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The Arabic Work-related Acceptance and Action Questionnaire

النسخة العربية لاستبيان القبول والفعل المرتبطين بالعمل

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Abstract :

This Arabic version of the Work-related Acceptance and Action Questionnaire (WAAQ) was evaluated based on three studies among Arabic-speaking employees (N=1129). The first study (N=60) demonstrated a strong cross-language equivalence (r=.917). The second study (N=834) confirmed a unidimensional structure with a high internal consistency (α=.87), while the third study (N=235) showed a convergent validity through negative correlations with psychological distress measures. Moreover based on its reliability coefficient across samples (α=.87–.91) we may conclude that the Arabic version of the questionnaire (WAAQ) is a reliable instrument, although no consistent sex or age effects were found. Based on the findings we may say that the Arabic version of the questionnaire (WAAQ) is an appropriate instrument for assessing workplace psychological flexibility in Arabic-speaking populations.

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Keyword:

- ✓ *Psychological flexibility*
- ✓ *WAAQ*
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ملخص:

هدفت هذه الدراسة إلى تقييم الخصائص السيكومترية للنسخة العربية من استبيان الفعل والتقبل المرتبط بالعمل (WAAQ)من خلال ثلاث دراسات شملت موظفين جزائريين (العدد الكلي = 1,129). أظهرت الدراسة الأولى (العدد = 60) ارتباط قوياً بين النسختين العربية والإنجليزية (r = 0.917) وأكدت الدراسة الثانية (العدد = 834) البنية الأحادية البُعد والاتساق الداخلي المرتفع (α = 0.87)، في حين أثبتت الدراسة الثالثة (العدد = 235) الصدق المحكي من خلال الارتباطات السالبة مع استبيان للصحة العامة (GHQ–28) ومقياس الضغط النفسي (MSP–9). أظهرت النسخة العربية من الاستبيان ثباتاً ممتازاً عبر العينات (α = 0.87–0.91) وعدم وجود تأثيرات ثابتة للجنس أو السن. تؤكد هذه النتائج أن النسخة العربية من الاستبيان أداة قياس ذات خصائص سيكومترية قوية لتقييم المرونة النفسية في مكان العمل لدى الناطقين باللغة العربية.

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❖ **Introduction:** Cognitive Behavioral Therapy (CBT), pioneered by Aaron Beck in the 1960s, has profoundly shaped the landscape of psychotherapy. Beck's (1967) groundbreaking framework proposes that psychological distress stems from systematic biases in information processing and deeply ingrained maladaptive beliefs about oneself, others, and the future. Although this classical model was revolutionary, CBT has significantly evolved over time. Contemporary approaches have expanded beyond the initial emphasis on cognitive restructuring to encompass a broader therapeutic repertoire, exemplified by the emergence of third-wave behavioral therapies, such as Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 2011), Dialectical Behavior Therapy (DBT; Linehan, 1993), and Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2013). Rather than directly targeting thought modification, these innovative approaches advocate for a fundamentally different relationship with internal experiences. They posit that psychological well-being arises not from controlling or eliminating uncomfortable thoughts and emotions but from cultivating an open, accepting stance towards them while pursuing valued life directions (Hayes et al., 2004).

In this context, psychological flexibility has emerged as a key construct in the ACT model, involving the ability to remain present with difficult inner events (such as thoughts, emotions, and sensations) from a non-judgmental observational perspective while persisting in behavior oriented towards valued ends (Hayes et al., 2011; Hayes & Strosahl, 2005). Research indicates that individuals who can acknowledge distress without allowing it to dictate their behavior demonstrate lower rates of anxiety and depressive symptoms (Hayes et al., 2004). This capacity operates by maintaining mindful awareness of negative experiences while pursuing meaningful goals. Conversely, psychological inflexibility, characterized by responding in accordance with the primary functions of private events without contacting chosen values (Bond et al., 2011), often leads to experiential avoidance strategies that prove counterproductive in the long term.

The assessment of psychological flexibility is essential in both clinical and research settings. Empirical studies have consistently shown that individuals with higher scores on flexibility scales demonstrate more effective stress-coping mechanisms, enhanced resilience, and improved mental health outcomes (Bond et al., 2011; Kashdan & Rottenberg, 2010). This relationship is particularly pronounced in demanding environments, such as the workplace, where psychological (in)flexibility significantly influences work-related outcomes, including burnout, work engagement, professional efficacy, and job satisfaction (Bond et al., 2013; Garner & Golijani-Moghaddam, 2021; Ruiz & Odriozola-González, 2017). Employees who can acknowledge job-related tension without being adversely affected typically experience greater job satisfaction, higher

productivity, and fewer burnout symptoms (Flaxman & Bond, 2010). These findings highlight the importance of evaluating psychological flexibility to inform interventions aimed at maintaining well-being and performance under pressure.

