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Social Media Usage: Determinants and Potential Risks among University Students in Egypt and Saudi Arabia

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Abstract The purpose of this study is to explore the determinants and prevalence of social media addiction among university students in two Arab nations (Egypt and Saudi Arabia) based on such key factors as country, gender, time spent daily on social media, as well as field of study (academic discipline). The present study used a quantitative research design. The data were collected through a structured questionnaire from 1,905 participants (593 Saudi university students and 1,312 Egyptian university students). The questionnaire used in the current study is designed based on the nine-item Social Media Disorder (SMD) scale developed by Van den Eijnden et al. [1] to examine the contribution of demographic and behavioral variables to predict social media addiction among university students. The findings of the current study designate a higher prevalence of social media addiction among Saudi university students compared to Egyptian students. Additionally, the findings indicate that male students and individuals who engage in social media for more than six hours daily were at greater risk of being addicted to social media. Furthermore, students who are enrolled in scientific disciplines demonstrated greater susceptibility to social media addiction compared to their counterparts in Education, Humanities, and medical fields. These insights assured the role of demographic and behavioral variables in shaping the patterns of digital dependency among university students. This is a self-reported cross-sectional survey and may restrict generalization to the findings. Future research could explore longitudinal data, as well as other factors that impact, such as academic attainment and mental health. The research contributes to the growing literature on digital addiction in two Arab nations, highlighting the demographic and behavioral characteristics of social media addiction. The findings have significant implications for the academic and psychological effects of digital dependency among university students in the Arab region.

Keywords: *Social Media Addiction, Digital Dependency, University Students, Saudi Arabia, Egypt*

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1. Introduction

No one can ignore that social media sites (SMSs) have become an essential part of modern life, facilitating communication, socialization and the sharing of knowledge [2]. As an interactive Web 2.0 technology, it facilitates real-time interaction and user-generated content, thus utilizing its ubiquitous utilization. Nevertheless, overuse has, however, raised concerns about social media addiction, which is characterized by compulsive usage, repetitive checking for updates, and neglect of significant responsibilities [3]. While some research highlights its benefits, others link the effect of its excessive use on mental health problems like anxiety, depression, and sleep disorders, particularly among adolescents [4,5,6]. A Pew Research Center survey [7] concluded that nearly half of U.S. adolescents report continuous online activity, indicating the widespread use of platforms such as YouTube, TikTok, Instagram, and Snapchat as their most frequently accessed digital spaces.

The rapid expansion of SMSs is evident, with global users reaching 5.24 billion in 2024, representing over 60% of the world's population [8]. On average, individuals manage 8.4 accounts and spend approximately 145 minutes daily on SMSs [9]. While some studies suggest that SMSs can alleviate anxiety [10], prolonged use is associated with diminished well-being, raising concerns about its role in behavioral addiction [11]. A meta-analysis across 32 countries estimates that 24% of users exhibit signs of social media addiction, reinforcing its significance as a public health issue [12]. Alter [13] cautions that society is still in the early stages of understanding behavioral addiction, with SMSs playing a pivotal role in its development.

Among university students, SMSs serve as tools for academic collaboration, networking, and self-expression [14]. The Technology Acceptance Model (TAM) suggests that students engage in SMSs due to its perceived value

and ease of integration into academic settings [15]. Conversely, excessive use is associated with procrastination, reduced concentration, and declining academic performance [16]. In regard to the Arab world, SMSs are crucial components of education and cultural discourse, providing young people with platforms for self-expression while supporting familial and social connections in collectivist societies [17].

Saudi Arabia has one of the highest global rates of SMSs usage, particularly for maintaining familial relationships and engaging in cultural and religious activities [18]. The number of users increased from 7.6 million in 2014 to 29.5 million in 2022, covering 96.2% of the population [17,19]. In 2024, social media penetration in Saudi Arabia increased to 99.0%, with YouTube being the most widely used platform [20]. In contrast, Egypt has a different demographic, with 45.40 million active social media users, accounting for 40% of the population [21]. While Egypt has a larger number of users, Saudi Arabia has a greater social media presence in daily life. Despite the high usage rates in both countries, empirical research on social media addiction is limited.

