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The impact of WhatsApp on first-year students' transition to university life

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In a world that is rapidly becoming more digitized, it is likely for first-year students who come from diverse socio-economic and cultural backgrounds to face a number of challenges during their academic and social adaptation to university life. In this study, we explore the influence of the use of WhatsApp on the transition experiences of 205 first-year students attending Al Ain University in the United Arab Emirates. More specifically, the study explores the correlation between first-year students' usage of WhatsApp and their academic and social adaptation. Areas related to the academic aspect include group discussions and academic support, while social aspects include social experiences and level of adaptation to the social context. A structured questionnaire with predefined response options was constructed and then distributed among first-year students enrolled in various colleges. Descriptive, inferential statistics, and correlation techniques were used to analyze data and address research inquiries. The results revealed that WhatsApp is a pivotal tool for first-year university students with a strong inclination toward academic collaboration and support. Furthermore, WhatsApp has a notable influence on academic life, assisting in receiving university announcements, seeking advice from professors, and adapting to university responsibilities. Additionally, WhatsApp significantly contributes to students' social experience, aiding connections with fellow students and organizing social events.

KEYWORDS

experiences, first-year students, transition, WhatsApp, university

1 Introduction

Transitioning from high school to university is critical for students as they are expected to become significantly more independent and responsible for their decisions and wellbeing. Tertiary education environments offer a wide range of social and educational opportunities (Kanyiri and Njage, 2020). However, along with these opportunities, students are likely to encounter new academic and social challenges (Cage et al., 2021). To fulfill their aspirations and achieve their goals, students need to adjust to the new academic environment, higher workload, and new social networks (Schütze and Bartyn, 2019). Students also need to build fundamental academic skills which are crucial for future success (Subethra and Nirmala, 2018). These skills include time management, critical thinking, and improved information literacy (Edjah et al., 2019). Moreover, social encounters and activities constitute a vital part of students' university life due to their impact on students' mental and social wellbeing, academic engagement, and sense of belonging (Hicks, 2019; Sk and Halder, 2020). A smooth and successful transition from high school into university boosts students' prospects of further education or a successful transition into the workforce (Cage et al., 2021).

The rapid and continuous advancements in digital technologies have been found to bring about essential changes in the scope, purpose, and nature of the educational process (Timotheou et al., 2022). Given the ease with which students can access digital social platforms, such as WhatsApp, the current study seeks to investigate the potential these platforms hold in facilitating and supporting a smooth transition from high school to university. More specifically, the study explores the correlation between first-year students' usage of WhatsApp and their academic and social adaptation.

1.1 Importance of the study

The term “Digital Natives” (DNs) was first coined by Marc Prensky to refer to individuals who are able to easily deal with the complexity of the increasingly digitized environment and the continuous updates in technology (Dingli and Seychell, 2015). The overwhelming majority of students who are currently enrolled in tertiary education fall in the category of DNs because they are “a generation that ‘breathes’ technology and acts and behaves in a way that is distinct from other generations” (Koumachi, 2019, p. 56). In addition, DNs are obsessed with “digital devices, including smartphones, tablets, and computers everywhere” (Koumachi, 2019, p. 57). Despite heavy dependence on technology and digital devices, or maybe as a result of this dependence, research findings indicate that when students transit from high school to university, they often experience feelings of isolation, anxiety, exclusion, and insecurity, especially in large classes (Egege and Kutieleh, 2015; Hockings, 2011). It has also been found that higher education institutions play an important role in making the transition to university life less challenging and more satisfactory for new students (Egege and Kutieleh, 2015).

While the phrase “Digital Natives” is routine in characterizing university students as inherently technology literate, such an assumption may not be applicable in all cultural and socio-economic contexts. In reality, many students—particularly in under-resourced or transitional environments—lack the digital literacy expected of their generation. Consequently, assuming ubiquitous technological expertise may overlook real dilemmas students face in conforming to evolving digital expectations at university (Reid et al., 2023; Suša Vugec and Stjepić, 2022). While students are often described as Digital Natives, this study argues against such an assumption by highlighting digital readiness differences. It may also highlight that while first-year students struggle to adapt to university environments, tools like WhatsApp can be utilized as manageable tools to bridge academic and social integration gaps.

Understanding students' communication habits, social connections, and the way they use digital technology and digital platforms helps tertiary institutions utilize technology and social platforms to make students' transition more successful and pleasant. Focusing on the ways WhatsApp, as an example of a popular social media platform, impacts the social and academic experiences of first-year students, the current study seeks to enrich existing literature by exploring the correlation between first-year university students' use of WhatsApp and their adaptation to the academic and social environment. Research of this kind

contributes to advancing knowledge of the opportunities and challenges students encounter at the crucial transitional time of students' university life. While there are research studies exploring the use of online learning technologies at higher education institutions, studies focusing on first-year students' experiences and the use of online learning technologies (Pacheco, 2021), particularly WhatsApp, are meager. In addition, to the best of our knowledge, none of the studies have explicitly explored the effect of WhatsApp on the transition of first-year students from high school to university.