Numerous instruments with varying levels of generality and specificity have been developed to assess these processes. The Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004) was initially used as the foundational measure of experiential avoidance. However, limitations in internal consistency and factorial stability necessitated the development of more refined tools. The Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011) is a seven-item measure of psychological inflexibility that has demonstrated robust reliability and validity across diverse cultural contexts. Although these questionnaires reliably indicate an unwillingness to experience unpleasant thoughts and emotions, critics have noted a potential overlap with constructs such as neuroticism (Chawla & Ostafin, 2007).

In the domain of occupational functioning, the Work-related Acceptance and Action Questionnaire (WAAQ; Bond et al., 2013) shows how specificity can make measurements more accurate. Developed within the framework of Acceptance and Commitment Therapy principles, the WAAQ assesses an individual's ability to function effectively despite experiencing negative work-related thoughts or emotions. Empirical research has consistently confirmed that this seven-item scale has a single-factor structure across diverse cultural contexts. The WAAQ has demonstrated robust internal consistency, with a Cronbach's alpha of .83 across five samples, and has shown stronger correlations with work-related variables than the general AAQ-II. Studies that have adapted the WAAQ to other languages, such as Spanish, Portuguese, Swedish, and Chinese, have consistently reported excellent internal consistency (α ranging from 0.83 to 0.92), maintained a one-factor structure, and demonstrated significant correlations with work engagement and mental health outcomes (Ruiz & Odriozola-González, 2017; Xu et al., 2018).

The absence of a validated Arabic version of the WAAQ presents a significant limitation, particularly given that Arabic-speaking workplaces often feature unique cultural norms, hierarchical dynamics, and communication styles that influence employees' stress perceptions and responses. As demonstrated in diverse work contexts, stress levels and their impacts can vary significantly, even within similar work environments (van Mol et al., 2015), highlighting the importance of contextual and individual factors in understanding psychological flexibility in the workplace. Attempting to adapt the measure without rigorous methodological consideration risks compromising item interpretation and cultural nuances. This gap impedes cross-cultural research on occupational psychological flexibility and limits the development of interventions tailored to Arab organizations.

Translating and validating the WAAQ for Arabic-speaking populations would significantly enhance research and intervention capabilities across a broader cultural spectrum. This advancement would enable a more accurate identification of the factors influencing psychological flexibility in the workplace, thereby informing strategies to improve resilience, job satisfaction and productivity. Additionally, it would allow organizations and researchers to develop programs tailored to the specific challenges faced by employees in Arab contexts, ultimately promoting individual well-being and organizational effectiveness. Consequently, this study aimed to evaluate the psychometric properties of the Arabic version of the WAAQ, with a particular focus on its factor structure, measurement invariance across demographic variables, and convergent validity with related constructs.

Three interconnected studies were conducted to achieve this objective. Study 1 (N = 60) employed a test-retest design to examine translation equivalence and assess the correlation between the Arabic and English versions to ensure linguistic and conceptual consistency. Study 2 (N = 834) investigated the reliability and factor structure of the Arabic WAAQ, confirming its internal consistency and unidimensional structure in a large sample. Finally, Study 3 (N = 235) assessed the convergent validity of the Arabic WAAQ by examining its associations with established measures of psychological distress (GHQ-28 and PSM-9), while exploring sex differences and the relationship between age and work-related psychological flexibility. These studies provided a comprehensive evaluation of the translated measure, thereby supporting its applicability in assessing workplace psychological processes in Arabic-speaking populations.

❖ Method:

- ✓ ***Participants:*** This study included three distinct samples. In Study 1, 60 participants were recruited: 22 males (36.7%) and 38 females (63.3%). The majority of the participants were married (71.7%), followed by single (23.3%) and divorced (5.0%) participants. The mean age was 40.27 years (SD = 6.81, range: 30–58 years). Study 2 included 834 participants: 642 men (77.0%) and 192 women (23.0%). The majority of participants were married (80.3%), followed by single (17.3%), divorced (1.8%), and widowed (0.6%) participants. The mean age was 42.24 years (SD = 8.77, range: 19–64 years). Study 3 comprised 250 participants: 188 men (75.2%) and 62 women (24.8%). The majority of participants were married (77.6%), followed by single (18.8%), divorced (3.2%), and widowed (0.4%) participants. The mean age was 40.92 years (SD = 7.30, range: 24–59 years).

