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Arabic or English? Multilingual users' preferences in Dubai ATM transactions

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Language choice or preference, that is the deliberate selection of language(s) for different purposes in different contexts, situations and domains, is a complex sociolinguistic phenomenon as it is usually motivated by numerous sociolinguistic factors. This study investigates language choice between Arabic and English during automated teller machine (ATM) transactions in Dubai, a cosmopolitan city in the United Arab Emirates (UAE), and aims at exploring the factors influencing these preferences. The data were collected, using a survey questionnaire, from 566 ATM users in Dubai. The findings reveal that nearly all non-Arab participants favor English over Arabic for ATM transactions, irrespective of their length of stay in the country and their proficiency level in English and Arabic, given that Dubai ATMs offer only these two languages. On the other hand, Arab participants, including UAE nationals and Arab expatriates, tend to use Arabic more frequently than English. However, those residing in Dubai show a greater preference for English compared to those living outside Dubai. Additional factors such as age, gender, level of education, occupation, and comfort with technology were also investigated. This research illuminates the prevalent use and elevated status of English in Dubai, affirming its significance among both native and non-native Arabic speakers. Furthermore, it offers insight into the linguistic resources employed by individuals in transactional exchanges, contributing to our understanding of the complex relationship between language contact, language attitudes, language choice, and technology adoption within a multilingual urban setting. The findings underscore the importance of examining linguistic preferences within specific subdomains of multilingual communities.

KEYWORDS

Dubai, language preference, globalization, English as a *lingua franca*, ATM transactions, multilingualism, transnational language contact

1 Introduction

This study focuses on language choice or preference during automated teller machine (ATM) transactions in the city of Dubai in the United Arab Emirates (UAE). Its purpose is to explore the factors influencing ATM users' preferences between Arabic and English as the language for their transactions in this specific context. The dynamic of language choice (i.e., which language to use, for what purpose, and in which situation, context, or domain) is very complex, as it is motivated by various sociolinguistic factors. Fishman's concept of "domain analysis" emphasizes the role of specific social domains or contexts in shaping language choice (Fishman, 1965, 1972). According to this framework, individuals and communities strategically select languages based on factors such as family, education, religion, and work,

illustrating the adaptability of language preferences to different social situations.

Language choice not only reflects personal identity and background but also acts as a bridge connecting diverse communities (Berray, 2019). The dynamic interplay of language preferences in complex urban environments enhances our understanding of how intercultural dialog, identity negotiation, and integration unfold. Language preference, the deliberate selection of a specific language or languages for communication, is crucial for unraveling the intricate mechanisms guiding language choices and the sociolinguistic dynamics at play across diverse contexts (Taguchi and Ishihara, 2018; Canagarajah, 2020). Moreover, it plays an essential role in shaping and reflecting linguistic identities, as individuals and communities often associate their language preferences with social, racial, or cultural affiliations (Fuller, 2008; Norton, 2013; Yildirim, 2020).

While recognizing the fundamental differences between human-human and human-machine interactions, this study leverages ATMs as a site to examine language preference in technologically mediated environments. It demonstrates that these interactions, though constrained by technology, reflect broader linguistic patterns and social interactions characteristic of Dubai's multilingual society. This analysis further extends our understanding of sociolinguistic phenomena by showing how language choices at ATMs, despite the non-generative nature of such interactions, mirror the complex interplay of identity, community affiliation, and social norms prevalent in human communication.

Dubai's social fabric is a linguistic melting pot, with a rich blend of languages including Arabic, English, Bengali, French, Farsi, Hindi, Malayalam, Pashto, Punjabi, Somali, Tagalog, Urdu, and more (Hopkyns, 2020; Siemund et al., 2021; Lorenz, 2022; Ahmad, 2023). Despite this diversity, English functions as the *lingua franca*, and Arabic is the official language of the country. Consequently, these two languages are predominantly used in official and commercial communications, such as at ATM machines and public services. Investigating the language choices in Dubai not only unveils the complexities posed by diverse languages but also sheds light on how people and communities navigate these linguistic challenges to go about their daily transactions.

ATMs are critical interaction points between individuals and financial services, providing a unique context for exploring language preferences. Unlike face-to-face interactions, ATMs offer a limited set of language options, compelling users to explicitly choose from the available languages. This choice, often made under time constraints to ensure transactional accuracy, reveals deeper sociolinguistic patterns. Understanding language preference in ATM contexts provides insights into how individuals navigate linguistic options in high-stakes, practical situations and how demographic variables influence these choices. By focusing on the specific context of ATM transactions, this study aims to offer a nuanced understanding of language preference in a technologically mediated environment, reflecting broader sociolinguistic trends in a multilingual urban setting like Dubai.

The following sections offer background information to contextualize our exploration. First, we give an overview of the UAE and Dubai, highlighting the cultural and linguistic diversity of the population. We then discuss the status of Arabic, the official language of the UAE, alongside the prevalence of English as a *de facto lingua franca*. This is followed by a discussion about the significance of studying transactional and transnational language contact. Within this

framework, we discuss the importance of studying language preference in a specific context and review the few existing studies relevant to language preference during ATM transactions. The final sections detail our approach to data collection and analysis, present the findings, and discuss the hypotheses posed.

1.1 Overview of the UAE and Dubai

Located on the Arabian Peninsula, the UAE is a country known for its flourishing economy, rich history, and diverse population. Its strategic location at the crossroads of East and West has made the UAE a global center for trade, banking, tourism, and innovation (Bagaean, 2007). Following the discovery of oil in the early 1960s, a significant influx of foreign laborers, initially from Middle Eastern countries and later from South Asian nations, shaped the country's demographic landscape (Humphrey, 1991; Kapiszewski, 2006; Al-Issa, 2021; Siemund et al., 2021). The UAE now offers a wide range of employment opportunities across various sectors. Its thriving industries have generated a high demand for skilled and unskilled labor (Buckley et al., 2016; Ewers, 2016), attracting significant numbers of workers from countries such as India, Pakistan, Bangladesh, the Philippines, and more (Kemp, 2012; Leimgruber et al., 2022).

The UAE's linguistic landscape has been significantly shaped by a blend of historical and contemporary influences. During the 19th and 20th centuries, the UAE was under British protection, which introduced English for communication and administration, profoundly impacting the region's linguistic diversity (Siemund et al., 2021; Hopkyns and Melanie, 2022; Leimgruber et al., 2022). After gaining independence in 1971, Arabic remained the official language and symbol of cultural heritage. However, English quickly gained prominence as a *lingua franca*, influenced by the British colonial legacy and Dubai's strategic emergence as a global trading hub. North American influences also became significant in sectors such as higher education, oil exploration, and business (Anwar and Chaker, 2003; Badry and Willoughby, 2015). The influx of multinational corporations, particularly from North America, reinforced English as the dominant language in these sectors. Globalization has further accelerated the spread of English in Dubai and the broader UAE, embedding it deeply into commerce, education, and administration (Al-Issa and Dahan, 2011).

According to a recent estimate, the UAE's total population was 10,082,000 as of 2022, with immigrants comprising 88.1% of this total (The World Factbook, 2023). Most of these immigrants come from South Asian countries, including India, Bangladesh, Pakistan, Indonesia, the Philippines, Nepal, and Sri Lanka, each with distinct and mutually unintelligible languages (Ahmad, 2023). Due to its influential status, English now serves as a common language, bridging the gap between these diverse communities and facilitating effective communication. While languages such as Malayalam, Tamil, Urdu, Hindi, Bengali, and Telugu are spoken by various immigrant groups in the UAE, English's role, shaped by its historical legacy and enhanced by its global utility, has made it the predominant choice for intercultural communication, trade, education, and daily interactions.

Dubai, located in the heart of the UAE, represents the country's dynamic progress and stands as its economic center (Kathiravelu, 2016). The city's evolution from a modest trading port to a premier global metropolis and financial hub is attributed to strategic planning

and a commitment to modernization (Gupte, 2011). Known for its multicultural and diverse character, Dubai exemplifies a modern cosmopolitan city that embraces diversity (Piller, 2018). While the city strives for equal opportunities for both dominant and non-dominant groups (Hui et al., 2015), it is important to acknowledge that laborers and domestic workers, often unable to provide visas for their family members due to low incomes, may experience significant challenges that contradict this ideal. Dubai's strategic vision, advantageous location, and progressive policies have solidified its status as an economic powerhouse. However, these policies also face criticism. For instance, while the establishment of free zones such as Dubai International Financial Centre (DIFC), Dubai Internet City, and Dubai Science Park has encouraged entrepreneurship and drawn foreign investment (Weaver, 2015; Hafeez et al., 2016), concerns about labor rights and equitable treatment persist.

Today, Dubai is home to an international population comprising individuals from over 100 different countries, creating a linguistic melting pot (Pagès-El Karoui, 2021) with a multitude of languages spoken among expatriates (Ahmed, 2020; Karolak, 2020; Gu and Almanna, 2023). The city's multicultural makeup, however, is not uniformly distributed but varies significantly across different neighborhoods. Al Karama and Bur Dubai, for instance, are known for their dense populations of South Asian expatriates, where languages such as Hindi, Urdu, Malayalam, and Tamil are prevalent. In contrast, newer areas like Dubai Marina and Jumeirah Lakes Towers have a higher concentration of European and North American expatriates, with English as the predominant language. Local Emiratis predominantly reside in newer residential areas such as Mirdif, Al Khawanej, Al Barsha, and Umm Suqeim. Despite these patterns, it is important to note that both expatriates and local Emiratis are found across all areas of Dubai, including shopping malls, recreational areas, and business districts, illustrating a city with areas of integration but also notable separations based on nationality and language. For instance, labor camps for low-income workers are rigidly separated, and government schools are primarily open to Emirati nationals, reflecting certain limitations to this inclusiveness.

The presence of multiple languages in the UAE not only contributes to its diverse cultural mosaic but also has profound implications for social integration (Ganji and Rishbeth, 2020). This linguistic diversity is a direct result of the UAE's unique demographic structure, where economic migrants constitute a significant majority of the population. Unlike in many other postcolonial nations, these migrants are predominantly short-term residents without eligibility for permanent residency (Boyle, 2012). Central to this transient residency is the Kafala system, a sponsorship-based framework that ties a worker's legal status to their employer or sponsor (Kafeel), requiring workers to leave the country once their employment ends unless they secure new sponsorship (Valenta et al., 2020; GDFRAD, 2021). The significant portion of the migrant workforce that comes to the UAE typically spends just a few years in the country before returning to their home country or moving elsewhere, influenced by these immigration policies. As a result, the UAE experiences a continual influx and outflux of people, bringing a dynamic interchange of languages and cultures. Consequently, this might be a factor where Arabic, while the official language, struggles to become the *lingua franca*, as the migratory workforce does not stay long enough to achieve fluency. Instead, English and other languages continue to

proliferate, serving as practical tools for everyday communication among a diverse, ever-changing population.