This research can also offer perceptions into how an emergency shift from in-person to online learning, similar to the one that occurred in the context of the COVID-19 pandemic, can be made smoother if digital social platforms are put to more effective use. The growing reliance on online learning systems can help universities improve their services and customize interventions to match the needs of first-year students better, especially if paired with a constructive utilization of the role of WhatsApp in tutoring and assistance. Education professionals and institutions can benefit from knowing how students use WhatsApp as a learning tool, thus developing effective integration strategies.

1.2 Research setting

Al Ain University (AAU) is a reputable academic institution with two campuses in Abu Dhabi and Al Ain in the United Arab Emirates. Students enrolled in AAU come from diverse cultural, social, and educational backgrounds. AAU places a high value on students' active participation in various activities, academic excellence, and general student satisfaction. AAU also offers students a comprehensive and rich educational experience by emphasizing the importance of participating in extracurricular activities, efficiently using educational technology, developing emotional intelligence, and ensuring students' social, psychological, and physical wellbeing. It is a common practice for students at AAU to create WhatsApp groups for every course they take. The purpose of these informal groups is primarily academic: to exchange information about the course material, inquire about exams, assignments, and deadlines, and post important announcements and reminders. Students sometimes use these groups to plan for or announce extracurricular activities which can be social, national, and cultural and can take place on or off campus.

1.3 Research questions

The research questions formulated below are constructed meticulously using findings obtained through literature that was reviewed, which have investigated the social and educational influence of WhatsApp with specific reference to the social adjustment and academic integration of fresh university students.

This study aims to answer the following questions in relation to first-year students:

1. Is there any correlation between first-year students' usage of whatsapp and their academic experiences such as academic performance, group discussion, and academic support?

- Is there any correlation between the overall usage of whatsapp and different social aspects such as developing social experiences, organizing and participating in social events, adapting to university life, and connecting with other students?

2 Literature review

Powerful changes in the socio-economic education system have resulted in significant changes in major aspects of higher education, such as “education’s standard, quality, decentralization, virtual and independent learning” (Hashim et al., 2022, p. 3172). The rapid technological advancement and ever-evolving social e-trends require students to continuously and rapidly adjust to the changes in the educational and technological environment (Kateryna et al., 2020). Consequently, the persistence and success of university students have become more challenging, particularly for first-year students who come from various socio-economic and cultural backgrounds and hope for quick academic and social adaptation to university life (Owusu-Agyeman and Mugume, 2023). Integrating online social networking platforms in the educational process and environment is an important manifestation of the growing use of technological advancements. Social digital platforms commonly used by students include mobile instant messaging platforms like Facebook Messenger, WeChat, WhatsApp, Telegraph, and Hangouts which facilitate information sharing in various contexts (Baulch et al., 2020). These user-friendly and affordable communication tools are increasingly integrated into teaching and learning to enhance students’ learning, social opportunities, and academic achievement (Mpungose, 2020). Due to its affordability and usability, WhatsApp seems to be favored by university students and integrated into their personal and academic lives (Morsidi et al., 2021).

Recent research studies have shown interest in the effects of WhatsApp use on university students. WhatsApp has been investigated as an educational tool with the potential of helping students to develop their skills and abilities. For example, a number of research studies considered WhatsApp a practical tool for learning languages (Ahmed, 2019a; Ali and Bin-Hady, 2019). Moreover, WhatsApp has been generally associated with developing communication skills, particularly in relation to attitudes, motivation, and anxiety among students (Ali and Bin-Hady, 2019; Morsidi et al., 2021). The use of WhatsApp has also been elevated to support online learning during times of crisis, such as the COVID-19 pandemic (Mulyono et al., 2021).

Several research studies have examined the influence of first-year students’ transitional experiences on their retention, academic performance, and social engagement in university. A considerable number of these studies agree that the degree to which first-year students are intellectually and personally prepared for university significantly impacts the degree to which they adapt to their new environments (Brooms, 2019). Moreover, students’ transitional experiences are greatly influenced by how well they fit into the institution. The institution’s culture, values, and support systems can impact this sense of fitting in and belonging (Brooms, 2019). First-year students’ transition experiences are significantly

influenced by institutional support systems and social assistance (Brooms, 2019; Lisciandro, 2022). Students are more likely to succeed in their transition and deal with the difficulties of university life if they receive enough help from their institution, including academic guidance, mentoring programs, and campus services (Egege and Kutieleh, 2015). Peer, instructor, and staff social support can also enhance students’ sense of community and general wellbeing.