Table 1. Sample Characteristics by Study

Characteristic	Category	Study 1	Study 2	Study 3
Gender	Male	22 (36.7%)	642 (77.0%)	188 (75.2%)
	Female	38 (63.3%)	192 (23.0%)	62 (24.8%)
Marital Status	Married	43 (71.7%)	670 (80.3%)	194 (77.6%)
	Single	14 (23.3%)	144 (17.3%)	47 (18.8%)
	Divorced	3 (5.0%)	15 (1.8%)	8 (3.2%)
	Widowed	0	5 (0.6%)	1 (0.4%)
Age (years)	M (SD)	40.27 (6.81)	42.24 (8.77)	40.92 (7.30)
	Range	28	45	35
	Min-max	30-58	19-64	24-59

- ✓ **Instruments:***The Work-Related Acceptance and Action* Questionnaire (WAAQ; Bond et al., 2013) comprises seven items designed to assess psychological flexibility in the workplace. Respondents rate each item on a 7-point Likert-type scale (1 = never true; 7 = always true). Elevated scores indicate increased psychological flexibility, which is indicative of an improved capacity to sustain goal-oriented behavior amidst challenging thoughts and emotions at work. *The Psychological Stress Measure* (PSM-9; Lemyre et al., 2009) evaluates psychological stress through nine items that capture the symptoms of stress experienced in recent weeks. This instrument produces a total stress score, with higher scores indicating higher psychological stress. *The General Health Questionnaire-28 (GHQ-28; Goldberg & Hillier, 1979)* is a 28-item screening tool that assesses psychological distress across four domains: somatic symptoms, anxiety/insomnia, social dysfunction, and depression. Items are scored on a 4-point Likert-type scale, with higher scores reflecting increased psychological distress.

- ✓ **Procedure:**
  - **Translation Process:**The Arabic WAAQ was developed through a six-stage process:

    1. Independent forward translations by two English language teachers
    2. Synthesis of translations through research team consensus
    3. Back-translation by bilingual psychology experts
    4. Comparison of the back-translated version with the original
    5. Expert panel review (six bilingual specialists: two psychology experts, two ACT specialists, two English language teachers)

- **Validation Studies:**Three sequential validation studies were conducted. Study 1 examined translation equivalence using a test-retest design with a five-week interval between the English and Arabic versions of the questionnaire. Study 2 investigated the psychometric properties through questionnaire administration during routine medical checkups by six clinical psychologists. Study 3 assessed convergent validity through passive recruitment at occupational health centers, where participants anonymously completed the measurement batteries in the waiting areas.

- ***Data Analysis:***All statistical analyses were conducted using R (version 4.4.2) utilizing the psych, RVAideMemoire, boot, semTools, and lavaan packages. Prior to the primary analyses, all datasets underwent thorough screening for missing values, outliers, and normality using descriptive statistics and Shapiro-Wilk tests. Cases with more than 20% missing responses were excluded from the analysis. Descriptive statistics were computed at both item and scale levels, including means, standard deviations, skewness, and kurtosis for all remaining data. Internal consistency reliability was assessed across all studies using multiple approaches. These included Cronbach's alpha (with values ≥ .80 considered good), inter-item correlations (acceptable range: .20 to .70), and corrected item-total correlations (acceptable threshold > .50), all following the criteria established by Nunnally and Bernstein (1994). Scale homogeneity was evaluated using mean inter-item correlations to comprehensively assess the reliability of the instrument.

  In Study 1, which aimed at the initial validation and assessment of language equivalence, both Pearson and Spearman correlation coefficients were calculated between the Arabic and English versions to evaluate cross-language equivalence. Descriptive statistics were compared across the versions, and normality was assessed using the Shapiro-Wilk test. The factor structure was analyzed through Confirmatory Factor Analysis (CFA) employing WLSMV estimation, and model fit was assessed using standard indices (CFI/TLI ≥ .95, RMSEA ≤ .08, SRMR ≤ .08). Modification indices were examined with a threshold of 10.0 (Hu & Bentler, 1999; Hair et al., 1998), considering residual correlations when items shared similar Arabic linguistic structures, addressed related theoretical constructs, or when modifications significantly enhanced the model fit (ΔCFI > .01). An alternative estimation method (MLR) was also tested for comparative purposes.

Study 2 extended the analyses by examining the scale stability within a larger sample. The same reliability metrics were utilized, with an additional focus on the item-total correlation matrix. Confirmatory factor analysis (CFA) procedures replicated those of Study 1, employing weighted least squares mean and variance adjusted (WLSMV) estimation with robust standard error. Modification indices were assessed using the same threshold (> 10.0), with residual correlations considered based on shared item content, similar Arabic phrasing, and theoretical relationships. Model modifications were implemented sequentially, and the fit indices were compared following each adjustment.

In Study 3, reliability and factor structure analyses were replicated using the same specifications as in previous studies. Convergent validity was evaluated using multiple correlation methods between the WAAQ and the criterion measures (GHQ and MSP). These methods included Pearson correlations, nonparametric correlations (Spearman's rho and Kendall's tau), and bootstrap analysis with 1,000 replications to generate both percentile and bias-corrected accelerated (BCa) confidence intervals.

Demographic analyses involved examining sex differences through independent-samples t-tests, with effect sizes calculated using Cohen's d, and homogeneity of variance tested using Levene's test. Pearson's correlation was used to assess the relationship between age and WAAQ scores. All analyses were conducted at an alpha level of .05, with effect sizes reported alongside 95% confidence intervals, where applicable.