1.2 The roles of Arabic and English in the UAE

Arabic is the official language of the UAE, playing a crucial role in the nation's culture and identity. The UAE places a strong emphasis on preserving and promoting Arabic, recognizing its historical and social significance. Several programs have been initiated to enhance Arabic education throughout the nation. Despite the increased focus on Arabic language education in the past decade, evidenced by initiatives like the Arabic Language Charter, Reading Law, the Arabic Reading Challenge, and the Arabic for Life Report (Salama, 2017), challenges remain in improving Arabic education in classrooms (Taha Thomure, 2019). Additionally, the UAE's educational system places significant emphasis on English, with English becoming a medium of instruction in most private schools and universities (Al-Issa, 2017), and also a co-medium of instruction alongside Arabic in some government schools, particularly in neighboring Abu Dhabi for subjects such as Math and Science.

Arabic serves as a common language among the significant number of expatriates from various Middle Eastern countries, who form a considerable portion of the UAE's population and bring a strong cultural and linguistic influence. They use Arabic for daily communication, business, and social interactions, thereby maintaining its presence in the country. In the UAE, Arabic remains essential for social integration within these communities, facilitating interactions in both personal and professional contexts. The use of Arabic among expatriates from countries such as Egypt, Jordan, Lebanon, Syria, and Iraq highlight the language's role as a vital connector for the Arabic-speaking population in the UAE. However, proficiency in English is crucial for employment, especially in organizations and industries serving international clients. The widespread availability of English-language media and the high status of English in the UAE inspire residents of all nationalities to learn and use English (Ayyad, 2011; Kennetz and Carroll, 2018). Nevertheless, most non-Arab migrants have limited opportunities or motivation to learn Arabic (Piller, 2018; Al-Issa, 2021).

Therefore, while Arabic is the UAE's official language, the dominance of English as a *de facto lingua franca* underscores the nation's international outlook and multiculturalism. Concerns have been raised regarding the future of Arabic literacy (Al-Issa, 2017; Al-Bataineh, 2020; Al-Issa and Dahan, 2022), yet English remains the primary language used for communication in Dubai. Expatriates with higher English proficiency are often more likely to secure better-paying jobs, a fact well understood among both the expatriate community and Emiratis, especially those seeking jobs in the private sector. This awareness of the socioeconomic incentives associated with English, coupled with its omnipresence in daily interactions and its dominant role in the job market, motivates residents to prioritize learning and using English over Arabic. Leimgruber et al. (2022) concluded that their Emirati participants felt "that English is the language that will help them locate employment, achieve their goals, and get far in life." Considering these realities, it is clear that English is not just a practical necessity but also a strategic asset for career advancement in the UAE.

1.3 Transactional and transnational language contact

Transactions occur in vast numbers worldwide each day. In various cities, individuals from diverse cultural and linguistic backgrounds engage in transactions with both humans and machines. While there are nations where a single language dominates, globalization has led to the ubiquitous presence of English in daily transactions across the globe. English has achieved a distinctive and central role in contemporary society, despite not having the most native speakers. This widespread use sets English apart as a global *lingua franca*.

English today serves multiple functions and is referred to by a variety of terms, including an international language, a global language, and a *lingua franca*, each underscoring its crucial role in facilitating communication across diverse language boundaries (Kachru, 1996; Brutt-Griffler, 2002; McArthur, 2004; Jenkins, 2006; Jenkins et al., 2011; Rao, 2019). The term “English as a *lingua franca*” (ELF) refers to the use of English as a common language of communication among speakers whose native languages are different, and where English is often the preferred or only option for mutual understanding (Seidlhofer, 2011). English has risen to the status of a global *lingua franca* despite encountering resistance on political and cultural fronts (Phillipson, 1992, 2008; Pennycook, 2007, 2008; Canagarajah, 2013). It now stands as the most prevalent language worldwide, dominating international institutions, business dealings, academic conferences, educational settings, research endeavors, and diverse informal cross-cultural exchanges involving both native English speakers and non-English speakers.

In today’s interconnected and transient world, multilingualism extends beyond being merely widespread; it represents a complex and evolving reality (Coulmas, 2005; Maher, 2017; Van Herk, 2018), particularly evident in cosmopolitan cities like Dubai. Here, fragmented multilingualism emerges distinctly in settings such as marketplaces, workplaces, and educational institutions, where diverse linguistic communities must adapt and tailor their language use for various social and professional engagements (Blommaert, 2010). This necessity for adaptable language skills is particularly acute in Dubai, where the constant influx of expatriates and tourists fosters a dynamic linguistic landscape. In this environment, individuals and societies do not just passively use languages; they actively mold them to fit their unique communication needs and cultural exchanges (Grosjean, 2008). To truly grasp and articulate the subtleties of a multilingual setting such as Dubai’s, one must deeply explore the linguistic behaviors and practical adaptations of its speakers (Makoni and Pennycook, 2006; Horner and Weber, 2018).

Recent sociolinguistic studies categorize workplace communication using terms such as “transnational,” “cosmopolitan,” and “superdiverse,” each highlighting different aspects of linguistic and cultural diversity in professional settings (Mondada, 2012; Wodak et al., 2012; Kingsley, 2013; Yanaprasart, 2016; Blackledge and Creese, 2017). “Transnational” refers to the cross-border movement of people and ideas, emphasizing global interconnectedness. “Cosmopolitan” describes an openness to and integration of multiple cultural perspectives. “Superdiverse” captures the complexity of diversity beyond traditional categories, considering variables like language, migration history, and socioeconomic status. Recognizing these distinctions enriches our understanding of the multifaceted nature of

workplace communication. This area of study provides critical insights into the complexities of ELF, as well as its linguistic, cultural, and social ramifications in various contexts. It enhances our understanding of the dynamic nature of ELF, emphasizing its adaptability, unpredictability, and resilience in diverse sociolinguistic settings, while deepening our knowledge of intercultural communication, as transactional and transnational contact involves negotiating meaning, understanding cultural nuances, and adapting to various communicative norms. In the emirate of Dubai, English is omnipresent across various sectors of society, making it an ideal setting for exploring ELF in transactional and transnational contexts. Due to its varied population and widespread multilingualism, Dubai presents a captivating case study for analyzing language preferences and choices among its residents.

1.4 Significance of studying language preference in specific contexts

The analysis of language preferences in ATM transactions delves into both the domain of language choice and the underlying attitudes toward the available linguistic options, specifically within the constraints of technology that offers only Arabic and English. This binary choice, imposed in a city rich with linguistic diversity, not only limits the visibility of other languages but also raises questions about the political motivations behind such language policies. It provides a critical lens for understanding how these constraints influence individuals’ linguistic decisions and reflect broader socio-political dynamics in Dubai. The term “diversity” here refers to Dubai’s rich linguistic landscape, characterized by a multitude of languages spoken by its residents. Despite this extensive linguistic diversity, the technological setup of ATMs limits user choices to Arabic and English, forcing individuals to select between the official language and the global *lingua franca* regardless of their native language. This situation highlights the practical decision-making process users undergo when interacting with ATMs and offers insights into language attitudes. The preference for one language over the other in this limited context may reflect broader social, cultural, and individual factors influencing these choices.

Researching language preference in various contexts is instrumental in understanding the intricate dynamics of language use (Blommaert, 2006). Language preference research also unveils social and power dynamics, recognizing that language selection may vary according to the activity (Kingsley, 2013; Yanaprasart, 2016). In addition, language preference plays a significant role in human identity formation, with language closely linked to culture and identity (Suleiman, 2003; Jenkins, 2007). Although language is considered a marker of identity, many other factors contribute to its formation (Hopkins, 2020), and decisions to use one language over another form integral aspects of personal and collective identities (Pennycook, 2021).

In Dubai, language choice takes on added significance due to the multilingual environment. Individuals navigate between languages and dialects to negotiate their identities while juggling multiple cultural and linguistic allegiances (Giampapa, 2004). In these contexts, language choices reflect the dynamic interplay of heritage, social surroundings, and human agency. While Arabic is a marker of Emirati identity, different ethnic groups within Dubai use various dialects and variants of Arabic and English that align with their distinct

backgrounds. Additionally, Arabic is the language of hundreds of thousands of expatriates from across the Arab world, further enriching Dubai's linguistic diversity. Choosing to use Arabic signifies Emirati identity, fostering a sense of belonging and cultural heritage (Kennetz and Carroll, 2018).

Research on multiculturalism has revealed a connection between the cultural identity of the host country and sociocultural adaptation, impacting an individual's ability to function effectively in the new context (Berry, 2005). The extent to which someone identifies with the host country also affects their motivation and attitudes toward learning the host language and using it in their new surroundings (Masgoret and Gardner, 2003). However, despite the significant cultural role of Arabic in the UAE, most non-Arab migrants in Dubai do not learn Arabic extensively. This is largely because their everyday interactions and professional engagements predominantly take place in English, which serves as a *lingua franca* across diverse ethnic and linguistic groups. As a result, while Arabic remains a strong marker of Emirati identity and cultural heritage, the practicalities of life in Dubai's cosmopolitan and transient environment often limit the acquisition and use of Arabic among the non-Arab migrant population.

The study of language preference during ATM transactions provides important insights into linguistic diversity and its impact on individuals and society. ATMs are integral to modern banking systems (Curran and King, 2008), offering an opportunity to investigate individuals' linguistic choices and strategies during routine financial interactions. ATM transactions involve user interactions with technology-mediated interfaces, providing a unique perspective for studying linguistic diversity and the influence of technology on communication. Furthermore, the selection of language at ATMs not only influences user satisfaction and accessibility but also bears significant implications for security and accountability. Incorrect or misunderstood language choices can lead to financial errors, emphasizing the critical role of clear and precise language in these settings. This underscores the necessity for ATM interfaces to be designed with an acute awareness of linguistic diversity, ensuring that all users can conduct transactions safely and without the risk of costly mistakes.

