



'Close to Home, Even Though Far Away': Social Media in International Student Adaptation

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Abstract

This mixed-method study investigates the role of social media in the intercultural adaptation process of international students in Saudi Arabia. With over 200,000 international students enrolled in Saudi universities, understanding their adaptation experiences is crucial, particularly given Saudi Arabia's strict Islamic rules, Arabic language requirements, and unique cultural context. The study employed quantitative and qualitative approaches, with 179 students participating in an online questionnaire and five students volunteering for follow-up interviews. Three research questions were addressed: how international students use social media for intercultural adaptation, whether demographic variables affect this usage, and which aspects of adaptation are influenced by social media use. The findings reveal that social media significantly impacts three key aspects of intercultural adaptation: strengthening, maintaining, and building relationships and connections; overcoming adjustment challenges; and enhancing participants' sense of belonging to both host and home cultures. No significant differences were found based on age or gender after correction for multiple comparisons. This research contributes to the limited literature on international students in Arabic-speaking contexts and is one of the first attempts to explore the role of social media in intercultural adaptation within Saudi Arabia specifically. The findings suggest that social media serves as a vital tool for international students, enabling them to maintain home culture connections while integrating into the host culture. Pedagogical implications recommend encouraging pre-arrival social media interactions and introducing students to commonly used platforms as part of preparatory programs.

Keywords: cross-cultural adjustment, cultural adjustment, intercultural adaptation, international students, social media

1 Introduction

In today's globalizing world, social media networks have become a vital element in everyday communication and interaction. Regardless of the distance between them, social media networks provide people with a platform to communicate, express feelings, share knowledge, and exchange texts and messages. Research has shown that foreigners use social media networks to help them with their intercultural adaptation process into a new culture and to maintain connections with their home culture (Gaitán-Aguilar et al., 2022).

Many studies have explored the impact of social media networks on the intercultural adaptation process of international students in different regional contexts (Alamri, 2018). However, there is a notable gap in research investigating the link between social media networks and the intercultural adaptation process of international students who come to Saudi Arabia to complete their degrees. The number of international students has increased over the years because Saudi Arabia has a rich Islamic and Arabic culture and offers international students paid scholarships to study at its universities. It is estimated that more than 200,000 international students are currently enrolled in Saudi universities (Almutairi, 2020).

Moreover, Saudi Arabia follows strict Islamic rules, and Arabic is the official language. Thus, international students might find it harder to adapt in Saudi Arabia than in other countries. As social media websites continue to increase and evolve, investigating the potential impact of social media on the intercultural adaptation process has become increasingly important. The following sections explore the literature review of this study.

1.1 Measuring Intercultural Adaptation

Measuring intercultural adaptation requires validated instruments that capture the multidimensional nature of the adaptation process. Lysgaard's (1955) U-curve hypothesis suggests that sojourners experience predictable stages of adaptation: initial euphoria, followed by culture shock and adjustment difficulties, and eventually recovery and adaptation. Two other used scales have emerged as foundational tools in adaptation research: the Sociocultural Adaptation Scale (SCAS) and the Cross-Cultural Adaptability Inventory (CCAI). Understanding these instruments, their applications, and their limitations is essential for contextualizing adaptation research, particularly in the digital age, where social media mediates many cross-cultural interactions.

1.1.1 The Sociocultural Adaptation Scale (SCAS)

The Sociocultural Adaptation Scale, originally developed by Ward and Kennedy in 1999, measures the behavioral and practical aspects of adapting to a new cultural environment. The scale assesses individuals' difficulty in managing everyday social situations in the host culture, focusing on sociocultural fit and behavioral competence rather than psychological well-being. The revised version, SCAS-R, consists of 21 items organized into five dimensions: Interpersonal Communication, Academic/Work Performance, Personal Interests and Community Involvement, Ecological Adaptation, and Language Proficiency (Wilson et al., 2017).

Recent applications of the SCAS-R indicate that the scale demonstrates acceptable validity and reliability across diverse populations and contexts. In Thailand, the instrument was used to examine cultural adaptation as a mediator between cultural intelligence and academic performance among 426 students from Thai, Chinese, and ASEAN subgroups, and the findings supported the distinction between sociocultural and psychological adaptation as related but conceptually distinct constructs (D'souza et al., 2023).

The SCAS-R has also been adapted successfully for non-student populations. In a study of young intellectuals migrating to Ho Chi Minh City, the scale was used to assess five dimensions of sociocultural adaptation, and the reported psychometric indicators supported its reliability and predictive utility (Ngoc et al., 2020). Similarly, an Arabic adaptation for Syrian migrants in Turkey showed strong psychometric performance, suggesting that the SCAS-R can be applied effectively across linguistic and cultural settings and may be relevant for research in Middle Eastern contexts, including the GCC region (Keser, 2023).

1.1.2 The Cross-Cultural Adaptability Inventory (CCAI)

While the SCAS focuses on behavioral adaptation, the Cross-Cultural Adaptability Inventory (CCAI) measures psychological readiness and personal characteristics that facilitate cross-cultural adaptation. The CCAI assesses four key dimensions: Emotional Resilience (the ability to cope with stress and recover from setbacks), Flexibility/Openness (willingness to try new things and tolerate ambiguity), Perceptual Acuity (attention to verbal and nonverbal communication cues), and Personal Autonomy (sense of self-identity and confidence in one's values).

The CCAI has been applied in study-abroad contexts to measure global competencies gained from international academic experiences. Research on academic study abroad programs used the CCAI with a Likert scale ranging from 1 to 6 to assess global citizenship development, emphasizing the importance of careful measurement of global competencies (Matheus et al., 2017). The CCAI's focus on personal characteristics and psychological readiness makes it particularly useful for pre-departure assessment and program evaluation.

The distinction between the SCAS and CCAI reflects the broader conceptual division between sociocultural and psychological adaptation. Sociocultural adaptation, measured by the SCAS, refers to the ability to "fit in" and manage daily life in the host culture through behavioral competence. Psychological adaptation, more closely aligned with the CCAI's focus, refers to emotional well-being and satisfaction in the new environment. Research has consistently shown that these two forms of adaptation follow different trajectories and are influenced by different factors (Ward & Kennedy, 1999).

1.1.3 Applications and Limitations in Digital Contexts

While both the SCAS and CCAI have proven valuable for measuring adaptation, their application to digitally mediated adaptation experiences present challenges. The SCAS's focus on behavioral competence in face-to-face interactions may not fully capture how social media facilitates or hinders adaptation. For instance, an international student might score low on the SCAS's Interpersonal Communication dimension due to limited face-to-face interactions with host nationals, yet maintain rich digital connections that provide social support and cultural information. Similarly, the CCAI's emphasis on personal characteristics may not account for how algorithmic curation of social media content shapes cross-cultural exposure and learning.