❖ *Results:*

✓ Study 1:

- **Cross-Language Equivalence:**The Arabic and English versions exhibited similar descriptive statistics, with means of 36.83 (SD = 9.34) and 37.28 (SD = 9.37), respectively. Both versions demonstrated slight negative skewness (Arabic: -0.80, SE = 0.31; English: -0.95, SE = 0.31). Pearson's correlation coefficient (r = .917, 95% CI [.864, .950], p < .001) and Spearman's rank correlation coefficient (rho = .935, 95% CI [.868, .973], p < .001) both indicated excellent correlations.

Table 2. Descriptive Statistics of the Arabic and English WAAQ Versions

Measure	Arabic Version	English Version
Mean	36.83	37.28
Standard Deviation	9.34	9.37
Range	11-49	12-49
Skewness (SE)	-0.80 (0.31)	-0.95 (0.31)
Kurtosis (SE)	0.07 (0.61)	0.20 (0.61)
Shapiro-Wilk Normality Test	W(60) = 0.934, p = .003	W(60) = 0.911, p < .001
Cross-Version Correlation	r = 0.917, 95% CI [0.864, 0 .950], p < .001 rho = 0.935, 95% CI [0.868, 0.973], p < .001	

The Arabic version demonstrated excellent internal consistency (Cronbach's α = .91), with an average inter-item correlation of .605. The item-total correlations ranged from .64 (WAAQ2) to .84 (WAAQ3).

Table 3. Item-Total Statistics for the Arabic WAAQ

Item	Mean	SD	Corrected Item-Total	Item-Total Correlation
WAAQ1	5.36	1.44	0.77	0.71
WAAQ2	5.75	1.28	0.66	0.64
WAAQ3	5.1	1.46	0.89	0.84
WAAQ4	5.01	1.87	0.79	0.75
WAAQ5	5.36	1.60	0.84	0.81
WAAQ6	4.88	1.99	0.71	0.67
WAAQ7	5.35	1.79	0.77	0.73

- ***Factor Structure***

Although WLSMV estimation is theoretically optimal for ordinal data, MLR was selected because of the sample size and its robustness to non-normality. Additional analyses using WLSMV yielded similar results, supporting the stability of these findings. Confirmatory factor analysis initially evaluated a single-factor model using MLR estimation, which demonstrated a moderate fit: $\chi^2(14) = 26.357$, p = .023, RMSEA = .121, CFI = .931, TLI = .896, and SRMR = .051. The modification indices indicated a significant residual correlation between WAAQ1 and WAAQ3 (MI = 14.651). Upon incorporating this residual

correlation, the model fit improved substantially (χ^2 (13) = 16.447, p =.226, RMSEA =.066, CFI =.981, TLI =.969, and SRMR =.042). The chi-square difference test confirmed that this modification significantly enhanced the model fit ($\Delta\chi^2 = 50.456$, df = 1, $p < .001$).

In the modified model, all standardized factor loadings were statistically significant ($p < .001$), with values ranging from .660 (WAAQ2) to .872 (WAAQ5). The residual correlation between WAAQ1 and WAAQ3 was significant and moderately strong (est.std = .535, 95% CI [.349, .722], $p < .001$), indicating a shared focus on sustaining performance despite emotional conditions.

Alternative estimation methods were also evaluated. The WLSMV estimation, which is particularly appropriate for ordinal data, demonstrated an excellent fit: $\chi^2(14) = 18.29$, p = .194, RMSEA = .072 [90% CI: .000, .154], CFI = .998, TLI = .997, and SRMR = .058. All standardized factor loadings under WLSMV were statistically significant ($p < .001$), with values ranging from .714 (WAAQ2) to .932 (WAAQ3).

Table 4. Model Fit Indices Comparison (study 1)

Estimator	χ^2(df)	Sig.	RMSEA [90% CI]	CFI	TLI	SRMR
MLR (Initial)	26.357 (14)	.023	.121	.931	.896	.051
MLR (Modified)	16.447 (13)	.226	.066	.981	.969	.042
WLSMV	18.29 (14)	.194	.072 [.000, .154]	.998	.997	.058

✓ **Study 2:**The scale demonstrated high internal consistency (α = .87), with item-total correlations ranging from .539 (Item 2) to .784 (Item 5). The initial WLSMV confirmatory factor analysis demonstrated a strong comparative fit (CFI = .992, TLI = .989) but indicated potential areas for improvement through RMSEA: $\chi^2(14) = 177.14$, $p < .001$, RMSEA = .118 [90% CI: .103, .134], and SRMR = .052.

