*, vol. 10, no. 1, pp. 63, 2023, 74-doi: <https://doi.org/10.30707/LiB10.1.1682535100.316029>.
- [23] R. K. Mehr, M. D. Bagi, and Z. Abbaspour, "Development and Validation of a Tolerance Scale in Spouses' Relations," *Contemporary Psychology*, vol. 15, no. 1, pp. 13-27, 2020. [Online]. Available: <http://dori.net/dor/20.1001.1.20081243.1399.15.1.7.8>.
- [24] A. Bugay, "Measuring the Differences in Pairs' Marital Forgiveness Scores: Construct Validity and Links with Relationship Satisfaction," *Psychological Reports*, vol. 114, no. 2, pp. 479, 2014, 490-doi: <https://doi.org/10.2466/21.02.PR0.114k18w5>.
- [25] R. J. Brown, A. L. Burton, and M. J. Abbott, "The relationship between distress tolerance and symptoms of depression: Validation of the Distress Tolerance Scale (DTS) and short-form (DTS-SF)," *Journal of Clinical Psychology*, vol. 78, no. 12, pp. 2609-2630, 2022, doi: <https://doi.org/10.1002/jclp.23370>.
- [26] E. Garcia, "A tutorial on correlation coefficients," *Advances*, 2011. [Online]. Available: <http://www.miiisita.com/information-retrieval-tutorial/a-tutorial-on-correlation-coefficients.pdf>.
- [27] D. Yablonsky, "Transforming Pittsburgh's Economic Ecosystem and Clusters," *Journal of Commercial Biotechnology*, vol. 26, no. 1, 2021, doi: <https://doi.org/10.5912/jcb969>.
- [28] N. Zamani, "Effect of Distress Tolerance, Emotional Regulation and Interpersonal Effectiveness Skills Training on Symptoms of

- Depression," Health Research Journal, vol. 2, no. 4, pp. 225-233, 2017, doi: <https://doi.org/10.29252/HRJBAQ.2.4.225>.
-]29[J. L. Winward, N. M. Bekman ,K. L. Hanson, C. W. Lejuez, and S. A. Brown, "Changes in emotional reactivity and distress tolerance among heavy drinking adolescents during sustained abstinence," Alcoholism: Clinical and Experimental Research, vol. 38, no. 6, pp. 1761-1769, 2014, doi :<https://doi.org/10.1111/acer.12415>.
-]30[K. R. Timpano, A. M. Shaw, J. R. Coughle, and K. E. Fitch, "A Multifaceted Assessment of Emotional Tolerance and Intensity in Hoarding," Behavior Therapy, vol. 45, no. 5, pp. 690-699, 2014, doi: <https://doi.org/10.1016/j.beth.2014.04.002>.
-]31[R. J. Macatee and J. R. Coughle, "The Roles of Emotional Reactivity and Tolerance in Generalized, Social, and Health Anxiety: A Multimethod Exploration," Behavior Therapy, vol. 44, no. 1, pp. 39-50, 2013, doi: <https://doi.org/10.1016/j.beth.2012.05.006>.
-]32[J. S. Simons and R. M. Gaher, "The Distress Tolerance Scale: Development and Validation of a Self-Report Measure," Motivation and Emotion, vol. 29, no. 2, pp. 83-102, 2005, doi: <https://doi.org/10.1007/s11031-005-7955-3>.