Recent research has extended adaptation studies to digital contexts. Among international graduate students in the United States, social media use was associated with the emergence of filter bubbles, suggesting that digital platforms may both facilitate and constrain adaptation (He, 2024). In parallel, the development of the General Adaptation Scale for International Students (GASIS) in Turkey reflects a more multidimensional view of adaptation, with four domains: academic, sociocultural, psychological, and daily life adaptation (Nazir & Öztürk, 2022). While not specifically focused on digital adaptation, such multidimensional scales acknowledge the complexity of contemporary adaptation experiences.

The SCAS and CCAI provide valuable frameworks for understanding adaptation, but researchers must consider their limitations when studying digitally mediated adaptation. The SCAS's strength lies in measuring concrete behavioral competencies. For example, managing daily tasks, communicating effectively, participating in community activities, etc. These remain relevant regardless of whether interactions occur face-to-face or digitally. However, researchers should supplement SCAS measures with assessments of digital communication competence and online social integration.

The CCAI's focus on personal characteristics offers insights into who adapts successfully but may benefit from expansion to include digital literacy and online intercultural competence. As

social media becomes increasingly central to adaptation experiences, particularly in contexts such as Saudi Arabia, where digital platforms may offer more accessible spaces for cross-cultural interaction than physical environments, adaptation measures must evolve to capture these new realities.

While social media can facilitate intercultural adaptation, its effects are constrained by echo chambers, filter bubbles, and digital divides. These dynamics may limit exposure to diverse perspectives, reinforce existing beliefs, and reduce opportunities for meaningful engagement with host cultures.

The implications of echo chambers and filter bubbles for international student adaptation are complex and potentially contradictory. On one hand, maintaining strong connections with home culture through social media can provide crucial emotional support during the stressful adaptation process. Research has shown that home domain networks remain a strong source of support during difficult times via new media technologies (Aksezer et al., 2022). For students experiencing culture shock or discrimination, co-national online communities may offer validation, advice, and solidarity. On the other hand, excessive engagement with home culture networks may slow integration into the host culture (Yanagihara, 2017). A balance between home and host culture engagement matters significantly for adaptation outcomes.

Digital divides add another layer of inequality by shaping access to technology, connectivity, and digital literacy. In the GCC context, where expatriate-heavy demographics intersect with persistent disparities in digital access, international students from lower-income countries or digitally under-resourced regions may be less able to use social media as an adaptation resource.

1.2 International Students in the Gulf Cooperation Council (GCC) Region

The GCC region, including Saudi Arabia, the United Arab Emirates, Qatar, Kuwait, Bahrain, and Oman, offers a distinctive setting for international student adaptation because of its Islamic cultural framework, rapid modernization, and expatriate-dense institutions. Compared with Western host countries, adaptation in this context is shaped by different social, linguistic, and institutional conditions.

Recent studies suggest that social media may play an important role in this process. In Saudi Arabia, international students who used social media and engaged with global content reported stronger cross-cultural competence (Alharthi, 2023). At the same time, research in the UAE indicates that language differences, academic experiences, and institutional environment remain central to adjustment, even when students report support from faculty and staff (Qiqieh & Regan, 2023).

The GCC context also differs from Western higher education in ways that affect preparedness for international study. Arab students from Saudi Arabia and Kuwait studying in the United States reported difficulties linked to prior educational experiences characterized by rote learning, limited technology integration, and gender-segregated classrooms (Hastings, 2021). A broader review similarly identified linguistic barriers, cultural adjustment, and the need for academic support as major challenges across Gulf countries (Al-Horr, 2023).

More broadly, adaptation in the GCC is shaped by religious observance, gender norms, and regulatory constraints on digital communication. These factors influence how students seek information, maintain social ties, and negotiate host-culture engagement (Almutarie, 2022).

Despite the number of international students in Saudi Arabia, research on their experiences remains limited. Saudi Arabia presents a unique cultural context characterized by strict Islamic values, gender segregation in many public spaces, Arabic as the primary language, and cultural

norms that may differ significantly from students' home countries (Alsulami, 2021). These factors may create distinct adaptation challenges compared to other study abroad destinations.

The limited existing research suggests that international students in Saudi Arabia face challenges related to language barriers, cultural differences, climate adjustment, and social integration (Ahmed, 2021). However, the specific role of social media in facilitating adaptation in this context has not been thoroughly investigated. Given the unique cultural environment and the increasing prevalence of social media use globally, understanding how international students in Saudi Arabia leverage these technologies for adaptation is both timely and important.

To date, there is a lack of literature and studies conducted on international students in Saudi Arabia. Therefore, it is important to understand their intercultural adaptation experiences and the potential impact social media has on them in order to help ease their adaptation process. This study employs a mixed-method approach to investigate the following three research questions:

1. How do international students in Saudi Arabia use social media to help them with their intercultural adaptation process?
2. Do different variables affect the use of social media in intercultural adaptation?
3. In which aspects do social media influence the process of intercultural adaptation?

2 Methodology

This study employed a mixed-methods sequential explanatory design, combining quantitative and qualitative approaches to provide a comprehensive understanding of how social media impacts international students' intercultural adaptation in Saudi Arabia (Tashakkori et al., 2021). The sequential explanatory design involves collecting and analyzing quantitative data first, followed by qualitative data collection and analysis to explain and elaborate on the quantitative findings (Tashakkori et al., 2021). This approach allows for triangulation of data sources and provides both breadth and depth of understanding.

2.1 Participants

The study involved two phases of data collection with different participant groups. In phase one (quantitative), 179 international students currently enrolled in Saudi Arabian universities completed an online questionnaire. In phase two (qualitative), 5 international students participated in semi-structured interviews to provide in-depth insights into their experiences.