Social integration, a crucial element of first-year students’ transitional experiences, involves the interactions between students and their social system, including unofficial peer group ties (Leary et al., 2021). Students who feel more socially integrated in the early stages of their first-year tend to be more academically motivated and more likely to remain at university and continue to subsequent years (Davis et al., 2019). Additionally, retention and transition experiences are highly related to students’ feelings of belonging. Students’ perceptions of the level of their inclusion, acceptance, and connection within the university community are found to positively correlate with the strength and depth of their sense of belonging (Davis et al., 2019).

Meanwhile, it is crucial to consider that first-year students could experience various academic and social difficulties as they adjust to university life (Edjah et al., 2019). These difficulties may involve managing the rigors of university life and adapting to the academic workload and new social situations. Students’ first-year experiences can also be influenced by variables like gender, residence, and prior educational attainment (Edjah et al., 2019).

Exploring the impact of digital platforms such as WhatsApp on the academic progress and the social wellbeing of first-year students is a multifaceted topic. While some studies indicate that excessive use of social media can negatively impact students’ academic performance, others suggest that frequent use of social media has no significant effect on students’ academic performance (Alnjadat et al., 2019). Still, a third set of research studies postulate that WhatsApp can help university students improve their communication skills and academic achievement (Morsidi et al., 2021). The COVID-19 pandemic has also brought attention to the value of online education and the use of digital tools like WhatsApp in supporting the educational process (Mulyono et al., 2021). For example, Mulyono et al. (2021) found that several students utilized social media, including WhatsApp, to enhance their learning during the pandemic. Learning using WhatsApp has been attributed to factors such as the availability of learning support, motivation, perceived usefulness, and social connections (Mulyono et al., 2021).

Although previous studies identify both positive and negative effects of WhatsApp usage, they rarely distinguish its contribution to first-year transitional challenges, nor do they critically examine the degree to which platform capabilities align with specific academic or psychosocial needs.

Additionally, using numerous WhatsApp groups helps increase first-year students’ communication ability (Delpont, 2022). Delpont (2022) concluded that the torrent of communications can be lessened by using different WhatsApp groups, allowing for more focused and coordinated communication among first-year students. While some studies examine how online learning tools are used in higher education (Pacheco, 2021), not many focus

on the experiences of first-year students using these platforms—particularly WhatsApp. Furthermore, to the best of our knowledge, no study has specifically looked into how WhatsApp affects first-year students' transition from high school to university. This study addresses the overlooked component in prior research by empirically testing the impact of WhatsApp usage on first-year students' academic and social transition—providing specific insight beyond communication patterns overall or platform usage at the postsecondary level.

In summary, although earlier research has touched on the general role of WhatsApp in education and social communication, little has been done to specifically examine its role in the academic and social experiences of first-year students transitioning into university life. This current review thus facilitates placing the two central questions of this study: one concerns WhatsApp's academic value (e.g., peer-to-peer discussion, academic success, peer assistance), and the other concerns its social worth (e.g., adjustment, bonding, event organization). This alignment offers guarantees that the study is based upon and adds to, the growing body of studies on digital platforms for higher education transitions.

2.1 Theoretical framework

For the sake of establishing a suitable theoretical foundation for this study, this study draws from two contemporary and highly relevant theoretical frameworks: connectivism theory (Siemens, 2005) and the Technology Acceptance Model (TAM) (Davis et al., 2024). Both frameworks offer critical perspectives on the use of digital technologies like WhatsApp in learning, interaction, and adjustment among first-year students in technologically evolving academic settings.

2.1.1 Connectivism theory

Connectivism theory, as expounded by Siemens (2005), highlights that learning in this age of technology is facilitated by interactions among individuals and technological tools within networks. It postulates that knowledge is fluid and socially constructed. In this arrangement, WhatsApp is a learning space whereby students can create connections, share ideas, and conduct informal learning processes (Mutanga and Molotsi, 2022). In this study, WhatsApp is not analyzed as a mere communication tool, but as a learning network with the potential to support informal learning, peer-to-peer interaction, and academic collaboration—elements that are strongly aligned with the basic tenets of connectivist learning. This theoretical framework validates the aim of the study to explore students' engagement with such platforms in their academic and social integration into university life.

2.1.2 Technology acceptance model (TAM)

TAM describes user adoption of technology with the help of two constructions: perceived usefulness and perceived ease of use. Perceived ease of use is the extent to which one feels that the use of a particular system would not require much effort. Perceived usefulness is the degree to which an individual thinks

that technology will improve their work effectiveness or overall productivity. The above perceptions influence the user's attitude toward the use of technology, which in turn affects their intention to use it for adoption (Davis et al., 2024). In the present study, WhatsApp is considered to be a platform technology whose acceptance by students is dependent on its perceived academic utility and social usefulness. It is essential to acknowledge students' motivation to use WhatsApp for university-related interaction in order to evaluate its academic worth.