Table 5. Item-Total Statistics

Item	Mean	SD	Corrected Item-Total	Item-Total Correlation
WAAQ1	4.33	1.52	.71	.66
WAAQ2	4.51	1.43	.54	.50
WAAQ3	4.28	1.45	.75	.70
WAAQ4	4.17	1.68	.78	.72
WAAQ5	4.12	1.56	.78	.73
WAAQ6	4.29	1.53	.65	.60
WAAQ7	4.56	1.41	.71	.66

The modification indices suggested correlating error terms between items 1 and 2 (MI = 50.85) and between items 6 and 7 (MI = 50.47). These modifications were theoretically justified: items 1 and 2 both begin with "يمكنني" ("I can"), indicating similar phrasing, whereas items 6 and 7 both address internal psychological experiences, suggesting shared content. The modified model demonstrated substantially improved fit across all indices: $\chi^2(12) = 80.71$, $p < .001$; RMSEA = .083, 90% CI [.066, .101]; CFI = .997; TLI = .994; SRMR = .036.

Table 6. Model Fit Indices Comparison (study 2)

Estimator	χ^2(df)	Sig.	RMSEA [90% CI]	CFI	SRMR
WLSMV (Initial)	177.14 (14)	<.001	.118 [.103, .134]	0.992	.052
WLSMV (Modified)	126.29 (13)	<.001	.102 [.086, .119]	0.995	.043

- ✓ **Study 3 :**
  - **Internal consistency:** Internal consistency remained high (α = .88), with item-total correlations ranging from .47 (WAAQ2) to .88 (WAAQ5). The initial WLSMV model demonstrated acceptable fit: $\chi^2(14) = 45.10$, $p < .001$; RMSEA = .096, 90% CI [.065, .128]; CFI = .996; TLI = .994; SRMR = .048.

Table 7. Item-Total Statistics

Item	Mean	SD	Corrected Item-Total	Item-Total Correlation
WAAQ1	4.33	1.72	.68	.64
WAAQ2	4.47	1.39	.41	.38
WAAQ3	4.23	1.68	.77	.72
WAAQ4	4.49	1.76	.84	.79
WAAQ5	4.62	1.67	.88	.83
WAAQ6	4.51	1.67	.74	.69
WAAQ7	4.86	1.77	.78	.73

The modification indices suggested correlating residuals between WAAQ6-WAAQ7 (MI = 20.21), reflecting their shared focus on internal psychological experiences. The modified model demonstrated an improved fit: $\chi^2(13) = 24.87$, $p = .024$, RMSEA = .061 [90% CI: .022, .098], CFI = .999, TLI = .998, and SRMR = .037.

Table 8. Model Fit Indices Comparison (study 3)

Estimator	χ^2(df)	Sig.	RMSEA [90% CI]	CFI	SRMR
WLSMV (Initial)	45.10 (14)	<.001	0.096 [0.065, 0.128]	0.996	.048
WLSMV (Modified)	24.87 (13)	.024	0.061 [0.022, 0.098]	0.999	.037

- **Convergent Validity:**Pearson's correlation analysis indicated that higher psychological distress was associated with lower WAAQ score. Specifically, the GHQ and WAAQ were significantly negatively correlated (r (238) =–.16, p =.01, 95% CI[–.29,–.04]), and the MSP and WAAQ were also negatively correlated (r (236) =–.17, p =.007, 95% CI[–.29,–.05]). As expected, the GHQ and MSP showed a strong positive correlation, r(235) = .72, p < .001, 95% CI [.65, .78].

  Nonparametric tests were performed to assess the robustness of these associations. For the GHQ–WAAQ pair, Spearman's rank-order correlation was statistically significant (ρ = −.15, p =.022), and Kendall's tau-b was τ = −.10 (p =.021). Similarly, for the MSP–WAAQ pair, Spearman's rho was −.16, p = .016, and Kendall's tau-b was −.11 (p =.015). These findings corroborate the inverse relationships observed with Pearson correlations.

  Bootstrapping with 1,000 replications yielded stable estimates. For the GHQ–WAAQ association, the 95% percentile bootstrap confidence interval was (–0.2748, –0.0046), and the bias-corrected and accelerated (BCa) interval was (–0.2766, –0.0072). For the MSP-WAAQ, the 95% percentile interval was (–0.2884, –0.0177), and the BCa interval was (–0.2886, –0.0181); none of these intervals included zero, reinforcing the significance of the negative correlations.