Participants were recruited through gatekeepers, two university professors who supervise non-curricular activities for international students at two universities in Riyadh. Inclusion criteria required participants to be: 1) international students currently studying in Saudi Arabia, 2) enrolled in degree programs at Saudi universities, and 3) willing to share their experiences regarding social media use and cultural adaptation. 190 students volunteered, of whom 179 completed the questionnaire. Table 1 presents the demographic characteristics of the quantitative sample:

Table 1: Participant Information (N=179)

Characteristic	Category	n	%
Gender	Male	129	72.1
	Female	50	27.9
Age	18 to 22 years	13	7.3
	22 to 25 years	32	17.9
	26 to 30 years	67	37.4
	31 to 35 years	43	24.0
	36 to 40 years	19	10.6

	41 to 45 years	5	2.8
Education level	High school	22	12.3
	Diploma	34	19.0
	Bachelor's	79	44.1
	Master's	39	21.8
	PhD	5	2.8
Time in Saudi Arabia	Less than a year	19	10.6
	1 to 3 years	25	14.0
	4 to 6 years	62	34.6
	7 to 9 years	41	22.9
	10 or more years	32	17.9

The five interview participants came from diverse national and linguistic backgrounds, with varying lengths of stay in Saudi Arabia and different levels of Arabic proficiency.

2.2 Instruments

The data collection tools combined both quantitative and qualitative approaches:

2.2.1 Quantitative Instrument

The online questionnaire consisted of three main sections:

1. Demographic Information: Questions about age, gender, nationality, time spent in Saudi Arabia, time spent learning Arabic, and self-reported Arabic language proficiency.
2. Social Media Use Patterns: Questions assessing frequency of social media use, types of platforms used, and purposes of use (e.g., communication with home country, connecting with Saudi friends, learning about Saudi culture).
3. Intercultural Adaptation Experiences: items rated on five-point ordinal response scales (e.g., 'not at all likely' to 'extremely likely'; 'not at all helpful' to 'very helpful') measuring various aspects of intercultural adaptation, including: making friends with Saudi nationals, learning about Saudi culture, preparing for adjustment challenges, using Arabic language in daily life, and perceived adaptation.

Table 2: Questionnaire Sections, Item Sources, Item Ranges, and Sample Items

Questionnaire section	Items	Number of items	Item source	Sample item
Demographics	1-8 20-23	12	Developed based on participant profile variables.	What is your age?
Social media use patterns	9-12	4	Developed based on RQ1 and social media use variables.	In a typical day, how likely are you to use social networking websites?
Perceived role of social media in Saudi friendship formation	13-14	2	Developed based on RQ1 and RQ2.	How helpful are social networking websites for making new Saudi friends?
Perceived role of social media in cultural familiarization and adjustment support	15-18	4	Developed based on RQ1 and RQ2.	How helpful were social networking websites for you in order to become more familiar with the Saudi culture?
Adaptation outcomes and social integration	19 & 24	2	Developed based on study aims.	At this time, to what extent do you feel you have adapted to Saudi culture?
Open-ended items	25-26	2	Developed to elicit qualitative elaboration on platform use and cultural adaptation.	Which social networking website or websites were most helpful in adapting to Saudi culture?

Each adaptation outcome was measured and analyzed as an individual questionnaire item; no composite or summed indices were computed. A post hoc psychometric evaluation of the twelve social media use and adaptation items was conducted (KMO = .82; Bartlett's $p < .001$). Exploratory factor analysis (principal-axis factoring, oblimin rotation) supported a three-factor structure (Table 3, Figure 1; full pattern matrix in Supplementary Table S4); two items (daily social media use and interaction with Saudi students) showed communalities below .30 but were retained for content coverage and assigned to their congruent factors. The three-factor model comprising all twelve items showed acceptable fit in confirmatory factor analysis (MLR, robust estimates), $\chi^2(51) = 76.7$, $p = .011$, CFI = .958, TLI = .945, RMSEA = .057, 90% CI [.027, .081], SRMR = .057, and clearly outperformed a one-factor model (CFI = .74, RMSEA = .136; $\Delta\chi^2(3) = 122.1$, $p < .001$). The factors were Arabic-language use on social media (three items; $\alpha = .75$, CR = .75, AVE = .51), friendship formation through social media (three items; $\alpha = .68$, CR = .71, AVE = .48), and social-media-facilitated cultural adjustment (six items; $\alpha = .80$, CR = .81, AVE = .43); standardized loadings ranged from .33 to .85 and discriminant validity was supported (all HTMT $\leq .78$). A sensitivity model excluding the two weakest items showed excellent fit ($\chi^2(32) = 36.0$, $p = .286$, CFI = .99, RMSEA = .029; full model comparison in Supplementary Table S5). Adaptation outcomes were nevertheless analyzed as individual questionnaire items, consistent with the original analysis plan; the factorial structure is reported to document the internal organization of the instrument.

Table 3: Factor Structure, Item Descriptives, Standardized Loadings, and Reliability of the Questionnaire Items (N = 179)

Factor/item	M	SD	λ	α	CR	AVE
Factor 1: Arabic-language use on social media				.75	.75	.51
Q10. Posting in Arabic	3.38	1.06	.85			
Q11. Viewing posts in Arabic	3.42	0.90	.65			
Q12. Chatting in Arabic	3.31	1.05	.63			
Factor 2: Friendship formation through social media				.68	.71	.48
Q13. SM's effectiveness for making Saudi friends	2.74	1.10	.80			
Q14. Reliance on SM to make Saudi friends	2.51	0.99	.83			
Q9. Daily social media use	3.16	0.74	.33			
Factor 3: Social media facilitated cultural adjustment				.80	.81	.43
Q15. Familiarity with Saudi culture	3.18	1.01	.71			
Q16. Feeling prepared to adjust	2.64	1.14	.84			
Q17. Overcoming stereotypes	3.28	0.94	.76			
Q18. Overcoming adjustment challenges	3.18	1.09	.54			
Q19. Perceived adaptation	3.15	1.07	.62			
Q24. Interaction with Saudi students	3.30	1.01	.35			

λ = standardized loading from the three-factor confirmatory model (MLR, all 12 items); α = Cronbach's alpha; CR = composite reliability; AVE = average variance extracted. Items were rated on five-point scales (1 = lowest, 5 = highest).