Together, these two theoretical frameworks informed the formulation of research questions, the design of the study instrument, and the interpretation of findings. They place the study within relevant learning theory while grounding it in the realities of technology-supported learning in contemporary university contexts.

3 Materials and methods

This section presents an overview of the research procedures employed in this study and outlines the requirements for participant inclusion. It also provides information on the sample composition and explains the sampling methodology followed in this research. The research design, the rationale behind the selection of this particular design, the study tool utilized for data collection, and its validity and reliability are also discussed.

3.1 Research design

For data collection and analysis, this research employs the quantitative method, which is appropriate for exploring the research inquiries at a numeric scale. The objective of this research is to explore the impact of WhatsApp on students' academic and social adaptation to university life. Therefore, the tool for data collection constitutes a structured online questionnaire with predefined response options established using Google Forms. This tool is fitting because it allows the researchers to efficiently and effectively reach large numbers of students and enables participants to complete the questionnaire at their convenience.

To facilitate participation, the 5-point Likert Scale was used with Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2, and Strongly Disagree = 1. Likert Scale fits the purpose of this study—to explore the impact of a social media application on certain aspects of participants' lives—because it is simple, accurate, and reflective of the degree of the participant's agreement or disagreement with the statement.

The questionnaire was exclusively administered to first-year students enrolled in compulsory university requirement courses during the Spring semester of the academic year 2023–2024. To ensure voluntary and safe participation in the study, the following statement appeared in bold at the top of the questionnaire “Participation in this questionnaire is voluntary, and it is completely anonymous and confidential.” Upon submission, completed forms were automatically sent to researchers' emails. The descriptive approach was proficiently employed to encapsulate both demographic details and the participants' responses.

3.2 Participants

To explore the research questions, an online questionnaire was administered via Google Forms to 311 students enrolled in compulsory university courses at AAU during the Spring semester of 2023–2024. These courses are typically taken by first-year students. More specifically, participants were enrolled in the following courses: English I (two sections), Arabic Language (two sections) and Computer Skills (three sections). Since the only consideration for recruiting participants is that they should be first-year students, the sampling method can be described as a simple random sample with no biases in selecting participants.

The objective of the study—to investigate how the use of WhatsApp impacts students transitioning from school to university—dictated that participants would be exclusively selected from first-year students. Therefore, to access the form, a student university ID had to start with 2023 (the year of enrollment). This guaranteed that only first-year students completed the questionnaire. Out of 311, a total of 205 respondents completed the online questionnaire with a response rate of 65.9%.

Table 1 illustrates the demographics and usage patterns of a sample of 205 individuals.

The data presented in Table 1 illustrates the demographics and usage patterns of a sample of 205 individuals. A slight female majority (55.1%) is noted, with the age of the majority of participants falling between 18 and 20 years (67.3%). This age range is expected as all participants were first-year students. The dominant leading field of study is Engineering (57.6%).

TABLE 1 Demographic and WhatsApp usage profile of surveyed participants ($n = 205$).

Variables		n	%
Gender	Male	92	44.9
	Female	113	55.1
Age	18–20	138	67.3
	21–23	30	14.6
	24 and above	37	18.0
Field of study	Pharmacy	22	10.7
	Engineering	118	57.6
	Business	3	1.5
	Law	9	4.4
	Communication	19	9.3
	Education	34	16.6
Use WhatsApp on a daily basis	<30 min	91	44.4
	30 min to 1 h	72	35.1
	>1 h	31	15.1
	Never	11	5.4
WhatsApp using purposes	Academic purposes	17	8.3
	Personal communication	12	5.9
	Both	176	85.9

Patterns of daily use of WhatsApp and reasons for using the app are also included in Table 1. Responses show that usage is widespread, with a notable percentage (44.4%) spending <30 min on the platform daily. Figures also show that the overwhelming majority of students (85.9%) primarily employ the app for *both* academic and personal communications. This finding contrasts sharply with the fact that only (8.3%) and (5.9%) use WhatsApp exclusively for either academic or personal purposes, respectively. This data offers valuable insights into the demographic composition and technology usage behaviors of the surveyed group, providing a foundation for potential research and informed decision-making.

3.3 Study tool

The study tool utilized in this research is a structured questionnaire designed to gather relevant data from the participants. The questionnaire included questions related to demographic information such as gender, age, academic year, field of study, employment status, and marital status. This information is necessary as the randomly selected sample reflects the general characteristics of the study population (i.e., first-year students at AAU).

To answer the study's questions about the correlation between students' usage of WhatsApp and their academic and social experiences, the questionnaire included questions specifically targeting WhatsApp usage patterns, the duration of time students spend on the app, and their reasons for using it their level of satisfaction with using WhatsApp for multiple academic and social purposes and their perceived impact of WhatsApp on various aspects of their academic and social experiences during the first-year of university.