While most studies on ATMs have explored aspects such as customer satisfaction (Yavas et al., 2004), transaction speeds, security, and qualities (Joseph and Stone, 2003; Patrício et al., 2003; Al-Hawari and Ward, 2006; Mwatsika, 2016), other studies have examined customers' views on the ease of access, benefits, and challenges of ATMs in specific regions (Okafor and Ezeani, 2012; Alhumoud et al., 2015). Notably, Alhumoud et al. (2015) investigated the intersection of language, cultural perceptions, and beliefs in the context of banking interactions in Saudi Arabia, with a focus on interface design, rather than language preference. Fashoto et al. (2017) did consider language use at ATMs, particularly in Uganda, where they recommended the addition of the Ateso language to English and two other Ugandan languages, acknowledging the official status of English but clarifying that a significant portion of the population did not understand English. Similarly, Phaahla (2015) examined language choice at ATMs in South Africa, where indigenous languages were added to ATMs. The findings indicated that due to poor translations into the indigenous languages, users reverted to using English, which they were more familiar with.

To the best of our knowledge, no prior research has specifically explored the language preferences of customers at ATMs in a

multilingual city where the ATM language options are limited to two languages, Arabic and English, for conducting their financial transactions. This study aims to bridge this gap by delving into the dynamics of the bilingual setting that ATM users in Dubai encounter, focusing on the interaction between Arabic and English. Such an examination highlights not just a binary linguistic choice but situates these choices within the broader canvas of Dubai's multilingual society. It reflects on how the prominence of Arabic and English in ATM transactions mirrors wider sociolinguistic patterns and preferences amidst the city's diverse population. By investigating what motivates individuals to choose between Arabic and English at ATMs, this research illuminates the underlying factors guiding these language selections. Although the study frames the investigation around the concept of linguistic dualism (Findlow, 2006), it inherently acknowledges the complex backdrop of multilingualism within which these choices occur. This understanding of linguistic dualism is crucial because it reveals the dynamics of language contact, dominance, and the intricate multilingual fabric of the city, enhancing our comprehension of broader linguistic dynamics in Dubai.

2 Materials and methods

2.1 Data collection and approach

The data for this study have been acquired through an in-person survey questionnaire. It comprised two parts: the first addressing demographic details such as age, gender, nationality, native languages, current occupation, highest level of education, place of residence in the UAE, comfort with technology, and proficiency in Arabic and English. The second part focused on participants' language preference (English or Arabic) during ATM transactions, along with the reasons behind their choice and their perception of the language commonly used by others in Dubai for ATM transactions.

The survey was available in both English and Arabic, allowing participants to choose the language in which they felt most comfortable. Interestingly, however, all participants opted for the English version. To ensure the survey's clarity and efficiency, a pilot phase was conducted, recognizing the time constraints of ATM users. The survey, typically taking 3–4 min to complete, aimed to minimize any inconvenience to participants. Most respondents completed the survey independently, with only a few seeking clarifications from the research team. Ethical considerations were rigorously followed during the data collection process. Participants were provided with detailed explanations of the survey's purpose, and their willingness to participate was sought. Those who agreed were presented with consent forms in either English or Arabic, emphasizing the confidentiality and anonymity of their responses.

A team of three bilingual research assistants conducted the surveys in person over an eight-week period at three strategically selected locations in Dubai: Dubai Mall, Mirdif City Center, and Festival City. These indoor shopping malls, chosen deliberately for their diverse visitor demographics and geographic spread across different neighborhoods, aimed to ensure a representative sample. The team approached individuals either waiting in line at ATMs or those who had just completed their transactions, clearly identifying themselves as university researchers with visible badges. When interacting with participants, research assistants initially greeted them

in both Arabic and English, then continued the survey in whichever language the participant responded with or showed preference for. Despite encountering challenges such as time constraints and language barriers, the research team experienced a positive overall response from individuals at ATMs. While some were too busy to participate or faced language challenges, most were willing to share their insights. A total of 566 people completed the survey.

2.2 Data analysis

Data were entered into Microsoft Excel, cross-checked for accuracy and analyzed using Minitab version 21.4. Descriptive statistics were calculated for participant demographic information in the form of percentages for categorical variables and mean \pm standard deviation (SD) for the continuous variable length of stay. Pie-chart graphs were used to depict the data for each hypothesis. The purpose of the statistical analysis was to examine the relationships between various demographic variables and language preferences at ATMs in Dubai. Bivariate associations between categorical variables were analyzed using the Pearson Chi-square test. Wilcoxon signed-rank test was used to test the difference in the locations of two non-normally distributed populations. $p < 0.05$ are considered statistically significant.

2.3 Hypotheses

In the multilingual context of the UAE, we posit that distinct groups of individuals, influenced by their primary language and various other factors, will exhibit varying preferences for English and Arabic when using ATMs. This study seeks to explore seven hypotheses that underpin the investigation. These hypotheses are as follows:

- 1 In general, regardless of their length of stay in the country and their level of proficiency in English and Arabic, non-Arabs tend to predominantly select English as their preferred language for ATM transactions.
- 2 Overall, Arabs (both UAE nationals and Arab expatriates) are more likely to use Arabic for their ATM transactions compared to non-Arabs, with those Arabs living outside Dubai using Arabic more.
- 3 UAE nationals are more inclined to use English for their ATM transactions compared to Arab expatriates.
- 4 Arabs (both UAE nationals and Arab expatriates) with higher levels of education are more inclined to opt for English when using ATMs, while those with lower educational levels are more likely to choose Arabic.
- 5 Arab expatriates in higher paid jobs/occupations are more likely to opt for English for their ATM transactions.
- 6 Younger Arabs (both UAE nationals and Arab expatriates) are more likely to opt for English when conducting ATM transactions, whereas older Arab expatriates are more inclined to use Arabic.
- 7 Arabs (both UAE nationals and Arab expatriates), who are comfortable with technology, are more likely to choose English when using ATM machines, whereas those who are not comfortable are more inclined to use Arabic.

Section 3 presents the summary statistics of the sample data and the analysis results for each hypothesis, followed by a discussion of the findings and insights in Section 4.

3 Results

Table 1 provides a summary of the demographic information of the 566 survey participants.

3.1 Hypothesis 1

The first hypothesis posits that “In general, regardless of their length of stay in the country and their level of proficiency in English and Arabic, non-Arabs tend to predominantly select English as their preferred language for ATM transactions.” It is clear from the pie chart plot in Figure 1 that the vast majority of non-Arab participants, 99.7%, use English at ATM. This preference remains consistent even when considering the average length of stay in the UAE, which is 11.97 years with 95% confidence interval (10.90, 13.01), showing that their length of stay in the UAE did not appear to impact their choice of the language at ATM.

TABLE 1 Participant demographics.

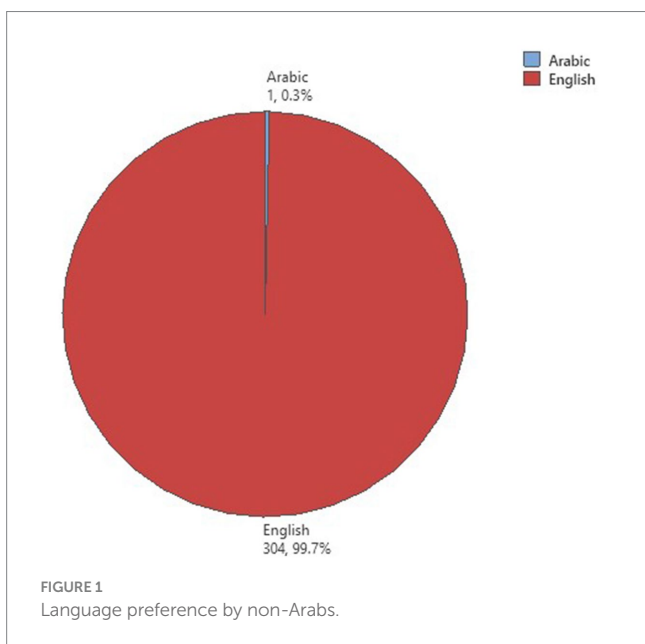
Demographics	<i>n</i> (%)
Gender	
Male	400 (70.7)
Female	166 (29.3)
Education	
Less than bachelor's degree	158 (27.9)
bachelor's degree or above	408 (72.1)
Age	
24 or under	79 (14.0)
25–34 years	161 (28.5)
35–44 years	210 (37.0)
45 or older	116 (20.5)
Nationality	
UAE national	76 (13.5)
Other Arabs	183 (32.5)
Non-Arabs	305 (54.0)
Native language	
Arabic	260 (46.0)
English	21 (3.7)
Others	284 (50.3)
Place of residence in UAE	
Dubai	320 (56.5)
Outside Dubai	246 (43.5)
Length of stay in UAE	
	Mean\pmSt. Dev
UAE National	38.22 \pm 13.11
Other Arabs	14.0 \pm 9.63
Non-Arabs	11.97 \pm 9.41

The box plots in Figure 2 display the distributions of self-ranking language proficiency level in English and Arabic for the non-Arab participants. It shows that the mean English proficiency among non-Arabs (4.23 ± 1.1 where 6 = “mastery/proficient” and 1 = “beginner”) is higher than their mean Arabic proficiency level (1.59 ± 1.06). The Wilcoxon rank test shows that the difference in the two language proficiency distributions is statistically significant at 5% significance level. It is interesting that even those non-Arabs whose English proficiency is at the level of beginner and elementary preferred English as their language of choice at ATMs; only one of them selected Arabic.

3.2 Hypothesis 2

The second hypothesis states: overall, Arabs (both UAE nationals and other Arabs) are more likely to use Arabic for their ATM transactions compared to non-Arabs, with Arabs living in other emirates outside Dubai using Arabic more frequently. In contrast to Figure 1, while 0.3% of non-Arabs prefer Arabic (see Figure 1), 59.3% of Arabs do (see Figure 3) demonstrating much stronger affinity for Arabic.

The pie chart plots in Figure 4 show that when dividing the Arab participants (UAE nationals and Arabs expatriates) based on their location of residence, Arabic is used more for ATM transaction by those living outside Dubai (i.e., in the other UAE emirates of Sharjah, Abu Dhabi, Ajman, Ras Al-Khaimah, Umm Al Quwain, and Fujairah) (72.2%) than those living in Dubai (43.5%). The hypothesis has also been tested by the Chi-square test of independence. The *p*-value of the test is $p < 0.001$, supporting the hypothesis and suggesting that Arabs living in Dubai have significantly different language preference for their ATM than Arabs living outside the emirate of Dubai. It should be mentioned that 68% of the non-Arab participants reside in Dubai while 32% reside outside Dubai. Therefore, the exposure to English is much greater in Dubai than in other emirates of the UAE resulting in a greater level of English language usage in Dubai.



3.3 Hypothesis 3

Our third hypothesis reads “Among Arabs, UAE nationals are more inclined to use English for their ATM transactions compared to Arab expatriates.”