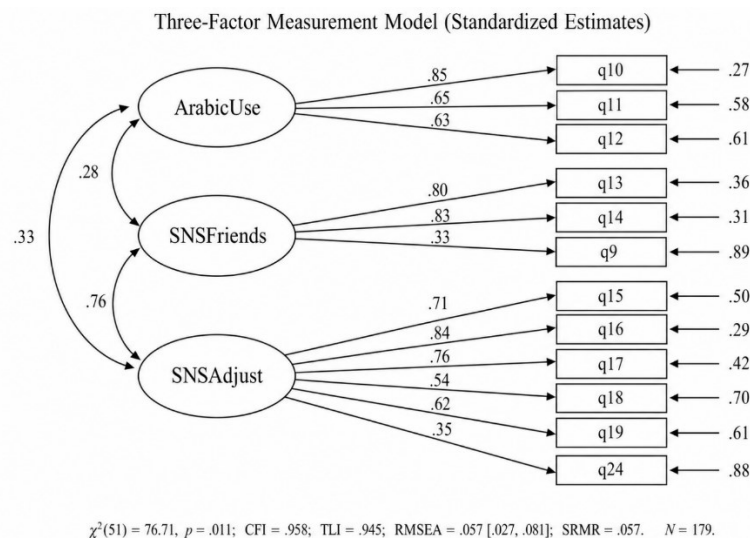


Figure 1: Three-factor measurement model with standardized loadings, factor correlations, and residual variances ($N = 179$)

2.2.2 Qualitative Instrument

Semi-structured interviews were conducted using an interview protocol with open-ended questions exploring: 1) Types of social media platforms used and reasons for use, 2) Specific ways social media helped with cultural adaptation, 3) Experiences making friends through social media, 4) Challenges faced during adaptation and how social media helped overcome them, and 5) Perceptions of how social media influenced their sense of belonging and community. The interview protocol allowed for flexibility to probe deeper into participants' responses and explore emergent themes.

2.3 Procedure

The study was done in two main phases:

2.3.1 Phase 1: Quantitative Data Collection

The online questionnaire was distributed through multiple channels, including university international student offices, student social media groups, and personal networks. The questionnaire was hosted on a secure online survey platform and remained open for four weeks. Participants were provided with an informed consent form explaining the study's purpose, voluntary nature, confidentiality measures, and their right to withdraw at any time. Data were collected anonymously, with no personally identifiable information recorded.

Upon completion of data collection, quantitative data were analyzed using SPSS statistical software. Descriptive statistics (frequencies, percentages, means, standard deviations) were calculated for all variables. Independent samples t-tests and one-way ANOVAs were conducted to examine differences in social media use patterns based on demographic variables. Pearson correlations (r , with 95% confidence intervals) explored relationships between Arabic language proficiency and the adaptation items, and a multiple linear regression with standardized coefficients (β , 95% CI) examined predictors of perceived adaptation. All adaptation outcomes were analyzed as individual questionnaire items. In addition, a composite Arabic proficiency score was computed as the mean of the four self-rated language-skill items (Cronbach's $\alpha = .862$). Statistical significance was set at $\alpha = .05$, and exact p values are reported. Effect sizes are reported as eta squared (η^2) for ANOVAs and Cohen's d for t-tests. Post-hoc comparisons for significant ANOVAs used Bonferroni-corrected pairwise tests.

2.3.2 Phase 2: Qualitative Data Collection

Following analysis of the quantitative data, semi-structured interviews were conducted with the five students who agreed to take part in the second phase. The interview questions were pre-written, adapted from a previous study (Sawyer & Chen, 2012), and modified to fit the Saudi context.

Interviews were audio-recorded with participants' permission and transcribed verbatim. Thematic analysis was employed to identify patterns and themes in the qualitative data (Braun & Clarke, 2006). The analysis process involved: 1) familiarization with the data through repeated reading of transcripts, 2) generating initial codes, 3) searching for themes by grouping codes, 4) reviewing and refining themes, 5) defining and naming themes, and 6) producing the final analysis with illustrative quotes.

2.4 Ethical Considerations

The study received ethical approval from the relevant institutional review board. All participants provided informed consent before participating. Confidentiality was maintained throughout the study, with all data stored securely and accessible only to the research team. Participants were assigned pseudonyms in the qualitative analysis to protect their identities.

3 Findings

The section presents the results from both the quantitative and qualitative methods:

3.1 Quantitative Findings

To achieve the objectives of this study, the Statistical Package for Social Sciences (SPSS) was used, along with the following statistical measures:

1. Mean: to know the responses to each statement of the axes.
2. Standard Deviation: to know the differences in responses for each statement of the study.
3. T-Test: to check if there are differences between variables
4. ANOVA: to test if there are differences between variables.
5. Pearson correlation: to test the relation between statements.

This section presents the findings of the quantitative instruments of the study.

3.1.1 Social Media Use Patterns

The quantitative analysis indicated that international students in Saudi Arabia are active social media users. When asked how likely they were to use social networking websites in a typical day, 10 participants answered 'extremely likely', 34 'very likely', 110 'moderately likely' and 24 'slightly likely'. Platform-level usage rates were not quantified in the questionnaire; the platforms participants found most useful are addressed in the qualitative findings.

3.1.2 Making Saudi Friends Through Social Media

When asked how often they used social networking websites to make new Saudi friends, 33.5% of participants answered 'moderately often' and 37.4% 'slightly often', while 14.5% answered 'not at all'.

3.1.3 Learning Saudi Culture Through Social Media

30% of participants rated social networking websites as 'very helpful' for becoming more familiar with Saudi culture, while only 4.5% rated them 'not at all helpful'.

3.1.4 Preparing for Adjustment Challenges

When asked to what extent social networking websites helped them feel more prepared to adjust to Saudi culture, 21% of participants answered 'very helpful' and 21% answered 'not at all helpful'.

3.1.5 Arabic Language Use and Learning

Regarding Arabic-language use on social media, 25.7% of participants were 'very likely' and 18% 'extremely likely' to write posts in Arabic, whereas 43% were 'very likely' and 8% 'extremely likely' to read posts written in Arabic.

3.1.6 Impact of Demographic Variables

The role of demographic variables (age, gender, time in Saudi Arabia, time learning Arabic, and Arabic proficiency) was examined using item-level independent-samples t-tests, one-way ANOVAs, and Pearson correlations (full item-level statistics are provided in Supplementary Tables S1–S3):

Time Spent in Saudi Arabia: Table 4 presents responses to the item 'At this time, to what extent do you feel you have adapted to Saudi culture?' by time spent in Saudi Arabia:

Table 4: Perceived Adaptation to Saudi Culture by Time Spent in Saudi Arabia

Time in Saudi Arabia	<i>n</i>	<i>M</i>	<i>SD</i>
Less than a year	19	3.26	0.93
1 to 3 years	25	2.72	1.10
4 to 6 years	62	2.98	1.15
7 to 9 years	41	3.34	1.06
10 or more years	32	3.50	0.84
Total	179	3.15	1.07

One-way ANOVAs across time-in-Saudi-Arabia groups were non-significant for all items (all $p \geq .142$, all $\eta^2 \leq .039$) except perceived adaptation to Saudi culture, $F(4, 174) = 2.706$, $p = .032$, $\eta^2 = .059$ (see Figure 2A). Perceived adaptation was lowest among participants resident for 1–3 years ($M = 2.72$), and highest among those are participants resident for 10 or more years ($M = 3.50$); the only pairwise difference surviving Bonferroni correction was between these two groups ($p = .037$, $d = 0.81$). Notably, participants resident for less than a year ($M = 3.26$) reported higher perceived adaptation than participants resident for 1–3 years, a dip-and-recovery pattern.