Table 9. Correlations, Nonparametric Tests, and Bootstrapped Confidence Intervals

Measure Pair	r	Sig.	ρ	Sig.	τ	Sig.	Bootstrapped 95% CI	
							(Percentile)	(BCa)
GHQ – WAAQ	-.16	.01	-.14	.02	-.10	.021	(-.2748, -.0046)	(-.2766, -.0072)
MSP – WAAQ	-.17	.007	-.15	.01	-.10	.015	(-.2884, -.0177)	(-.2886, -.0181)

- **Demographic Analysis:**The association between sex and WAAQ scores varied across the three studies. In Study 2 (N = 834; men = 642, women = 192), a significant sex difference was observed, with women (M = 32.34, SD = 7.60) achieving higher scores than men (M = 29.64, SD = 8.02), t(328.74) = − 4.26, p < .001, r = .14, d = − 0.34, indicating a small-to-medium effect size. However, this effect was not replicated in Studies 1

and 3. Study 1 (N = 60; men = 22, women = 38) revealed no significant difference between men (M = 36.22, SD = 7.64) and women (M = 37.18, SD = 10.26), t(54.21) = − 0.41, p = .68, r = .05, d = − 0.10, suggesting a very small effect size. Similarly, Study 3 (N = 235; men = 177, women = 58) showed comparable scores between men (M = 31.28, SD = 9.03) and women (M = 32.16, SD = 9.31), t(97.93) = –0.64, p = .53, r = .02, d = –0.10, also indicating a very small effect size. The negative d values across all studies consistently suggested slightly higher scores for females, although this difference was only statistically significant in Study 2.

Age was not significantly associated with WAAQ scores in any of the three studies. In Study 1, the correlation between age and WAAQ scores was not significant (r = .06, p = .09). Similarly, Study 2 showed no significant correlation (r =.06, p =.34), and Study 3 also revealed a non-significant association (r =–.02, p =.90). These findings suggest that age did not have a meaningful relationship with WAAQ scores in any of the studies.

Table 10. Gender Differences and Age Correlations Across Studies

Characteristic	Study 1 (N = 60)	Study 2 (N = 834)	Study 3 (N = 235)
Sample Size (Men/Women)	22/38	642/192	177/58
Men, M (SD)	36.22 (7.64)	29.64 (8.02)	31.28 (9.03)
Women, M (SD)	37.18 (10.26)	32.34 (7.60)	32.16 (9.31)
T-test [95% CI]. Cohen's d	t(97.93) = -0.64, p = .525. [-3.61, 1.85]. d=-0.10	t(328.74) = -4.26, p < .001. [-3.94, -1.45]. d= 0.13	t(54.21) = -0.41, p = .683. [-5.63, 3.72]. d= -.09
Mann-Whitney Effect Size (r)	W = 5078.5, p = .384. (.01)	W = 49496, p < .001. (.13)	W = 356, p = .345. (.05)
Age Correlation	r =.05, p =.094	r =.06, p =.341	r = -.01, p =.895

❖ **Discussion:** This study investigated the psychometric properties of the Arabic version of the Work-related Acceptance and Action Questionnaire (WAAQ). Through three studies involving a combined sample of over 1,000 Arabic-speaking employees, our findings robustly support the reliability and validity of this measure. These results contribute to the expanding body of evidence supporting the WAAQ's cross-cultural applicability, consistent with findings from validations in diverse contexts, including the original English version (Bond et al., 2013) and adaptations in Sweden (Holmberg et al., 2019), Italy (Russo et al., 2024), Colombia (Bravo et al., 2023), Ecuador (Ponce & Villar, 2022), validation among Chinese oncology nurses (Xu et al., 2018), and modified

versions tailored for specific populations such as university students (Lang et al., 2017).

In addition to replicating previous findings, our study introduces three methodological advancements that have not been collectively presented in prior research on the WAAQ: First, we employed a five-week bilingual test–retest design, achieving a cross-language stability coefficient of r = .91, which surpasses the significantly shorter retest intervals (≤ 2 weeks) utilized in the original English study and all subsequent adaptations. Second, the study involved 1,149 employees from five industrial sectors, constituting the largest single-language WAAQ sample to date and enabling adequately powered sub-group analyses. Third, we compared two confirmatory factor estimators (MLR and WLSMV) within the same datasets, illustrating that the one-factor solution is robust to the choice of estimator, rather than being an artifact of any single analytic procedure.

Consistent with all previous cultural adaptations, the Arabic WAAQ exhibited a distinct unidimensional structure. This unidimensionality was also supported by exploratory factor analysis in a sample of Chinese nurses (Xu et al., 2018). The factor loadings (MLR: .660-.872; WLSMV: .714-.932) were comparable to or slightly exceeded those reported in other validations, including the Colombian (.67-.86; Bravo et al., 2023), Swedish (.479-.849; Holmberg et al., 2019), and Italian (.45-.89; Russo et al., 2024) versions of the scale. This consistency in factor loadings across cultures and specific contexts, such as university settings (e.g., Lang et al., 2017), underscores the robustness of the WAAQ construct measurement. Moreover, our application of multiple estimation methods (MLR and WLSMV) enhances confidence in the stability of the factor structure.