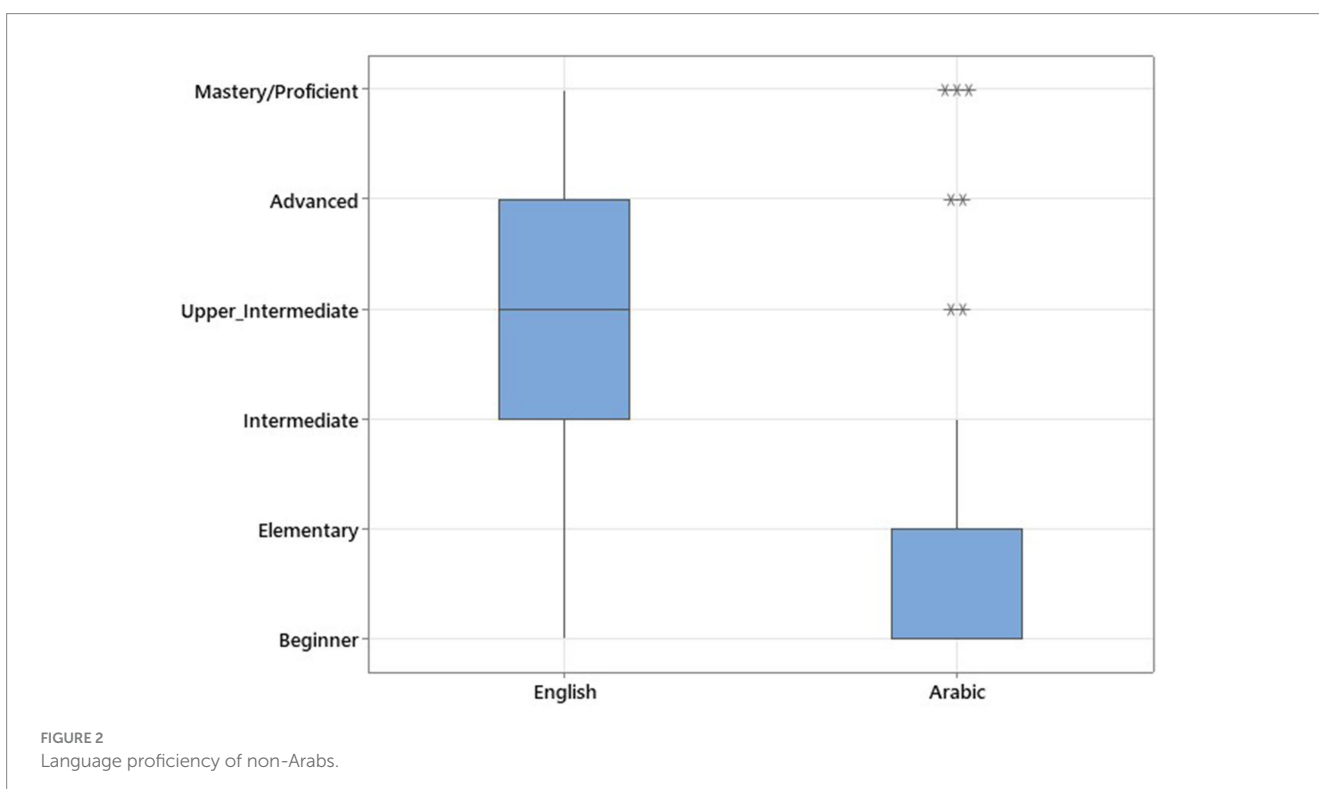
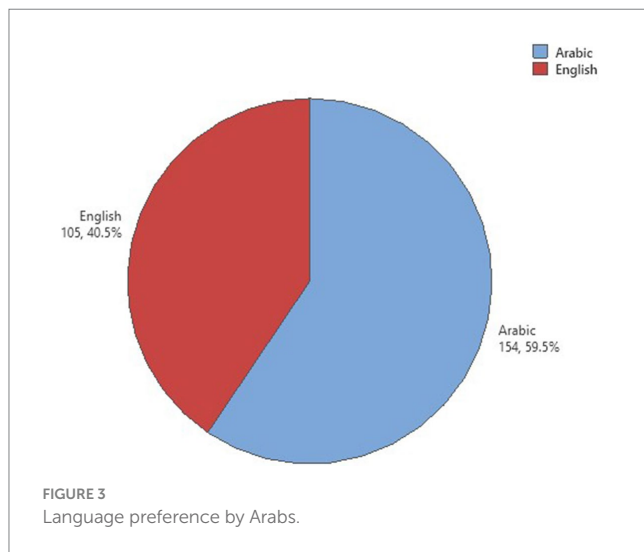


Figure 5 shows that UAE nationals are in fact less likely to use English at ATM than Arab expatriates. The proportion of UAE nationals using English is 19.7% compared to 49.2% for Arab expatriates, the difference in the two proportions is significant with $p < 0.001$ implying that Arab expatriates are significantly more likely to use English compared to UAE nationals.

When breaking down the UAE participants by gender, with 20 females and 56 males, results show that 30% of UAE females use English compared to 16.1% of their male counterparts (see Figure 6). This result suggests that UAE females tend to use more English at ATMs than UAE males. The pattern, however, is not statistically significant ($p = 0.179$) according to the Chi-square test of independence.



3.4 Hypothesis 4

Hypothesis 4 states that “Arabs (both UAE nationals and Arab expatriates) with higher levels of education are more prone to selecting English when using ATMs, while those with lower levels of education are more inclined to use Arabic.”

Education is categorized into two levels: level 1 (bachelor’s degree and above which includes Master’s degree and Ph.D studies) and level 2 (less than bachelor’s degree). The pie chart display in Figure 7 demonstrates that there are no significant differences in participants’ language preference at ATM between the two levels ($p \sim 1$). The hypothesis is not supported.