Time Learning Arabic: One-way ANOVAs by time spent learning Arabic were non-significant for all items except three Arabic-language use items: likelihood of posting in Arabic, $F(4, 174) = 6.973$, $p < .001$, $\eta^2 = .138$; time spent viewing posts in Arabic, $F(4, 174) = 5.617$, $p < .001$, $\eta^2 = .114$; and likelihood of chatting in Arabic, $F(4, 174) = 3.658$, $p = .007$, $\eta^2 = .078$. Bonferroni-corrected comparisons showed that participants who had studied Arabic for 10 or more years scored higher than those with 1–3 years of study on all three items (posting: $d = 0.96$; viewing: $d = 0.84$; chatting: $d = 0.68$, all corrected $p \leq .005$), with additional significant contrasts against the 4–6-year group (posting) and the under-one-year group (viewing).

Arabic Language Proficiency: The composite Arabic proficiency score correlated significantly with likelihood of posting in Arabic, $r = .24$, 95% CI [.10, .38], $p = .001$; time spent viewing posts in Arabic, $r = .31$ [.17, .44], $p < .001$; feeling prepared to adjust to Saudi culture, $r = .17$ [.03, .31], $p = .019$; perceived adaptation to Saudi culture, $r = .45$ [.32, .56], $p < .001$; and extent of interaction with Saudi students, $r = .43$ [.31, .55], $p < .001$ (see Figure 2B). Correlations with the remaining items, including making Saudi friends and overcoming adjustment challenges, were non-significant ($|r| \leq .14$). In a multiple regression predicting perceived adaptation ($R^2 =$

.25), Arabic proficiency ($\beta = .47$, 95% CI [.34, .60], $p < .001$) and time in Saudi Arabia ($\beta = .16$ [.02, .30], $p = .022$) were significant predictors, whereas time learning Arabic ($\beta = -.00$ [-.14, .13], $p = .947$), age ($\beta = -.15$ [-.29, .00], $p = .057$), and gender ($\beta = .22$ [-.10, .53] for female relative to male, $p = .174$) were not.

Age: One-way ANOVAs revealed no significant differences by age group on any item, all $F(5, 173) \leq 1.934$, all $p \geq .091$, all $\eta^2 \leq .053$.

Gender: Independent sample t-tests revealed no significant gender differences on the adaptation items (all $p \geq .115$, all $|d| \leq .26$), with one exception: men reported spending more time viewing Arabic-language posts than women, $t(177) = 2.05$, $p = .042$, $d = 0.34$, an effect that does not survive correction for the number of comparisons. Qualitative data suggested some gender-specific patterns in platform preferences and usage contexts, which are discussed in the qualitative findings section.

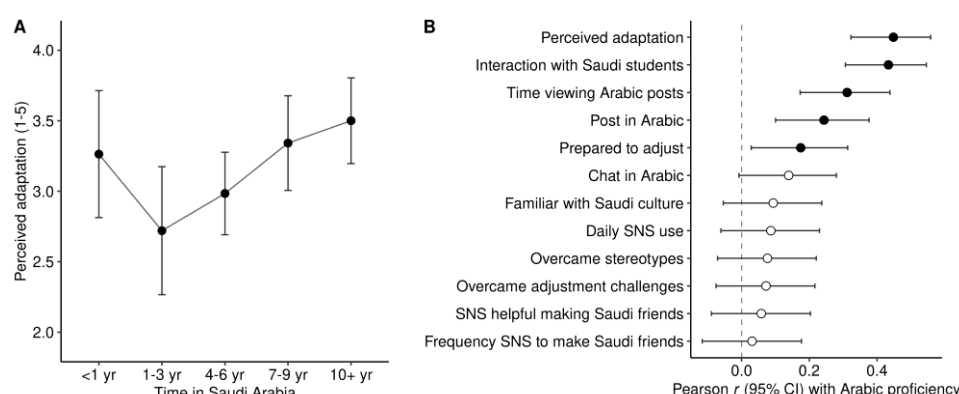


Figure 2: (A) Perceived adaptation to Saudi culture by time spent in Saudi Arabia (means with 95% confidence intervals). (B) Pearson correlations (with 95% confidence intervals) between the Arabic proficiency composite and the individual questionnaire items; filled points denote $p < .05$.

3.2 Qualitative Findings

There were five themes developed from the results of the qualitative methodology:

3.2.1 Theme 1: Useful Social Media Networks

Participants identified specific social media platforms that were particularly valuable for their adaptation process. WhatsApp emerged as the most essential platform for daily communication, with participants describing it as “the lifeline” for staying connected with both home country contacts and new friends in Saudi Arabia. One participant explained:

“WhatsApp is everything here. Everyone uses it – my professors, classmates, even the grocery store owner. If you don’t have WhatsApp, you’re basically disconnected from everything.”

Instagram was valued for its visual nature, allowing students to explore Saudi culture through images and videos. Participants followed Saudi influencers, cultural accounts, and university pages to learn about local events, fashion, food, and social norms. Twitter was particularly useful for accessing news and engaging in discussions about current events in Saudi Arabia.

Snapchat was mentioned as important for maintaining close friendships, with its ephemeral nature creating a sense of intimacy and immediacy. YouTube served as an educational resource, with participants watching videos about Saudi culture, Arabic language lessons, and practical guides for living in Saudi Arabia.

Participants emphasized that different platforms served different purposes, and effective adaptation required strategic use of multiple platforms. As one participant noted:

“I use different apps for different things. WhatsApp for talking to my family, Instagram to see what’s happening in Saudi culture, Twitter for news, and YouTube to learn Arabic. Each one helps me differently.”

3.2.2 Theme 2: Social Media and Saudi Culture

Participants described social media as a “cultural window” that provided insights into Saudi society that would otherwise be difficult to access. Given the gender-segregated nature of many public spaces in Saudi Arabia and the initial language barriers, social media offered a way to observe and learn about Saudi culture from a comfortable distance before engaging directly.