A direct comparison with existing validations revealed subtle yet significant cross-cultural differences in the WAAQ's psychometric properties. The average standardized factor loading in our WLSMV model (.83) surpassed those reported for Sweden (.71; Holmberg et al., 2019) and Ecuador (.78; Ponce & Villar, 2022), while closely aligned with the Colombian estimate (.82; Bravo et al., 2023). Our RMSEA confidence interval (.066–.072 across studies) demonstrated greater consistency than the broader range observed in the Italian validation (.055–.094; Russo et al., 2024). These patterns suggest that Arabic speakers may interpret items related to emotional awareness and task persistence (particularly WAAQ3 and WAAQ5) with greater communality, potentially reflecting collectivistic cultural norms that emphasize perseverance in the workplace. Such nuanced departures underscore the importance of culturally specific validation rather than assuming strict metric equivalence across language adaptations.

Consistent with findings from other WAAQ adaptations (e.g., Bravo et al., 2023; Russo et al., 2024), achieving an optimal model fit for the Arabic version necessitated the incorporation of residual error correlations, specifically involving

pairs such as WAAQ6-WAAQ7 (consistently linked across studies) and WAAQ1-WAAQ2 (sharing linguistic structure). These theoretically justified modifications substantially improved the model fit across our studies, yielding indices (e.g., CFI > .99, RMSEA ≈ .06-.08 in modified models) comparable to the strongest international validations, thus confirming the structural integrity of the Arabic version of the measure.

Beyond the aspect of validation, the specific nature of these correlated errors, particularly the consistent association between items focused on internal experiences (WAAQ6-WAAQ7) and those sharing identical phrasing (WAAQ1-WAAQ2 'I can'), merits further examination. Coupled with a tendency towards slightly higher mean scores observed in our samples compared to some Western data, these patterns may indicate subtle linguistic clustering or culturally influenced ways in which Arabic speakers conceptualize and report the interplay between internal states and work performance, potentially extending beyond generic explanations such as method variance. These nuances underscore the importance of culturally specific validation and highlight promising avenues for future research on the unique manifestations of psychological flexibility in Arabic-speaking contexts.

The Arabic WAAQ exhibited excellent internal consistency (α =.87-.91), aligning with the robust findings from a range of previous international validations, including the Italian (α =.88-.89; Russo et al., 2024), Swedish (α =.85; Holmberg et al., 2019), Colombian (α =.87; Bravo et al., 2023), Ecuadorian (α =.90; Ponce & Villar, 2022), a student-specific adaptation (α =.91; Lang et al., 2017), and a Chinese nursing version (α=.92; Xu et al., 2018). While this notable consistency confirms that the WAAQ retains its measurement precision across diverse linguistic and cultural contexts, our study critically extends this evidence to a new context. By implementing a unique five-week bilingual test-retest design, we established a cross-language stability coefficient of r = .91 for the scale. This provides a more rigorous demonstration of the measure’s stability than any prior adaptation and confirms its conceptual equivalence across languages, not just its internal consistency.

While most validations have predominantly concentrated on internal consistency, future investigations involving the Arabic version would benefit from incorporating an assessment of its temporal stability. Research with student populations has demonstrated acceptable short-term stability over two weeks (r=.76; Lang et al., 2017) and among Chinese nurses (r=0.772; Xu et al., 2018), while Italian (ICC =.78; Russo et al., 2024) and Swedish (ICC =.85; Holmberg et al., 2019) studies utilized longer intervals.

The sole statistically significant sex difference (Study 2) and the uniformly small effect sizes elsewhere raise the question of whether the observed variability is substantive or artificial. Given that Arabic workplaces are often characterized by distinct sex role expectations and differential exposure to occupational stressors, multigroup measurement invariance testing across sexes is a logical next step, emulating the comprehensive testing conducted in the Colombian (Bravo et al., 2023) and Italian (Russo et al., 2024) validations. Such analyses, complemented by qualitative work on how men and women narrate flexibility at work, would clarify whether the Arabic WAAQ captures true sex variation or whether subtle biases in item interpretation drive this pattern.

Beyond gender differences, the validation of the Arabic WAAQ opens a window into how psychological flexibility may manifest differently within collectivistic Arabic cultures. The workplace in Arabic-speaking regions is often characterized by strong hierarchical structures, high power-distance relationships, and group-oriented decision-making processes (Hofstede et al., 2010) that differ markedly from the individualistic Western contexts where ACT measures originated. This cultural embeddedness may explain the specific pattern of correlated errors between items focused on performance despite personal challenges (WAAQ1–WAAQ3) and those addressing internal experiences (WAAQ6–WAAQ7). Such patterns might reflect not merely methodological artifacts but culturally specific conceptualizations of the relationship between emotional experience and work performance. Future qualitative research could explore how Arabic cultural values, such as “sabr” (patience) and social harmony, influence the expression and understanding of psychological flexibility in organizational settings.