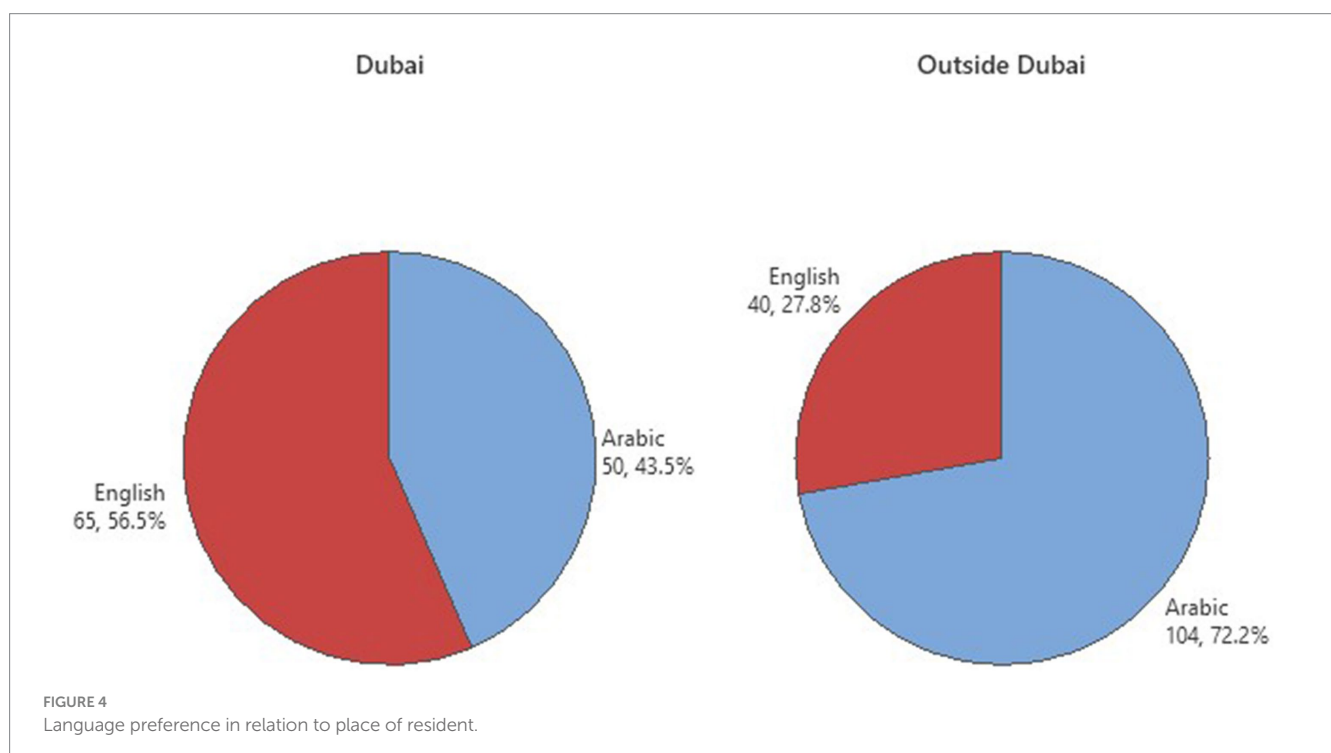
3.5 Hypothesis 5

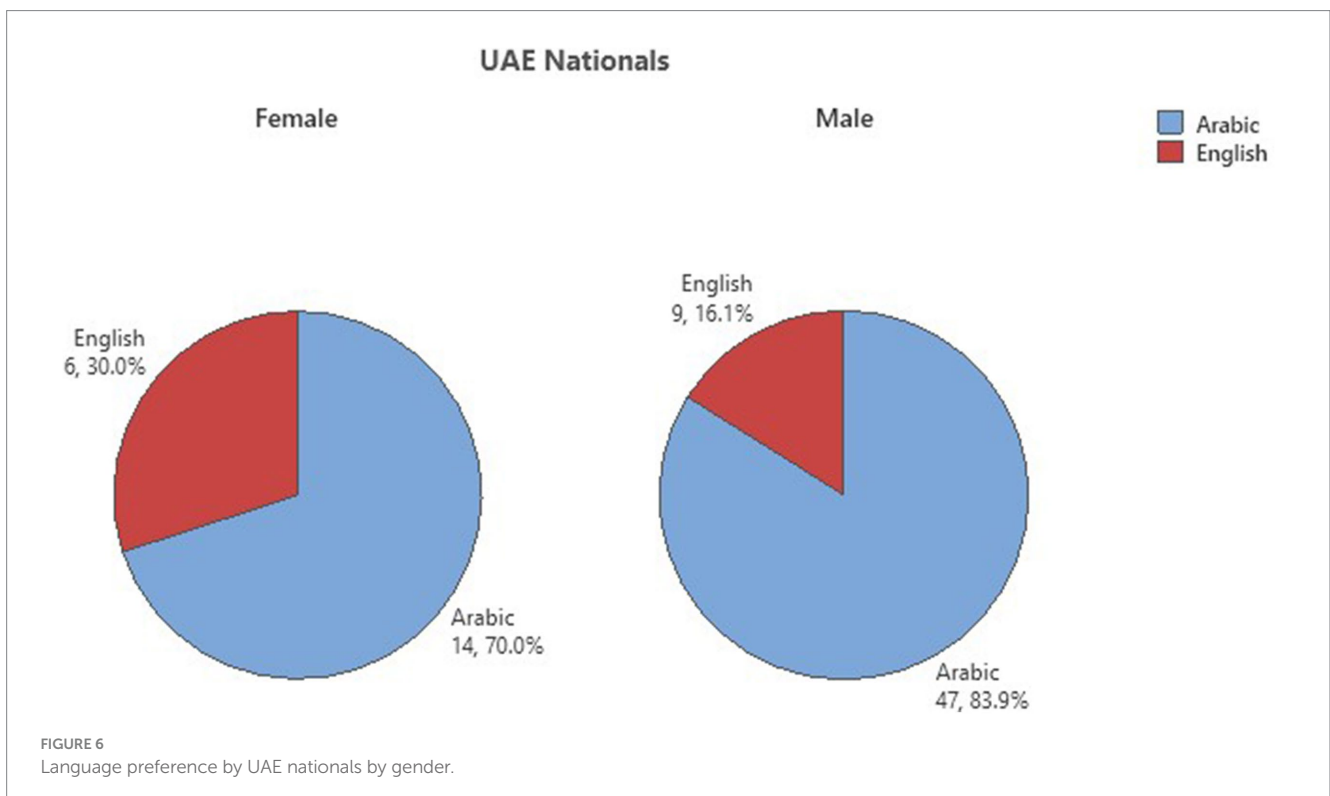
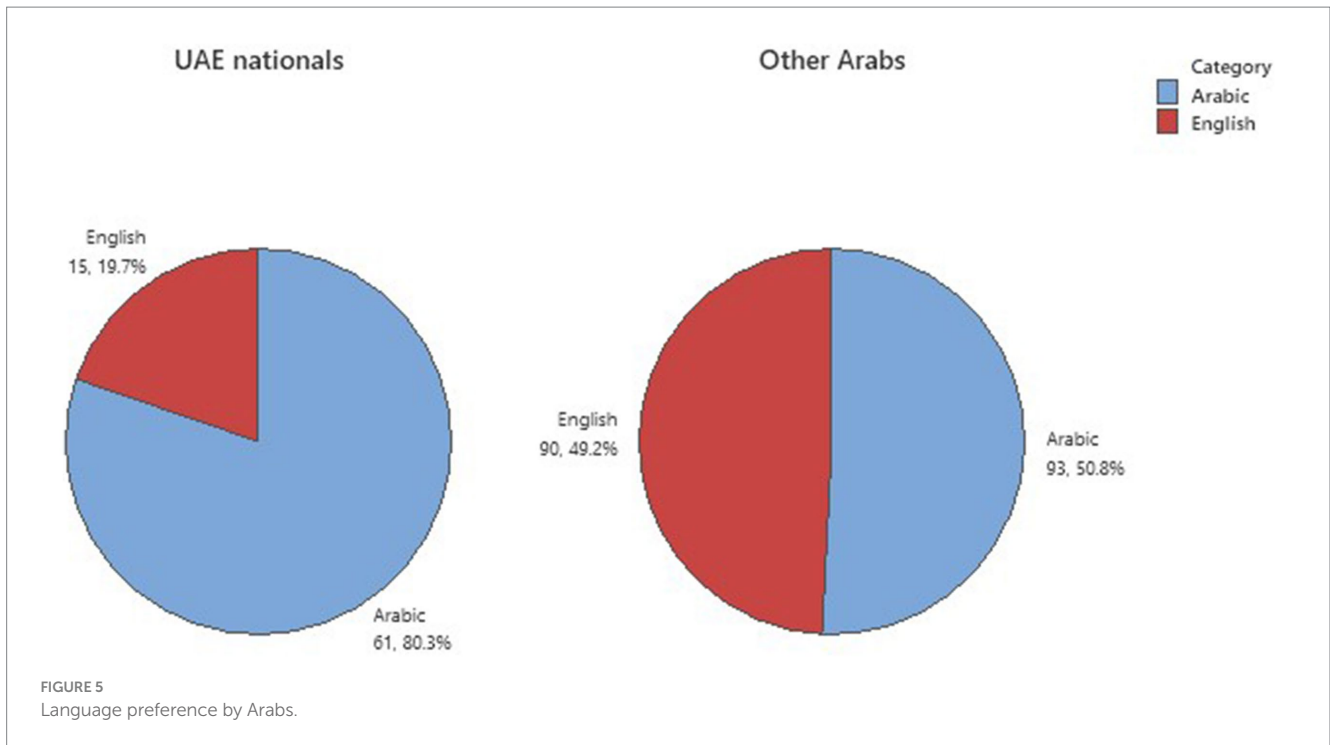
Hypothesis 5 states that “Arab expatriates in higher paid jobs/ occupations are more likely to opt for English for their ATM transactions.”

The pie chart plots in Figure 8 clearly demonstrate that majority of Arabs expatriates with lower paid jobs use Arabic at ATM (84.3%) while those with higher paid jobs use English at ATM much more than Arabic (69%). The association between language preference at ATM and pay is tested by the Chi-square test of independence. The resulting $p < 0.001$, providing strong evidence to support the hypothesis.

3.6 Hypothesis 6

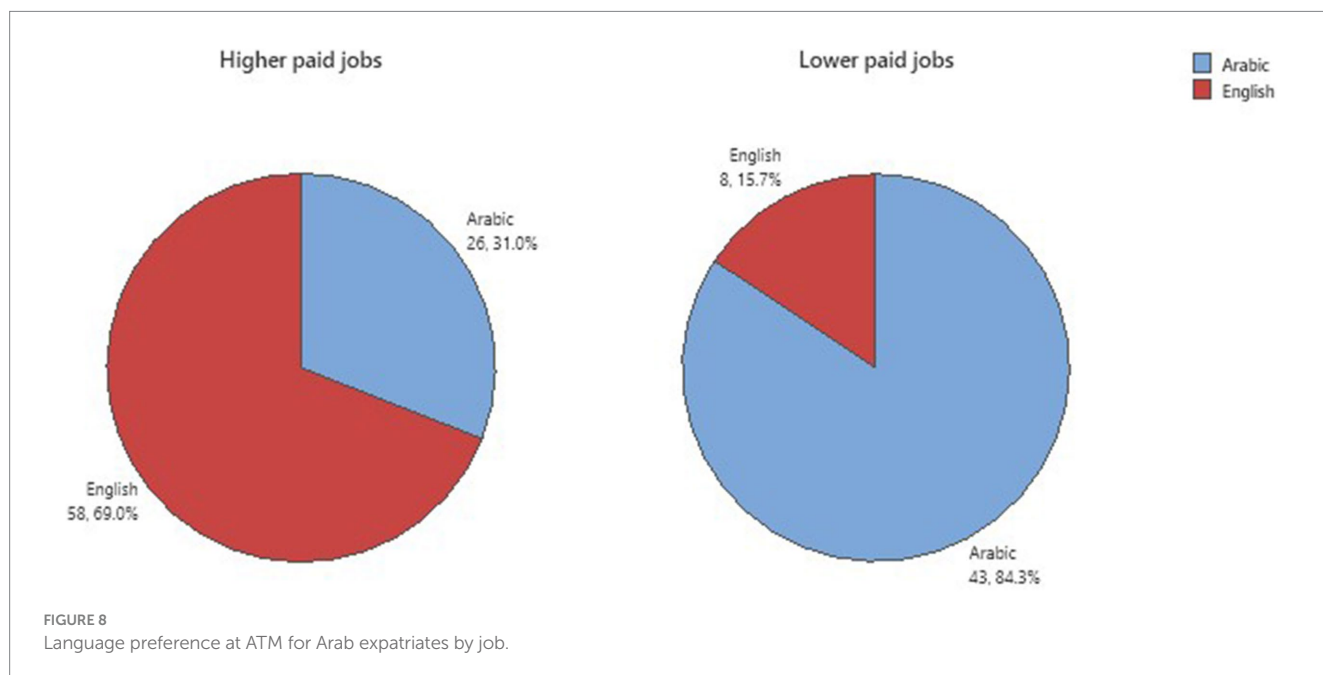
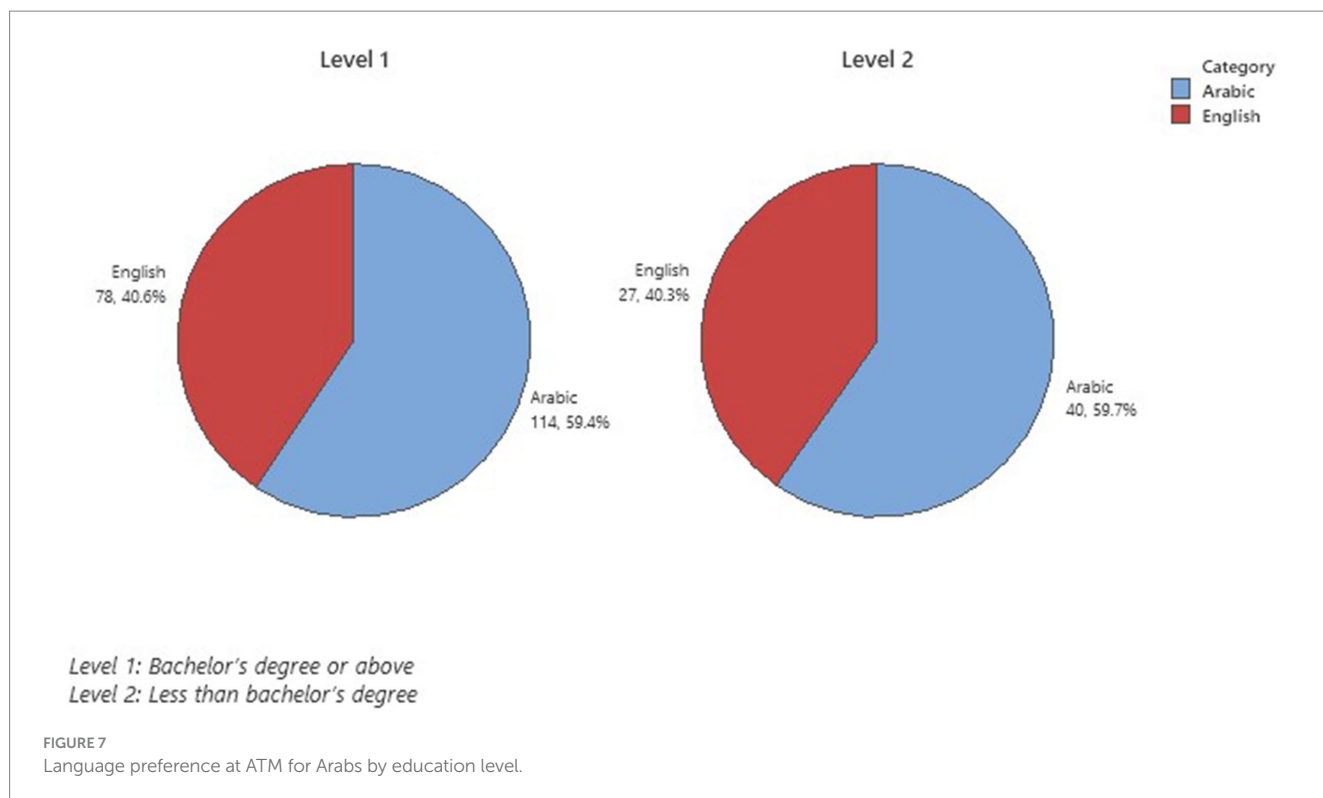
Hypothesis 6 states that “Younger Arabs (both UAE nationals and Arab expatriates) are more likely to opt for English when