Several participants mentioned following Saudi lifestyle bloggers and influencers who shared content about daily life, traditions, and cultural practices. This content helped students understand cultural nuances, appropriate behavior, and social expectations. One participant explained:

“Before I came here, I had a lot of stereotypes about Saudi Arabia. But through social media, I saw real Saudi people living their lives, and it changed my perspective. I learned that there’s so much diversity here, and people are much more open-minded than I expected.”

Participants also noted that social media helped them navigate cultural differences and avoid misunderstandings. By observing how Saudis communicated online, students learned about communication styles, humor, and social etiquette. Several participants mentioned that social media helped them understand the importance of family in Saudi culture, religious practices, and gender norms.

However, participants also acknowledged that social media presented an idealized version of Saudi culture and that real-life experiences sometimes differed from online representations. This awareness led students to use social media as a starting point for cultural learning while remaining open to adjusting their understanding through direct experiences.

3.2.3 Theme 3: Making Friendships

Social media played a crucial role in facilitating friendships between international students and Saudi nationals. Participants described how social media lowered the barriers to initial contact and provided a less intimidating environment for cross-cultural communication compared to face-to-face interactions.

Several participants mentioned joining university-related social media groups where they connected with Saudi students who shared similar academic interests or hobbies. These online connections often transitioned to offline friendships. One participant shared:

“I met my best Saudi friend through a university Instagram page. We started commenting on each other’s posts, then we started messaging, and eventually we met in person. Now we hang out all the time. I don’t think I would have had the courage to approach her in person at first because of the language barrier and cultural differences.”

Participants also noted that social media friendships helped them feel less isolated and more integrated into Saudi society. The ability to maintain ongoing communication through social media strengthened these friendships and provided continuous cultural learning opportunities. Several participants mentioned that their Saudi friends helped them navigate cultural challenges, explained cultural practices, and invited them to cultural events and family gatherings.

However, participants also acknowledged challenges in developing deep friendships through social media alone. While social media facilitated initial connections, meaningful friendships required offline interactions and shared experiences. Some participants expressed frustration

that online interactions sometimes remained superficial and did not always translate into close friendships.

3.2.4 Theme 4: Overcoming Adjustment Challenges

Participants described how social media helped them overcome various adjustment challenges, including homesickness, loneliness, cultural confusion, and practical difficulties. The ability to maintain close contact with family and friends in their home country through video calls, messaging, and social media posts provided emotional support during difficult periods.

One participant described the emotional comfort of social media connection:

“When I feel homesick, I just open WhatsApp and video call my family. It’s like I’m there with them, even though I’m thousands of miles away. I feel like I am close to home, even though I am far away.”

Participants also valued online communities of international students in Saudi Arabia, which served as support networks for sharing experiences, advice, and coping strategies. These communities helped students realize they were not alone in their struggles and provided practical solutions to common challenges.

Social media also helped students overcome practical challenges by providing access to information and resources. Participants mentioned using social media to find housing, buy and sell items, locate halal restaurants, arrange transportation, and access healthcare services. Facebook groups and WhatsApp groups dedicated to international students in specific cities were particularly valuable for this purpose.

Several participants noted that social media helped them maintain a sense of identity and continuity during the adaptation process. By staying connected to their home culture through social media, students felt less pressure to completely abandon their cultural identity and could navigate adaptation at their own pace.

3.2.5 Theme 5: Sense of Community

A prominent theme across interviews was how social media fostered a sense of community and belonging. Participants described feeling part of multiple communities simultaneously: their home country community, the international student community in Saudi Arabia, and increasingly, the Saudi community.

Social media enabled students to maintain strong ties with their home community while building new connections in Saudi Arabia. This dual belonging was described as essential for psychological well-being and successful adaptation. One participant explained:

“Social media lets me be in two places at once. I can share my experiences here with my friends back home, and I can also be part of what’s happening in Saudi Arabia. I don’t have to choose between my old life and my new life... I can have both.”

Participants also described how social media helped them find and connect with others who shared similar experiences, creating a sense of solidarity and mutual understanding. International student groups on social media provided spaces where students could express frustrations, celebrate successes, and support each other through the adaptation process.

Several participants mentioned that social media helped them feel more connected to the global community and less isolated in Saudi Arabia. The ability to access international news, entertainment, and cultural content helped students maintain a sense of connection to the wider world while adapting to their new environment.

4 Discussion

The findings of this study provide important insights into the role of social media in international students' intercultural adaptation. Both quantitative and qualitative results demonstrate that social media serves as a multifaceted tool that facilitates various aspects of the adaptation process.

4.1 Social Media as a Bridge Between Cultures

Consistent with Berry's (1997) acculturation framework, the findings suggest that social media enables an integration strategy, where students maintain connections with their home culture while simultaneously engaging with the host culture. This dual engagement appears to support positive adaptation outcomes, as students do not experience the stress of choosing between cultures but can navigate both simultaneously.

The findings align with previous research (Xu, 2022; Yau et al., 2019), which found that balanced use of social media for both home and host culture connections was associated with better adaptation outcomes. In the Saudi Arabian context, this balance appears particularly important given the significant cultural distance many students experience between their home culture and Saudi culture.

4.2 Social Media and the U-Curve Model

The relationship between time spent in Saudi Arabia and social media-facilitated adaptation outcomes provides interesting insights into the U-curve model of cultural adjustment (Lysgaard, 1955). Time spent in Saudi Arabia was unrelated to most social media use and adaptation items; the single significant difference concerned perceived adaptation, whose pattern was consistent with a U-shaped trajectory: perceived adaptation was relatively high in the first year, dipped among participants resident 1–3 years, and rose progressively thereafter to its highest level among those resident 10 or more years. This dip-and-recovery pattern maps closely onto the honeymoon, culture-shock, and adjustment phases proposed by the model (Brutt-Griffler et al., 2020; Ni et al., 2025).

The findings also suggest that social media may help mitigate the severity of culture shock by providing continuous access to support, information, and cultural learning resources. The ability to seek advice from other international students, maintain home culture connections, and gradually learn about other cultures through social media may smooth the adaptation trajectory and reduce the severity of the U-curve's depth. Findings that were consistent with other studies (Li, 2023; Wong & Liu, 2024)

4.3 Language Learning and Social Media

The significant relationship between Arabic language proficiency and social media-facilitated adaptation highlights the importance of language in intercultural adaptation, consistent with Kim's (2000) integrative theory. Social media appears to create a reciprocal relationship with language learning: language skills enable more effective social media engagement with host culture content, while social media provides authentic language practice opportunities. International students benefited from social media to improve their target language proficiency, similar to other studies (Alsulami, 2021; Gaitán-Aguilar et al., 2022)

This finding has practical implications for supporting international students' adaptation. Language learning programs could incorporate social media-based activities that encourage students to engage with Arabic-language content, follow Saudi accounts, and practice communication with Arabic speakers online. Such integration could enhance both language learning and cultural adaptation simultaneously.