In this study, we opted for the Likert scale (Table 2) as the primary measurement method over other scaling approaches. The Likert scale is widely acknowledged for its effectiveness in capturing participants' attitudes by enabling them to indicate their degree of agreement or disagreement with each statement in the questionnaire. In the context of this research, the Likert scale was particularly appropriate, as it emphasizes evaluating participants themselves rather than objects or external factors. Employing Likert scales presents several benefits, including ease in questionnaire construction, respondent-friendly comprehensibility, and uncomplicated data management. Additionally, using the Likert scale mitigates response leniency, resulting in a more informative and dependable assessment.

TABLE 2 Five-point Likert scale.

Degree	Response	Weighted average
5	Strongly agree	4.20–5
4	Agree	3.40–4.19
3	Neutral	2.60–3.39
2	Disagree	1.8–2.59
1	Strongly disagree	1–1.79

In the pursuit of assessing the questionnaire's validity, the questionnaire was subjected to review by a group of five specialized professors and experts. The referees were asked to provide feedback on the tool's statements, alignment with the outlined domains, linguistic accuracy, clarity of formulation, suitability for measuring the intended constructs, and the possibility of modifying, deleting, or adding certain statements.

Based on the valuable set of observations obtained from professors and experts, the wordings of some questionnaire statements were modified, less relevant ones were excluded and two new statements were added. This was done by comparing the referees' opinions on the items that had attracted comments, and the most commonly agreed-upon suggestions regarding vocabulary, whether related to deletion or modification, were taken into account. Moreover, the internal consistency of the questionnaire was calculated by computing the correlation coefficients between each item within the questionnaire domains and the total score for the respective domain.

Table 3 shows that the correlation coefficient for each statement in the questionnaire is positive and statistically significant at a level of significance of 0.01 or less. This indicates that the statements in the questionnaire demonstrate an acceptable level of reliability for conducting the study.

TABLE 3 Correlation coefficients between the score of each statement and the total score of the questionnaire.

Items	Corrected item-total correlation
I primarily use WhatsApp to: [join study groups]	0.535**
I primarily use WhatsApp to: [discuss coursework with peers]	0.586**
I primarily use WhatsApp to: [receive university announcements]	0.393**
I primarily use WhatsApp to: [seek advice from professors or advisors]	0.401**
I primarily use WhatsApp to: [share study materials]	0.470**
WhatsApp played a significant role in helping me connect with other first-year students.	0.630**
WhatsApp influenced my ability to seek academic support or advice from fellow students during my transition to university life.	0.720**
WhatsApp has made it easier for me to adapt to university life in terms of managing my academic responsibilities and social connections.	0.728**
WhatsApp has helped me in facilitating group discussions and collaboration related to my coursework.	0.609**
WhatsApp has played a role in organizing or participating in social events or gatherings with other first-year students.	0.737**
WhatsApp has contributed to my overall social experience during my first-year at university.	0.726**
WhatsApp has influenced my academic performance positively during my first-year of university.	0.571**

**Significant at level of 0.01.

To ensure the study tool's reliability, we employed the Cronbach's Alpha Coefficient method. The results presented above indicate a high level of reliability, with a coefficient of (0.878) for the pilot sample ($n = 100$). This demonstrates the tool's reliability and its suitability for field application. According to Downing (2004), reliability tool values between 0.5 and 0.7 are considered mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great, and values above 0.9 are superb. The researchers have duly confirmed the scale's reliability and validity in its final form, ensuring its applicability to the primary sample. This affirms the scale's full reliability, accuracy, and relevance in gathering essential data to address the research inquiries.

3.4 Data analysis protocol

The data underwent analysis using SPSS version 24 software. Descriptive statistics such as mean, standard deviation, percentages, and frequency distribution were employed for analyzing count data. To address the research inquiries, we utilized Pearson correlation, One Way Analysis of Variance, and Independent *T*-test. The independent variables encompassed gender, age, marital status, and employment status. A significance level of $p < 0.05$ was considered to determine statistical significance.

3.5 Research ethical approval

This research strictly adheres to the ethical guidelines and regulations provided by the Ethics Committee at AAU. All aspects of the study were designed and conducted in accordance with these guidelines to ensure the ethical conduct of the research. A statement at the top of the questionnaire informed participants that their participation in the questionnaire is voluntary and that their identities will remain anonymous.

4 Results

This section encompasses the analysis, presentation, and interpretation of the findings derived from this study. The analysis and interpretation of the data are primarily based on the questionnaire results, focusing on quantitative analysis.

4.1 Results of the first question

Q1: Is there any correlation between students' usage of WhatsApp and their academic experiences such as academic performance, group discussion, and academic support?

The correlation matrix (Table 4) delves into the relationships between various aspects linked to WhatsApp usage and its impact on academic and social experiences during the first year of university. A moderate positive correlation is observed between the overall usage of WhatsApp and seeking academic support and advice from fellow students during the transition to university

TABLE 4 Correlation between overall usage of WhatsApp with their use of WhatsApp and their academic experiences.