conducting ATM transactions, whereas older Arabs are more inclined to use Arabic.” In Figure 9, it is interesting to observe that as the age increases the size of the red portion of the pie (representing the percentage of English users at ATM) decreases, while the blue portion (representing the percentage of Arabic users

at ATM) increases. The Chi-square test of independence yielded $p = 0.0012$ giving a strong support to the hypothesis. Younger Arabs from both groups tend to use English more when conducting ATM transactions while older Arabs tend to use Arabic more for their ATM.



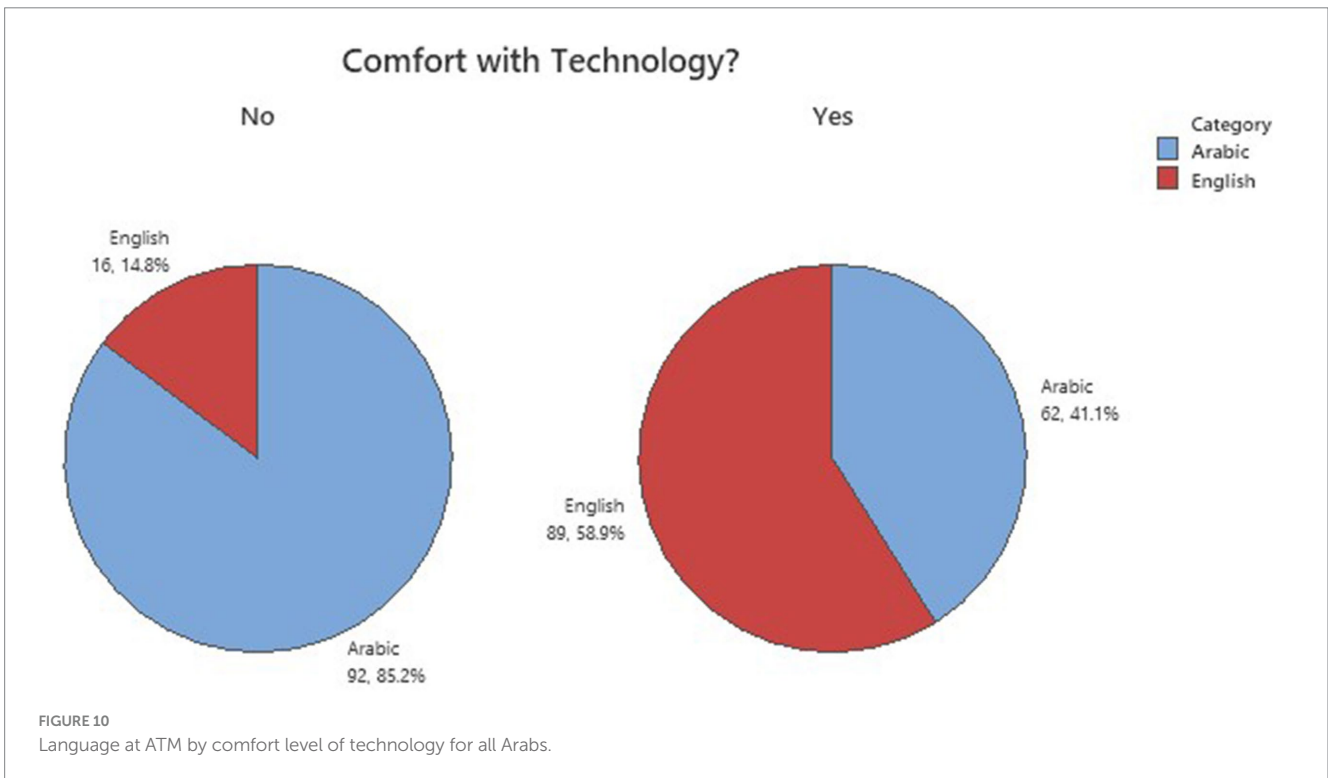
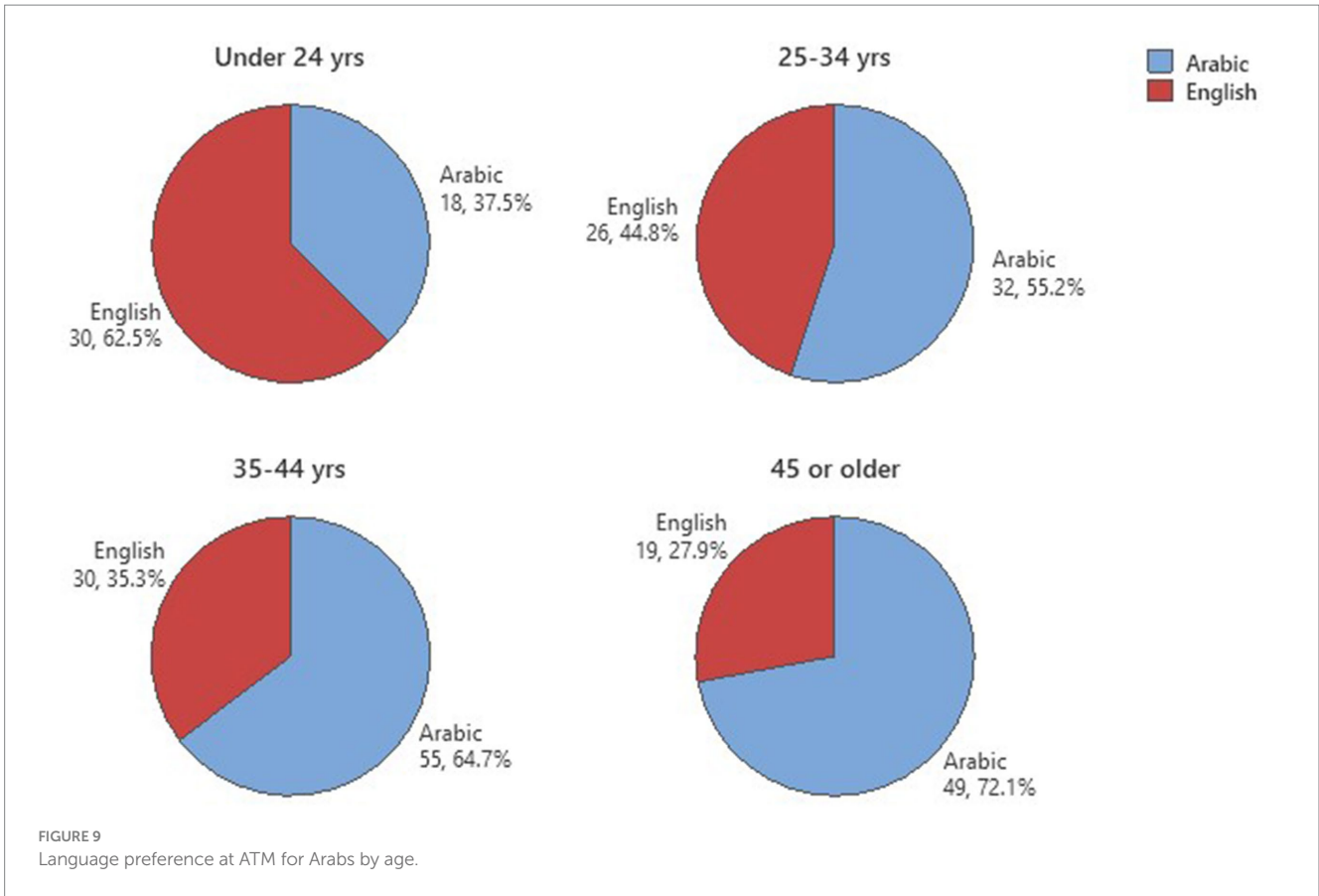
3.7 Hypothesis 7

Our last hypothesis states that “Arabs (both UAE nationals and Arab expatriates), who are comfortable with technology, are more likely to choose English when using ATMs, whereas those who are not comfortable are more inclined to use Arabic.”

It is clear from the pie chart plots in Figure 10 that Arab participants who said that they are comfortable with technology

selected English more than Arabic for their ATM transactions (58.9% selected English vs. 41.1% selected Arabic). On the other hand, the majority (85.2%) of those who said that they are not comfortable with technology selected Arabic for their ATM use. The differences are strongly significant with $p < 0.001$ suggesting that the hypothesis cannot be rejected.

We were also interested in discovering which language (Arabic or English) participants believed would be used most at Dubai ATMs. A



question on the survey asked participants the following: which language do you think people in Dubai are more likely to use at ATM? Summary of the responses is shown in [Table 2](#).

These findings clearly show that the overwhelming majority in all groups thought that people in Dubai would prefer to use English significantly more than Arabic for their ATM transactions, regardless

of the language they use themselves at ATMs. In fact, the vast majority of Arabs who use Arabic for their ATM transactions (91%) thought that people would prefer to use English at ATMs, while 93% of Arabs who use English for their ATM transactions thought the same.

Interestingly, the non-Arab participants who primarily use English for their ATM transactions were less likely than the Arab participants to think that people would prefer to use English at ATMs, with 85% of them agreeing to this statement, while about 15% of them thought that people would prefer to use Arabic at ATMs.

Another question on the survey, an open-ended one, asked participants about the reason(s) why they themselves preferred to select the language (Arabic or English) for their ATM transaction. The most frequently responses given by each group are summarized in Table 3.