4.4 Social Media Affordances and Adaptation Functions

The qualitative findings reveal that different social media platforms serve different adaptation functions, consistent with Zhang & Ting's (2024) research on social media affordances. WhatsApp's messaging features support both home culture maintenance and host culture communication; Instagram's visual nature facilitates cultural observation and learning; Twitter enables engagement with news and public discourse; YouTube provides educational content; and Snapchat supports intimate friendship maintenance.

This platform diversity suggests that effective adaptation requires strategic use of multiple platforms, each leveraged for its particular strengths. Students who develop sophisticated social media literacy (understanding which platforms to use for which purposes) may experience more successful adaptation outcomes.

5 Conclusion

This study investigated the impact of social media on the intercultural adaptation process of international students through a mixed-methods approach. The findings demonstrate that social media serves as a crucial tool for facilitating multiple aspects of adaptation, including making friends with host nationals, learning about host culture, preparing for adjustment challenges, practicing language skills, and maintaining psychological well-being through home culture connections.

Quantitative results revealed that international students in Saudi Arabia are active social media users who leverage these platforms for adaptation purposes. Age and gender were largely unrelated to social media use and adaptation items, whereas time spent in Saudi Arabia was associated with perceived adaptation in a U-shaped pattern, and time spent learning Arabic and Arabic language proficiency were associated with Arabic-language use on social media, perceived adaptation, and interaction with Saudi students. Qualitative findings provided rich insights into the specific ways students use different social media platforms, the cultural learning that occurs through social media, the role of social media in friendship development, and how social media helps overcome adjustment challenges while fostering a sense of community.

The findings suggest that social media enables an integration acculturation strategy, where students maintain home culture connections while simultaneously engaging with the host culture, leading to positive adaptation outcomes.

5.1 Practical Implications

The findings have several practical implications for supporting international students. Universities should recognize social media as a valuable tool for adaptation and integrate social media strategies into orientation programs and ongoing student support services. This may include creating official social media groups for international students, providing guidance on useful cultural accounts to follow, and facilitating online interaction between international and local students.

Language programs may also benefit from incorporating social media-based activities that encourage students to engage with authentic local content, follow local accounts, and communicate with native speakers online. Such integration can support language development while also enhancing students' cultural adaptation. In addition, universities should facilitate the development of online peer support networks through which international students can share experiences, advice, and coping strategies. These networks may be organized according to nationality, region, or shared interests in order to increase their relevance and promote sustained engagement.

Orientation programs should also include cultural competence training that helps students use social media effectively for cultural learning. This training should guide interpreting cultural content, avoiding stereotypes, and developing online connections that may later support offline friendships. Finally, some students may require support in developing social media literacy skills so that they can use these platforms strategically for adaptation. Universities could therefore offer workshops or resources that focus on effective and purposeful social media use in the context of cultural adjustment.

5.2 Limitations and Considerations

While the findings demonstrate many positive effects of social media on adaptation, it is important to acknowledge potential limitations and negative effects. Some participants mentioned that excessive focus on home culture connections through social media could sometimes inhibit engagement with the host culture. Additionally, social media can create unrealistic comparisons and intensify homesickness when students observe life in their home country from afar. The study's reliance on snowball sampling limits generalizability. Future research could employ longitudinal designs to track adaptation trajectories over time and examine causal relationships between social media use and adaptation outcomes. Additionally, research could explore potential negative effects of social media use and identify optimal patterns of use that maximize benefits while minimizing drawbacks.

Furthermore, the quantitative instrument relied on self-reported data collected at a single point in time; common method bias may have influenced the relationships among social media use and perceived adaptation outcomes. Several procedural steps were used to reduce this risk. The questionnaire collected factual, behavioral, and attitudinal data in separate sections, reducing item redundancy and limiting the likelihood that participants would respond consistently to all items based on a single general attitude. Responses were anonymous, and no identifying information, such as names, university majors, or personal contact information, was collected. The questionnaire also included open-response items that allowed participants to elaborate on their answers. In addition, the sequential explanatory design used follow-up interviews to contextualize and elaborate on the questionnaire findings. Nevertheless, because the quantitative data remained self-reported and cross-sectional, common method bias cannot be ruled out completely.

5.3 Future Research Directions

Several directions for future research emerge from this study. Future research should employ longitudinal designs to examine how patterns of social media use and adaptation outcomes change over time. Such designs would provide clearer insights into possible causal relationships and the trajectories through which international students adapt in society.

Comparative studies are also needed to examine international students' social media use and adaptation across different cultural contexts, such as other Middle Eastern countries and Western countries. This line of inquiry could reveal how cultural context shapes the role of social media in the adaptation process. In addition, platform specific research would offer a more nuanced understanding of how particular social media platforms and features support different adaptation functions. Such research could also provide more practical guidance for universities and support services.

Future studies should also examine the possible negative effects of social media use on adaptation. These may include excessive focus on the home culture, social comparison, and difficulties in balancing online and offline engagement. Finally, experimental or quasi-experimental studies that test social media-based interventions could provide stronger evidence

regarding effective practices and support strategies for enhancing international students' adaptation.

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Appendix

Supplementary Tables

Supplementary Table S1. Gender comparisons on all items (independent-samples *t*-tests, *df* = 177)

Item	M (male)	M (female)	t	p	Cohen's d
Daily SM use	3.12	3.24	-0.94	.349	-0.16
Post in Arabic	3.46	3.18	1.58	.115	0.26
Time viewing Arabic posts	3.50	3.20	2.05	.042	0.34
Chat in Arabic	3.38	3.12	1.48	.140	0.25
SM helpful making Saudi friends	2.68	2.88	-1.08	.281	-0.18
Frequency SM to make Saudi friends	2.53	2.48	0.29	.775	0.05
Familiar with Saudi culture	3.16	3.24	-0.46	.647	-0.08
Prepared to adjust	2.67	2.58	0.46	.649	0.08
Overcame stereotypes	3.29	3.26	0.17	.864	0.03
Overcame adjustment challenges	3.19	3.16	0.14	.886	0.02
Perceived adaptation	3.09	3.30	-1.16	.248	-0.19
Interaction with Saudi students	3.29	3.32	-0.20	.844	-0.03

Note. *n* = 129 male, 50 females. Pooled-SD *t*-tests; Cohen's *d* with pooled SD.