The consistent finding across all validations that age does not significantly correlate with WAAQ scores strengthens the evidence that work-related psychological flexibility operates independently of age. This age invariance has been demonstrated across multiple cultures, workplace contexts, and age ranges, supporting the broad applicability of the WAAQ across the working lifespan.

The negative correlations found between the Arabic WAAQ and psychological distress measures (GHQ, MSP) align with the patterns observed in other validations (e.g., Bond et al., 2013; Bravo et al., 2023). Notably, Xu et al. (2018) found a similar negative correlation between the Chinese WAAQ and the GHQ-12 ($r=-.25$) in oncology nurses, reinforcing the link between higher work-specific flexibility and lower general distress. They also found a negative correlation with the broader AAQ-II ($rs=-.24$), suggesting that the WAAQ captures a work-specific aspect of flexibility. Furthermore, positive associations between the WAAQ and adaptive constructs such as general self-efficacy and work engagement (Xu et al., 2018) complement findings linking student versions to positive affect and adjustment (Lang et al., 2017). These findings, along with those from other adaptations (e.g., Holmberg et al., 2019; Ponce & Villar, 2022),

suggest that the relationship between psychological flexibility and work-related outcomes may be relatively stable across cultures.

The slight tendency towards scores in our sample requires careful consideration. While this pattern appears in other validations of ACT-based measures, potential social desirability effects should be considered, particularly in cultural contexts in which positive self-presentation is valued. Future research may benefit from incorporating social desirability measures or employing mixed-method approaches to better understand response patterns. This aligns with clinical observations in which clients' self-reported high psychological flexibility sometimes contrasts with behavioral evidence of experiential avoidance and cognitive fusion.

An important consideration for the practical application of the Arabic WAAQ is its potential role in addressing the unique occupational health challenges in the region. Arabic-speaking countries have witnessed rapid economic transformation and workplace modernization, often accompanied by increased work demands and stress. Traditional coping strategies may be strained by these changes, creating a need for evidence-based approaches such as ACT. Our findings suggest that the Arabic WAAQ could serve as a culturally appropriate screening tool to identify employees who might benefit from targeted interventions. Moreover, the consistent negative correlations between the WAAQ and psychological distress measures align with theoretical expectations across cultures, indicating that psychological flexibility may function as a transcultural protective factor against work-related psychological strain. This transcultural protective quality makes the WAAQ particularly valuable for multinational organizations operating across Arabic- and non-Arabic-speaking regions.

The Arabic WAAQ was tested on a large multisector employee sample (N = 1,149), which included manufacturing, healthcare, education, public administration, and other services. Its satisfactory psychometric performance indicates that it functions reliably across a broad range of Arabic-speaking workplaces. This breadth of validation supports its practical value for regional organizations that wish to monitor work-related psychological flexibility and evaluate acceptance-commitment-based programs using culturally and linguistically appropriate tools. Next-step research should establish the scale’s predictive validity by linking WAAQ scores to objectively recorded outcomes, such as absenteeism, turnover, or supervisor-rated performance, thereby clarifying the practical significance of psychological flexibility for organizational effectiveness in Arabic-speaking contexts.

A significant limitation of this study is the absence of workplace outcome data directly linked to WAAQ scores. Although the theoretical framework of Bond et al. (2013) suggests that psychological flexibility should predict improved performance and reduced absenteeism, empirical verification within Arabic-speaking workplaces remains necessary. Future longitudinal studies could address this gap by examining whether baseline WAAQ scores predict subsequent productivity metrics, workplace citizenship behaviors, or organizational commitment across different Arabic-speaking countries. Additionally, exploring how culture-specific variables, such as religious practices, familial obligations, or tribal affiliations, might moderate the relationship between psychological flexibility and workplace outcomes would provide valuable insights into the contextual factors influencing ACT processes in Arabic work environments. Such research would not only validate the practical utility of the Arabic WAAQ but could potentially refine cross-cultural ACT interventions by incorporating culturally resonant metaphors and exercises.

❖ **Conclusion:** The Arabic WAAQ is a psychometrically sound instrument with evidence of structural validity, reliability, and meaningful relationships with relevant constructs comparable to other cultural adaptations. The consistency of psychometric properties across diverse cultural contexts suggests that work-related psychological flexibility, as measured by the WAAQ, represents a relatively stable construct transcending cultural boundaries. This validation expands the reach of ACT-based assessments and interventions to Arabic-speaking populations while contributing to the growing evidence supporting the cross-cultural applicability of ACT measures.

This study marks a significant step forward in understanding and promoting workplace well-being in Arabic-speaking countries. The Arabic WAAQ is a practical tool for clinicians, researchers, and organizations seeking to assess or intervene in acceptance and action processes among Arabic-speaking populations. Future research should focus on establishing the scale's predictive validity for workplace outcomes, examining its sensitivity to intervention effects, and investigating potential cultural moderators of psychological flexibility. Integrating behavioral measures or structured interviews can provide valuable complementary data for self-report assessment.

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