4 Discussion

This study explores the dynamics of linguistic choice in a multilingual setting by examining language preferences at ATMs in Dubai. Using a survey, we aimed to uncover the factors that influence the decision to opt for Arabic or English in this transactional context. Our findings are organized around seven hypotheses established prior to the analysis.

In this section, we discuss each hypothesis individually to provide a comprehensive analysis of our findings and the insights they offer regarding the linguistic choices we observed. This approach is essential for a thorough examination, as each hypothesis addresses specific demographic variables and participant groups. By exploring the unique linguistic preferences and factors influencing language choice at ATMs in Dubai, we capture detailed insights and distinct patterns within each subgroup. This method ensures that the complexity of linguistic choices in this multilingual setting is fully understood, providing an in-depth examination that might be overlooked in a more generalized synthesis.

4.1 Hypothesis 1

The first hypothesis asserts that, regardless of their length of stay in the country and proficiency levels in English and Arabic, non-Arabs in Dubai tend to predominantly choose English as their preferred language for ATM transactions. As seen in Section 3, the data provide evidence to strongly support this hypothesis, with an overwhelming 99.7% of non-Arab participants opting for English, as illustrated in Figure 1.

TABLE 2 Which language do you think people in Dubai are more likely to use at ATM?

Language	UAE nationals (n = 76)	Other Arabs (n = 183)	Non-Arabs (n = 305)
Arabic	7.9	9.8	14.8
English	89.5	88.0	82.9
Both	2.6	2.2	2.3
Total percent	100%	100%	100%

The ATM context is particularly relevant for understanding these linguistic preferences. ATMs, by nature, require users to interact with a machine interface that typically offers limited language options, often defaulting to the most widely understood languages in the region. In Dubai, this means that ATMs predominantly offer English and Arabic. The necessity for accuracy and efficiency in financial transactions further motivates users to choose a language they are most comfortable and proficient in, to avoid errors and ensure successful interactions. This constrained choice environment at ATMs provides a clear lens to observe language preferences, as users must make quick, practical decisions based on their linguistic comfort and the utility of the language in ensuring transactional success.

TABLE 3 Why do you prefer to use this language at ATM?

Most frequent responses classified by nationality and language
Most frequently responses given by UAE nationals and Arab expatriates for selecting Arabic at ATM
It is my native language
Because I am an Arab
Arabic is my native language
Because Arabic is the language of the UAE
Because UAE is an Arab Country.
I am more comfortable using this language
It is my native language and I find it easier to understand
Most frequently responses given by UAE nationals and Arab expatriates for selecting English at ATM
I got used to this
Everything is in English even at work
Most services here are performed in English
Everyone here uses English
English is a common language
English is easier to read and understand
English is more valued
Even children speak English these days.
Because English is an international language.
Everything here is in English.
English is the language of business
English is the dominant language
English is used all the time in UAE
The receipt is clearer in English
Most frequently responses given by non-Arabs for selecting English at ATM
English is easier language.
I do not know Arabic
I never learned Arabic
Arabic is very difficult
English is global language
English is straightforward language
English is the trendy language
Most people and banks here use English
I am used to using English
English is my native language
English is my second language
My native language is not an option, so I use English

The outcomes of Hypothesis 1 reflect the dynamics of language choice within the multicultural milieu of Dubai. The overwhelming preference for English, regardless of the participants' length of stay or proficiency levels, underscores its role as the *de facto lingua franca* in Dubai's diverse expatriate community. These findings highlight how English not only facilitates daily transactions but also serves as a crucial integrative tool in a city characterized by its global connectivity and multiculturalism. The underlying framework of language choice theory, articulated by linguistic scholars such as Fishman (1972), Gumperz (1982), Myers-Scotton (1993), and Grosjean (2010), aptly explains these patterns. It illuminates why non-Arabs, spanning diverse nationalities and proficiency levels, exhibit a strong predilection for English. This theory considers numerous factors influencing language preference, including comfort, familiarity, and utility.

In Dubai, English serves as a language that residents from diverse linguistic backgrounds are often comfortable using due to its widespread presence in various aspects of daily life. It is familiar to them as a result of its prevalence in schools, workplaces, and the media. Additionally, the utility of English in Dubai goes beyond just convenience. English is viewed as a highly practical choice because of its role as a *lingua franca* in a city known for its multiculturalism and international business activities. It is not only a means of communication but also a tool for transcending cultural and linguistic boundaries, facilitating effective transactions, and meeting the diverse needs of the population. In the context of Dubai, English emerges as a universally understood language, fostering ease and efficacy. Whether their stay is brief or lengthy, non-Arab residents view English as the language most likely to transcend cultural boundaries and effectively convey their needs at ATMs. Furthermore, English's reputation as integral to international business and communication lends credence to its preference.

Additionally, the outcome of this hypothesis confirms previous findings that immigrants in UAE are not required to speak or understand Arabic, and that the majority of expats working in the UAE are expected to be able to use English for all kinds of communication (Al-Issa and Dahan, 2011). An intriguing observation is that among non-Arab participants, even those with beginner or elementary proficiency levels in both English and Arabic, the preference for English at ATMs is prevalent. This preference can be attributed to several factors, including the above-mentioned popularity of English and the multiculturalism of Dubai, as well as its association with international finance. Moreover, the global connectivity associated with English may further influence participants to prioritize it for their ATM transactions. English's widespread use in global commerce, media, and education makes it a practical choice for ensuring effective communication across diverse populations, enhancing its preference at transactional interfaces like ATMs.

4.2 Hypothesis 2

The second hypothesis states that "Overall, Arabs (both UAE nationals and Arab expatriates) are more likely to use Arabic for their ATM transactions compared to non-Arabs, with those Arabs living outside Dubai using Arabic more." As shown in Figure 3, the findings confirmed this hypothesis, with most Arab ATM users demonstrating

a stronger affinity for Arabic (nearly 60%). This preference can be attributed to cultural affiliation and national pride, as Arabic holds historical significance in the region. Choosing Arabic may be seen as a means of preserving cultural heritage and identity, offering a sense of familiarity, particularly for those less proficient in English. Responses from Arab participants, both UAE nationals and Arab expatriates (see Table 3), consistently highlight their pride in their native language and commitment to preserving their national and cultural heritage.

Interestingly, however, UAE nationals and Arab expatriates residing in Dubai exhibit a higher preference for selecting English over Arabic in their ATM transactions (see Figure 4) compared to those living in other emirates such as Sharjah, Abu Dhabi, Ajman, Umm Al Quwain, Ras Al Khaimah, and Fujairah. This can be attributed to the greater exposure to English in Dubai compared to other emirates in the UAE. These findings underscore the intricate interplay of geographical factors that shape language preferences at ATMs. While national and cultural pride remain significant factors, the higher prevalence of English in Dubai contributes to the observed preference for English among its Arabs, both UAE nationals and Arab expatriates, highlighting the complex dynamics influencing language choices among Arabs in different regions of the UAE.

The ATM context specifically adds an additional layer of complexity to these language choices. ATMs are transactional tools that require a high degree of accuracy and user confidence. In multilingual environments like Dubai, the choice between Arabic and English at an ATM is not merely about cultural preference but also about ensuring successful and error-free transactions. The limited language options on ATMs force users to select the language they are most proficient in to avoid mistakes that could result in financial loss or transaction failure. In Dubai, where English is prevalent in business and daily life, even Arabic speakers might prefer English at ATMs if they perceive it to be more reliable for understanding the instructions and completing their transactions efficiently.

Additionally, the nature of using ATMs, where users often need to complete transactions quickly and sometimes feel pressure due to the presence of others waiting, may influence them to select the language they can navigate most quickly and confidently. In Dubai, the exposure to English through various public and private sector interactions means that many Arabs are accustomed to using English in functional, everyday tasks, including ATM transactions. This contrasts with other emirates where the day-to-day use of English might be less pronounced, leading to a higher likelihood of selecting Arabic. Thus, the ATM context, characterized by its need for precision, speed, and user comfort, plays a critical role in shaping the language choices observed in this study.

4.3 Hypothesis 3

Hypothesis 3 introduced a distinct aspect of language choice within the Arab population in Dubai. It posited that "UAE nationals are more inclined to use English for their ATM transactions compared to Arab expatriates." The findings for Hypothesis 3, as reflected in Figure 5, portray an intriguing pattern within the Arab population. Specifically, the data suggest that UAE nationals actually exhibit a lower tendency to use English at ATMs, with only 19.7% of them

preferring English. In contrast, among Arab expatriates, the preference for English rises significantly to 49.2%. This significant difference is supported by $p < 0.001$.

This disparity in language preference may be influenced by several interrelated factors. One plausible explanation could be the strong connection between language and identity. UAE nationals may attach a greater cultural significance to Arabic as their native language. This attachment is reflected in the responses given by UAE nationals summarized in Table 3. In contrast, Arab expatriates, who come from different Arab countries, may find English a more convenient choice at ATMs.

The ATM context further amplifies these preferences. For UAE nationals, using Arabic at ATMs asserts cultural identity in a practical, immediate setting. The familiarity with Arabic in daily life makes it a natural choice for financial transactions, ensuring clarity and precision. Conversely, Arab expatriates might view English as a pragmatic choice, perceiving it to offer clearer instructions and a universally understood interface, thereby reducing errors.

The analysis further delves into gender-specific patterns among UAE participants, comprising 20 females and 56 males. Figure 6 indicates that 30% of UAE females prefer English at ATMs compared to 16.1% of their male counterparts. While the pattern seems to lean toward greater English usage among UAE females, the data does not establish statistical significance, as indicated by $p = 0.179$. The preference for English among Emirati women in our study may be attributed to their understanding that proficiency in English is not merely a choice but a critical necessity for career advancement, aligning with the research findings of Leimgruber et al. (2022). Emirati women are increasingly assuming pivotal roles in the evolving job market in the UAE, and they are acutely aware of the linguistic demands inherent in this market, where English is the primary medium of communication. This awareness likely influences their inclination toward using English in daily transactions, including ATM interactions, as it aligns with their strategic career goals and aspirations.

The preferences of Emirati men in our study may be influenced by the prevalent trend of many males opting for careers in the government sector, where English proficiency may be less emphasized compared to the private sector. On the other hand, Emirati women, who often seek opportunities in the private sector, may encounter a higher demand for English proficiency due to the international nature of businesses and the need for effective communication in a global business environment. Therefore, the varying language choices among Emirati men and women in ATM transactions may reflect not only linguistic considerations but also the broader linguistic demands associated with their chosen career sectors.