Supplementary Table S2a. One-way ANOVAs by age group, *F*(5, 173)

Item	F	p	η^2
Daily SM use	0.84	.524	.024
Post in Arabic	1.17	.327	.033
Time viewing Arabic posts	1.00	.420	.028
Chat in Arabic	1.93	.091	.053
SM helpful making Saudi friends	0.79	.556	.022
Frequency SM to make Saudi friends	0.54	.748	.015
Familiar with Saudi culture	0.15	.980	.004
Prepared to adjust	0.48	.788	.014
Overcame stereotypes	0.93	.465	.026
Overcame adjustment challenges	0.37	.870	.011
Perceived adaptation	0.42	.837	.012
Interaction with Saudi students	0.98	.430	.028

Supplementary Table S2b. One-way ANOVAs by time in Saudi Arabia, *F*(4, 174)

Item	F	p	η^2
Daily SM use	0.32	.864	.007
Post in Arabic	0.61	.653	.014
Time viewing Arabic posts	0.23	.919	.005
Chat in Arabic	1.22	.303	.027
SM helpful making Saudi friends	0.45	.769	.010
Frequency SM to make Saudi friends	1.16	.333	.026
Familiar with Saudi culture	0.33	.857	.008
Prepared to adjust	0.62	.650	.014
Overcame stereotypes	0.89	.471	.020

Overcame adjustment challenges	0.69	.600	.016
Perceived adaptation	2.71	.032	.059
Interaction with Saudi students	1.74	.142	.039

Note. Bonferroni-corrected post-hoc for the significant effect (perceived adaptation): 1–3 years vs 10+ years, corrected $p = .037$, $d = 0.81$.

Supplementary Table S2c. One-way ANOVAs by time learning Arabic, $F(4, 174)$

Item	F	p	η^2
Daily SM use	1.20	.311	.027
Post in Arabic	6.97	<.001	.138
Time viewing Arabic posts	5.62	<.001	.114
Chat in Arabic	3.66	.007	.078
SM helpful making Saudi friends	1.20	.313	.027
Frequency SM to make Saudi friends	1.88	.116	.041
Familiar with Saudi culture	0.65	.627	.015
Prepared to adjust	0.72	.582	.016
Overcame stereotypes	0.28	.890	.006
Overcame adjustment challenges	1.54	.192	.034
Perceived adaptation	0.60	.660	.014
Interaction with Saudi students	1.76	.140	.039

Note. Bonferroni-corrected post-hocs: posting in Arabic, 10+ vs 1–3 years ($p < .001$, $d = 0.96$) and vs 4–6 years ($p = .005$, $d = 0.96$); viewing Arabic posts, 10+ vs 1–3 years ($p < .001$, $d = 0.84$) and vs <1 year ($p = .049$, $d = 0.77$); chatting in Arabic, 10+ vs 1–3 years ($p = .005$, $d = 0.68$).

Supplementary Table S3. Pearson correlations of the Arabic proficiency composite ($\alpha = .86$) with all items

Item	r	95% CI	p
Daily SM use	.09	[−.06, .23]	.251
Post in Arabic	.24	[.10, .38]	.001
Time viewing Arabic posts	.31	[.17, .44]	<.001
Chat in Arabic	.14	[−.01, .28]	.064
SM helpful making Saudi friends	.06	[−.09, .20]	.439
Frequency SM to make Saudi friends	.03	[−.12, .18]	.681
Familiar with Saudi culture	.09	[−.05, .24]	.214
Prepared to adjust	.17	[.03, .31]	.019
Overcame stereotypes	.08	[−.07, .22]	.310
Overcame adjustment challenges	.07	[−.08, .22]	.338
Perceived adaptation	.45	[.32, .56]	<.001
Interaction with Saudi students	.43	[.31, .55]	<.001

Note. $N = 179$. Composite = mean of four self-rated Arabic skills (listening, speaking, reading, writing).

Supplementary Table S4. Exploratory factor analysis: oblimin-rotated pattern matrix (principal-axis factoring, 12 items)

Item	F1 Adjustment	F2 Arabic use	F3 Friendship	h^2
Q9. Daily SM use	−.07	.14	.36	.14
Q10. Posting in Arabic	.03	.78	.06	.65
Q11. Viewing posts in Arabic	.05	.71	−.14	.49
Q12. Chatting in Arabic	−.10	.63	.11	.41
Q13. SM effectiveness making Saudi friends	.02	−.04	.82	.68
Q14. Reliance on SM to make Saudi friends	.05	.06	.76	.65
Q15. Familiarity with Saudi culture	.75	−.08	−.04	.50
Q16. Feeling prepared to adjust	.74	−.05	.14	.70
Q17. Overcoming stereotypes	.74	.07	.00	.58
Q18. Overcoming adjustment challenges	.42	.18	.09	.32
Q19. Perceived adaptation	.67	.06	−.05	.43
Q24. Interaction with Saudi students	.30	.11	.04	.14

Note. $KMO = .82$; Bartlett's $p < .001$. Parallel analysis suggested four factors, but the four-factor solution produced an ultra-Heywood case (communality > 1) and was rejected. Primary loadings $\geq .32$ in bold face in the manuscript's Table 2. Factor correlations: $F1-F2 = .27$, $F1-F3 = .71$, $F2-F3 = .22$; cumulative variance explained = 47.5%. Q9 and Q24 show communalities $< .30$ and were retained for content coverage (see sensitivity model in Table S5).

Supplementary Table S5. Confirmatory factor analysis: model comparison (MLR, robust fit indices)

Model	χ^2 (df)	p	CFI	TLI	RMSEA [90% CI]	SRMR
Three-factor, 12 items (primary)	76.71 (51)	.011	.958	.945	.057 [.027, .081]	.057
One-factor, 12 items	210.78 (54)	<.001	.740	.682	.136 [.117, .156]	.107
Three-factor, 10 items (sensitivity; Q9, Q24 excluded)	36.02 (32)	.286	.992	.989	.029 [.000, .069]	.047
One-factor, 10 items	162.52 (35)	<.001	.760	.691	.156 [—]	.117

Note. Scaled χ^2 (Satorra–Bentler). The three-factor model outperformed the one-factor model for the 12-item set, $\Delta\chi^2(3) = 122.07$, $p < .001$. Discriminant validity of the three factors: HTMT = .31 (Arabic use–friendship), .35 (Arabic use–adjustment), .78 (friendship–adjustment), all below .85.