Variable	Overall usage of WhatsApp	Academic support	Group discussions and collaboration	Academic performance
Overall usage of WhatsApp	1	0.425**	0.258**	0.231**
Academic support		1	0.597**	0.486**
Group discussions and collaboration			1	0.561**
Academic performance				1

**Correlation is significant at the 0.01 level.

life ($r = 0.425$, $p < 0.01$), indicating that increased WhatsApp usage heightens the likelihood of seeking academic assistance from peers. This result confirms findings from previous studies which have shown that digital natives “use internet and digital technology devices such as computers and smartphones in many aspects of their lives including learning and studying” (Ahmed, 2019a, p. 63). Moreover, this reflects the platform’s capabilities in fostering a supportive community, which resonates with previous studies highlighting the role of WhatsApp in facilitating collaborative learning and peer communication (Lee et al., 2023). Additionally, a moderate positive correlation is found between overall WhatsApp usage and the facilitation of group discussions and coursework collaboration ($r = 0.258$, $p < 0.01$), suggesting that higher WhatsApp usage is associated with an enhanced perception of collaborative efforts in academic discussions. This correlation, although slightly weaker, still underscores WhatsApp’s utility as an educational tool that enhances collaborative dynamics among students (Udenze and Oshionebo, 2020). Furthermore, a moderate positive correlation exists between overall WhatsApp usage and its influence on academic performance ($r = 0.231$, $p < 0.01$), implying that increased usage of WhatsApp is linked to a perception of a positive impact on academic performance during the first-year at university. This finding reinforces the insights gathered from recent research, which indicates that social media, particularly WhatsApp, can play a significant role in enhancing academic performance through increased information sharing and collaborative interactions (Rabbianty et al., 2021).

The implications of these findings are substantial for addressing the research questions concerning the impact of WhatsApp on academic experiences. The strong correlations suggest that WhatsApp functions as a platform that promotes educational interaction among students, thereby enhancing their academic journey during the critical transition to university life. As such, incorporating WhatsApp into academic frameworks may improve peer support mechanisms and collaborative learning experiences (Alqahtani et al., 2019). Nevertheless, while it presents several advantages, such as improved communication and collaboration, it is crucial to remain conscious of the potential distractions and misuse of the platform, which could undermine academic goals (Timung et al., 2024).

The moderate strength of the correlations, while indicative of a positive relationship, does not imply causation. Factors such as individual differences in academic motivation and varying levels of digital literacy may also play a significant role in how students engage with WhatsApp for academic purposes (Al-Rahmi et al., 2015). Future research could adopt a longitudinal approach to track

students’ academic performance alongside their WhatsApp usage to better understand these relationships over time (Rafique et al., 2023).

4.2 Results of the second question

Q2: Is there any correlation between the overall usage of WhatsApp and different social aspects such as developing social experiences, organizing and participating in social events, adapting to university life, and connecting with other students?

The correlation matrix (Table 5) reveals significant insights into the relationship between WhatsApp usage and various aspects of first-year students’ social engagements. The reported correlations, characterized by coefficients such as $r = 0.377$ for connections with peers and $r = 0.398$ for adaptation to university life, highlight a moderate to strong positive association, signaling that increased frequency of WhatsApp use corresponds with enhanced social integration and academic adaptation among students. These coefficients indicate that students who actively engage through WhatsApp are not merely using it as a communication tool; they are leveraging it to foster social support networks, which is known to be crucial during the transitional phase to university life (Gazit and Aharony, 2018). Furthermore, researchers have highlighted how WhatsApp can aid in creating stronger social connections and enhance overall student satisfaction in academic settings (Lee et al., 2023; Singhal and Chawla, 2019).

Additionally, a substantial positive correlation is evident between overall WhatsApp usage and its role in facilitating a smoother adaptation to university life ($r = 0.398$, $p < 0.01$), underscoring that heightened WhatsApp usage aligns with perceived ease in managing academic obligations and social connections during the transition to university. The effect sizes of the correlations—particularly those exceeding 0.350—demonstrate practical significance for both researchers and educators. Cohen’s guidelines classify correlation coefficients of 0.3 to 0.5 as moderate, which indicates that WhatsApp serves as an instrumental platform for cultivating social interactions and easing the transition into academic life (Gignac and Szodorai, 2016). Additionally, the positive correlation with social events involvement ($r = 0.358$) reinforces the idea that WhatsApp significantly influences students’ engagement in extracurricular activities, a factor associated with overall student satisfaction and wellbeing (Maknunah and Rizal, 2024).

TABLE 5 Correlation matrix among overall usage of WhatsApp with using WhatsApp and different social aspects.