4.4 Hypothesis 4

This hypothesis states that Arabs (both UAE nationals and Arab expatriates) with higher levels of education are more inclined to opt for English when using ATMs, while those with lower educational levels are more likely to choose Arabic. Contrary to our expectations, the findings, as reflected in Figure 7, did not show any significant differences in language preference based on the level of education; both groups displayed similar patterns of language choice. The unexpected consistency in language preference across the educational

spectrum among Arab ATM users challenges the anticipated influence of educational attainment on language choice. Contrary to expectations, our findings suggest that the level of education may not be the primary driver of language preference at ATMs in Dubai.

The absence of significant differences in terms of language preference among Arabs with varying education levels in this study may be attributed to the fact that conducting an ATM transaction does not place a premium on specific linguistic skills or preferences linked to educational attainment. That is, it could be that the linguistic demands of this task (i.e., using an ATM) are relatively simple and do not require specialized or advanced language proficiency or a higher level of education. Thus, individuals from diverse educational backgrounds may find themselves on an equal footing, resulting in a lack of noticeable differences in language choice. For more linguistically demanding tasks, the situation might be different.

Additionally, the nature of ATM interactions, which are designed to be user-friendly and straightforward, minimizes the impact of educational background on language preference. ATMs typically use simple language and intuitive interfaces to cater to a broad user base, ensuring that transactions can be completed quickly and efficiently by users with varying levels of language proficiency. This design choice helps to equalize the experience, making it accessible to both highly educated users and those with lower educational attainment. Furthermore, many Arab participants are comfortable using both Arabic and English, which could further blur the distinctions based on level of education.

Another factor could be the standardized language options provided by ATMs, which do not vary significantly in complexity. This standardization means that regardless of educational background, users encounter the same level of linguistic simplicity, further contributing to the consistent language preferences observed. Therefore, while educational attainment might influence language use in more complex or nuanced settings, the functional and routine nature of ATM transactions appears to neutralize this effect.

4.5 Hypothesis 5

The findings for this hypothesis provide strong support. Hypothesis 5 posited that “Arab expatriates in higher paid jobs/occupations are more likely to opt for English for their ATM transactions.” The data, as illustrated in Figure 8, clearly align with this hypothesis, showcasing a pronounced association between the nature of participants’ occupations and their language preferences at ATMs.

The findings provided a compelling pattern within the data as a significant majority of Arab expatriates in higher paid jobs exhibit a preference for using English at ATMs, while those with lower paid jobs display a striking inclination to use Arabic. We categorized participants’ jobs/occupations into two groups: “higher paid jobs” (Level 1) and “lower paid jobs” (Level 2). These classifications were informed by various published reports and newspaper articles in the UAE, offering a well-defined framework for distinguishing between job sectors characterized by higher and lower income levels (Khalaf and Alkobaisi, 1999; Maceda, 2016). The “higher paid jobs” category includes a range of professions, including those in oil and gas, finance and banking, information technology (IT), healthcare, aviation, engineering, legal, management and consulting, telecommunications,

and senior roles in the hospitality and tourism sector. In contrast, the “lower paid jobs” category includes roles in retail, hospitality and food service, domestic work, agriculture, unskilled labor in construction, manufacturing and assembly line positions, security guards, and janitorial services.

The preference for English among Arab expatriates in higher paid jobs can be attributed to the international nature of many high-income sectors in the UAE, where English often serves as the primary language of business, communication, and technology. In these sectors, proficiency in English is advantageous and frequently a requirement. Conversely, Arab expatriates in lower paid jobs may find that Arabic aligns more closely with the nature of their work and the communities they interact with, thereby influencing their choice to use Arabic at ATMs. The results underscore the close relationship between economic opportunities and language choice, emphasizing how employment sectors characterized by higher salaries correlate with a preference for English in transactional contexts.

The ATM context also plays a crucial role in shaping these language preferences. ATMs, being self-service and requiring precise interactions, make language proficiency a significant factor in ensuring successful transactions. For Arab expatriates in higher paid jobs, who are often required to use English daily in their professional environments, using English at ATMs might feel more intuitive and secure, reducing the risk of errors. On the other hand, those in lower paid jobs, who may use Arabic more frequently in their personal and community interactions, might prefer Arabic at ATMs for similar reasons of comfort and accuracy. This practical consideration highlights how the functional nature of ATMs influences language choice, aligning with the linguistic environments of their respective job sectors.

Due to the fact that the vast majority of governmental positions in the UAE are held by UAE nationals, many of which are highly paid, and considering Arabic as the official language in the UAE government, the analysis of hypothesis 5 excluded UAE nationals.

4.6 Hypothesis 6

The findings for Hypothesis 6 reveal yet another interesting pattern regarding the dynamics of language choice among different age groups of Arab ATM users in Dubai. This hypothesis suggested that “Younger Arabs (comprising both UAE nationals and Arab expatriates) exhibit a higher tendency to select English when conducting ATM transactions, while older Arabs are more inclined to use Arabic.” The data, as presented in [Figure 9](#), confirms this hypothesis with a notable generational divide in language preferences at ATMs. Younger Arabs in the UAE, who have likely been exposed to English as a medium of instruction in private schools and universities, exhibit a clear preference for using English at ATMs. Their educational exposure, in addition to their familiarity with digital platforms and social media where English is the dominant language, might have contributed to their proficiency and comfort with the language, making it the language of choice in various everyday interactions, including at their ATM transactions. In contrast, older Arabs, while still exposed to the broader world, tend to lean more toward Arabic at ATMs. This may be influenced by their familiarity with Arabic as the traditional language of the region, and their potential view of Arabic as a marker of cultural and linguistic identity.

The ATM context further highlights these generational language preferences. ATMs, with their need for precise and efficient interactions, require users to quickly navigate through menus and instructions. Younger Arabs, who are more accustomed to digital interfaces and often use English in their daily digital interactions, may find it more intuitive to use English at ATMs. This familiarity with English in technology-related contexts makes it a preferred choice for ensuring accuracy and efficiency in transactions. Conversely, older Arabs, who may have a stronger attachment to Arabic and less frequent use of English in everyday technology, might find Arabic more comfortable and reassuring when using ATMs. The generational differences in exposure to and comfort with digital technology and English-language interfaces significantly influence these language choices at ATMs.

4.7 Hypothesis 7

This hypothesis explores the relationship between technological aptitude and linguistic preference during ATM transactions. The hypothesis posited that “Arabs (both UAE nationals and Arab expatriates), who are comfortable with technology, are more likely to choose English when using ATMs, whereas those who are not comfortable are more inclined to use Arabic.” Our results confirm this hypothesis. Arab ATM users reporting comfort with technology displayed a stronger preference for English ([Figure 10](#)). This hypothesis’s alignment with language choice is evident when considering the interplay of technology, language, and choice. Since English is widely dominant in digital and online domains, those comfortable with technology might naturally gravitate toward it. The fact that English is the default language in the digital landscape, with many technological platforms, interfaces, and applications originating in English seems to impact Arab participants’ language choice for their ATM transactions. Those who are comfortable with technology may find English interfaces familiar and user-friendly than Arabic. Arabic’s cultural significance remains, but in technology-driven spaces, English’s prominence and accessibility become key factors.

The ATM context, characterized by its need for clear, efficient, and error-free transactions, further accentuates these preferences. Users who are technologically adept are likely to have frequent interactions with English-dominated digital interfaces, making English the more intuitive choice at ATMs. This familiarity reduces cognitive load and the risk of errors during transactions. Conversely, those less comfortable with technology may prefer Arabic to mitigate potential misunderstandings and ensure transactional accuracy. The simplicity and standardization of ATM interfaces, often designed with English as a primary language, reinforce this preference for users who navigate technology with ease.

Moreover, the quick-paced nature of ATM transactions, where users often aim to complete their tasks swiftly, may drive technologically comfortable individuals to choose English, as they can process and respond to English prompts more rapidly due to habitual use in other digital contexts. In contrast, users less familiar with technology might find the Arabic interface more reassuring and easier to navigate, despite the overall prevalence of English in the digital world.

5 Conclusion

Our study aimed to explore language preference between Arabic and English during ATM transactions in Dubai, unraveling the factors influencing these choices. Throughout our exploration, several significant findings have emerged, shedding light on the complexity of language choice in this multicultural setting. Our study underscores the continuing prominence of English in Dubai's linguistic landscape. Non-Arab residents overwhelmingly favor English when using ATMs, emphasizing its enduring role as the prominent language in this context. This preference remains consistent regardless of proficiency in both languages and length of stay. Additionally, the study reveals a strong inclination among Arab ATM users to opt for Arabic during transactions, potentially reflecting the historical significance of Arabic in the region. This inclination is more pronounced among UAE nationals, who show a lower tendency to use English compared to other Arabs. Gender differences in this choice, while observed, did not emerge as statistically significant. Furthermore, contrary to initial expectations, our study reveals that educational levels do not significantly influence language preferences among Arab ATM users. Another notable finding is the correlation between the nature of employment and language preferences; English was used more by those in higher-paid jobs, while Arabic was used more by those in lower-paid jobs. Furthermore, the study clearly shows a generational divide in language preferences. Younger Arabs distinctly prefer English at ATMs, while older Arabs were more likely to favor Arabic. Finally, the study substantiates the hypothesis that comfort with technology impacts language choice, as those who reported comfort with technology were more likely to select English than Arabic for their ATM transactions.

While our study has provided valuable insights into the factors influencing language choice at ATMs in Dubai, it is important to acknowledge limitations. One notable limitation is that we were unable to conduct interviews with participants, which could have offered more in-depth perspectives and a deeper understanding of the motivations behind language choices. Future research should consider incorporating qualitative interviews to capture the intricacies of language preferences. However, it is crucial to emphasize that despite this limitation, our findings retain their significance and validity.

In conclusion, our findings offer important insights into the linguistic choices made by Dubai's residents during ATM transactions, contributing to our understanding of the factors impacting language preference. A notable phenomenon observed is the forced binary choice between Arabic and English at ATMs, which paradoxically characterizes transactions in a city celebrated for its multiculturalism, technological advancement, and global connectivity. This forced choice, while seemingly straightforward, underscores deeper societal dynamics and the intersection of language with identity and accessibility. The choice of ATMs as the context for this study is particularly important because it provides a technologically mediated environment where language options are limited, yet the choices made in this context reflect wider sociolinguistic patterns. While ATM use may not directly foster connectivity and social integration, it reflects the broader linguistic negotiation and identity formation processes in a multicultural urban center like Dubai. This study is a significant step toward unraveling the complex linguistic landscape of a city that thrives

on multiculturalism, technological advancement, and global connectivity.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical approval was not required for the studies involving humans because the participants provided their written informed consent to participate in this study. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

AA-I: Conceptualization, Project administration, Resources, Writing – original draft, Writing – review & editing. HS: Formal analysis, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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