Variable	Connection with other first-year students	Managing my academic responsibilities and social connections	Organizing or participating in social events	Social experience	Overall usage of WhatsApp
Connection with other first-year students.	1	0.555**	0.665**	0.524**	0.377**
Managing my academic responsibilities and social connections.		1	0.710**	0.658**	0.398**
Organizing or participating in social events			1	0.727**	0.358**
Social experience				1	0.373**
Overall usage of WhatsApp					1

**Correlation is significant at the 0.01 level.

The implications of these findings are profound concerning the research question posed about the role of WhatsApp in the social encounters of first-year university students. They suggest that WhatsApp is not only pivotal for academic support but also vital for nurturing social bonds, thus urging universities to consider integrating WhatsApp-oriented activities into orientation programs. The increased ease of communication and socialization may foster a more inclusive environment that aids in counseling students who may feel isolated or anxious during their transition (Lee et al., 2023). Moreover, this reinforces the idea that mobile instant messaging platforms could be strategic tools for enhancing students' social experiences (Mulyono et al., 2021).

While these results indicate positive correlations, further exploration into the context and quality of interactions facilitated through WhatsApp is necessary. Therefore, emphasizing holistic approaches that blend digital and in-person interactions may provide a more balanced social environment for students (Baba and Muhammad, 2021).

5 Discussion

Hereinafter is a summary and discussion of the main results for each research question.

5.1 Research question 1

One finding of the current study reveals that WhatsApp is a pivotal tool for first-year university students with a strong inclination toward academic collaboration and support. Over half of the respondents strongly agree that WhatsApp aids them in joining study groups, discussing coursework, sharing study materials, and facilitating group discussions. The outcomes affirm the premises of connectivism because WhatsApp facilitates informal peer-to-peer learning communities among students. Additionally, the perceived usefulness and ease of use conform to TAM and affirm motivation and adoption behavior by students.

This finding is consistent with the literature. Numerous studies have emphasized WhatsApp's potency as a teaching tool (Ahmed, 2019b) and its popularity among university students for academic support and collaboration (Udenze and Oshionebo, 2020), as well as its significant role in students' motivation and skills development (Ahmed, 2019a). In addition, WhatsApp offers a platform for sharing study resources, discussing coursework, joining study groups, and facilitating group discussions (Aziz et al., 2021).

However, some studies that disagree with this finding imply a lack of consistency or an absence of discernible effect in the research on WhatsApp's effects on student involvement and academic experiences (Obi Jude et al., 2019; Rahmadi, 2020). These inconsistencies may be attributed to different reasons, including different contexts in educational settings, instructor support, and student preferences (Barhoumi, 2015). Considering these contextual aspects, further research should be conducted using rigorous research methods and standardized criteria to gauge WhatsApp's efficiency in educational contexts.

However, while WhatsApp aids in creating supportive academic environments, significant negative impacts have also been documented in several research studies. For example, distractions stemming from non-academic discussions on WhatsApp can hinder students' focus on their studies, which can lead to decreased academic performance (Çetinkaya, 2017). Additionally, the potential for excessive use of WhatsApp can disrupt students' study time and negatively influence their relaxation periods, resulting in adverse effects on education achievements (Dhiman and Varma, 2023). This duality presents a challenging paradigm for students, who must navigate WhatsApp's benefits while mitigating its distractions. Furthermore, reliance on WhatsApp for academic purposes can adversely affect students' usual study habits and cognitive processes. WhatsApp messages could impair students' working memory performance, potentially hindering their ability to concentrate and absorb new information effectively (Aharony and Zion, 2018). Similarly, leisure-oriented uses of WhatsApp can lead to poor time management and procrastination, compromising academic writing and learning outcomes (Lee et al., 2023). Moreover, overindulgence in

WhatsApp usage can lead to increased screen time, which is closely linked to negative health outcomes such as sleep disturbances and reduced attention spans (Chandramoorthy et al., 2021). That suggests that frequent engagement with social media platforms like WhatsApp can decrease sleep quality, which is an essential component of academic success.

This evidence indicates a complex relationship where WhatsApp serves both positive and negative roles in students' academic lives. While it undeniably fosters collaboration and the sharing of resources essential for academic success, students and educational institutions need to recognize and address the distractions and potential detrimental effects accompanying its use.

5.2 Research question 2

The current research results indicate that WhatsApp has a notable influence on the academic life of first-year students as it helps them receive university announcements, seek to receive university announcements, seek advice from professors, and adapt to university responsibilities. Additionally, WhatsApp significantly contributes to students' social experience, aiding them in establishing connections with fellow students and facilitating the organization of social events. These results are consistent with multiple research studies that indicated that WhatsApp substantially impacts students' social experiences and academic life. WhatsApp is a useful tool for social interactions, sharing knowledge, and facilitating communication within the academic community (Aharony and Gazit, 2016). Indeed, WhatsApp's extensive use is directly related to the functionality and accessibility of mobile phones (Dweikat and Hasan, 2021; Kauta et al., 2020).

Most of the literature we reviewed did not particularly address the influence of WhatsApp on first-year students' transitioning experiences. Instead, the focus has either been on the use of WhatsApp as a learning tool (Al Hamdany, 2022; Aziz et al., 2021) or on the ways other social media platforms, such as Facebook, impact university students' experiences (Alwreikat et al., 2021). Thus, more investigation is required to explore more comprehensively the effect of WhatsApp on the transitioning experiences of first-year students, particularly at the academic and social levels.

While WhatsApp plays a significant role in enhancing academic connectivity and social integration among first-year university students, the potential for negative consequences cannot be overlooked. Issues such as cognitive overload due to continuous streaming of messages may lead to cognitive fatigue and reduced concentration (May and Elder, 2019), privacy concerns and the risk of involuntary data breaches (Martin and Wilcox, 2020), social pressure, where students feel compelled to respond immediately to messages from peers or faculty (Chen and Crutzen, 2021), reduced face-to-face interactions, which may diminish the quality and frequency of direct interpersonal interactions (Jones et al., 2018), and disruptions to academic routines highlight the need for careful management of such digital platforms. Future research should focus on longitudinal studies to assess the long-term impacts of WhatsApp usage within academic environments, and universities should consider developing policies that mitigate these potential

disadvantages while preserving the beneficial aspects of instant digital communication.

6 Conclusion and limitations

The transitional experiences of first-year university students significantly influence their subsequent academic and social experiences. These experiences are largely shaped by factors related to institutional readiness, social support, social integration, and sense of belonging. If appropriately utilized, WhatsApp can be a crucial tool for first-year university students during the orientation phase, aiding in academic collaboration, group discussions, and the sharing of study materials. Also, WhatsApp significantly impacts academic life by assisting students in receiving university announcements, seeking advice, and adapting to university responsibilities. It also contributes to the social life of students by engaging with other students and organizing events. Universities can promote a smoother transition of new students and build a sense of belonging and community at the university by embracing WhatsApp as a medium of information sharing and peer-to-peer tutoring and communication. According to connectivism and TAM theory, the study formulates the effectiveness of WhatsApp in enabling students' academic transition and social interaction through digital networks and an amicable utility that meets the evolving technology expectations of learners.

In this study, we encountered a few limitations that need to be stated. The first limitation is concerned with the language used in the questionnaire; since the overwhelming majority of students at AAU are natives of Arabic and since some of these students are not fluent in English, the researchers opted to translate the questionnaire into Arabic. The purpose of this translation was to allow more students to participate and also to ensure the accuracy of understanding. Meanwhile, the researchers took serious precautions to ensure receiving accurate responses, such as employing rigorous translation techniques to mitigate potential errors and biases that could arise from language discrepancies. Pilot tests were carried out to refine the questionnaire further and assess the efficacy of the translation, which aligns with best practices in ensuring that surveys generate reliable and valid data from diverse populations. Another limitation was the limited literature directly addressing the connection between WhatsApp usage and first-year students' academic and social experiences in general, particularly within the UAE. This scarcity underscores the importance of the current study, as it attempts to fill this gap by providing insights into how WhatsApp influences first-year students' engagement and interaction within the educational framework of the UAE. The need for further exploration in this niche is pressing, as it reflects broader trends in educational technology and communication. The third limitation is related to the study tool, i.e., a questionnaire using the Likert Scale. Despite the numerous advantages of using this tool, an obvious limitation is that it does not capture participants' complex attitudes as it reduces responses to a single answer. Therefore, the researchers suggest more studies using other tools such as interviews and written reflections. Finally, the cross-sectional design of the study makes establishing a direct causal relationship between variables relatively difficult. Yet, we have opted for this design because it is practical

and beneficial in providing information about the presence of a relationship regardless of causality.

6.1 Implications

The use of WhatsApp in higher education represents a promising opportunity for enhancing both academic and social experiences during the transition to university life. Although existing research has primarily focused on its role in tutoring and collaborative learning, the potential of WhatsApp to support first-year students' adjustment to new academic and social environments remains relatively underexplored. Therefore, future studies should look into this connection to provide insight into the aspects that potentially influence first-year students' adjustment to their new academic and social environment.

Among the inquiries that need further consideration are those related to how WhatsApp could help facilitate and support coursework, strengthen relationships among students and teachers, promote student engagement in various social and academic activities, and even inform them about opportunities for internships and part-time and summer jobs. Moreover, future research should strive to assess a broader range of communication technologies and their respective impacts on student experiences, thereby broadening the understanding of how these tools affect learning environments.

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 review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent from the participants was not required to participate in this study

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Author contributions

SQ: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Supervision, Writing – original draft, Writing – review & editing. EH: Conceptualization, Data curation, Formal analysis, Methodology, Writing – review & editing. MA: Conceptualization, Supervision, Writing – review & editing.

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