Theoretical frameworks such as the Uses and Gratifications Theory (UGT) suggest that individuals engage in SMSs to fulfill emotional and psychological needs, but excessive use can lead to dependency [22]. Social Cognitive Theory (SCT) and Self-Determination Theory (SDT) further explain how SMSs contribute to academic motivation and behavioral patterns [23]. A bibliometric analysis of 501 studies published between 2013 and 2022 found that most research employs quantitative, cross-sectional methods, focusing on undergraduate students aged 19–25, with Facebook and Instagram being the most analyzed platforms. Additionally, 47% of these studies originate from the United States, the United Kingdom, and Turkey, highlighting a research gap in other regions [24].

This study aims to examine existing literature on social media addiction, examining its impact on students' academic performance, psychological well-being, and social interactions. By analyzing cross-national differences between Egypt and Saudi Arabia, this research seeks to provide a comprehensive overview of social media addiction in universities.

2. Theoretical Background

Using SMSs in educational settings has been a major factor in students' academic performance, psychological wellbeing, and overall development. While SMSs offer considerable educational advantages, excessive use poses potential risks. A comprehensive understanding of these dynamics is essential for enhancing its role in academic environments. Existing research presents a range of evidence, highlighting both the benefits and challenges associated with SMSs engagement [25].

2.1. The Benefits of Social Media in Higher Education

When integrated into higher education, SMSs enhance student learning, academic engagement, and professional development. Platforms such as Facebook, Twitter, and LinkedIn enable students to exchange ideas, share resources, and build professional networks [26]. This is supported by connectivism, a learning theory that focuses on knowledge acquisition through distributed networks, where students synthesize knowledge and engage in peer feedback, fostering deeper learning and active participation [27].

Studies demonstrate the importance of SMSs in enhancing student-teacher communication, providing access to supplementary learning materials, and fostering peer interaction [3,28,29]. SMSs also enhance academic social connections, which contribute to student success [30]. However, a distinction must be made between academic and non-academic regarding the use of SMSs. Chang, Tu, and Hajiyev [31] argue that task-related engagement enhances student's academic performance, while non-task-related usage can be detrimental, highlighting the need to guide students to productive digital engagement.

The integration of SMSs, including Web 2.0-based platforms, has transformed learning methods through interactive and collaborative approaches. SMSs increase accessibility through online and blended learning, flipped classrooms, and gamification [32]. These platforms offer direct access to digital libraries, scholarly articles, and educational videos, particularly beneficial for rapidly evolving fields such as science and engineering. Malik et al. [33] emphasizes Twitter’s increasing role in higher education, particularly in US and Europe, as a tool for communication, engagement, and collaborative learning. Their review of 103 studies reveals that students and educators use Twitter to exchange information, participate in discussions, and collaborate with academic institutions, improving both formal and informal learning.

Prior to academic engagement, SMSs significantly contribute to students' professional development. Zhang et al. [34] examined its relationship with academic performance, identifying the mediating roles of family bonding and collaborative learning, along with the altering influence of mental well-being. The findings of their research indicate a positive correlation between the use of SMSs and academic success, principally when students operate in supportive academic and social settings. The research of Smith and Storrs [35] examined undergraduate students' perceptions of digital literacies (DL) in academic learning, revealing a gap between students' recognition of DL's importance and institutional support. Their findings suggest that universities should incorporate digital literacy training more explicitly into curriculum.

The impact of SMSs on students' well-being remains a subject of academic review. The research of Zhang, Tang, and Liu [36] aimed to examine the complex relationship between the use of SMSs and university students' psychological well-being (PWB) and subjective well-being (SWB), addressing contradictions in previous studies. The findings of their research assure that SMSs can positively influence PWB and SWB through enhanced self-esteem and social support. However, cyberbullying weakens these positive aspects, particularly in the early stages of the mediation process. Wheatley and Buglass [11] examined the relationship between SMSs engagement and life satisfaction using large-scale UK panel data. Their

findings suggest that the use of moderate SMSs promotes social connection and enhances social capital, enhancing the positive role of digital interaction in students' overall well-being.

Mobile technology further extends the educational benefits of social media. Qi [37] examined the dual impact of mobile device usage in higher education, highlighting both its academic advantages and potential challenges. Grounded in the Person-Technology Fit (P-T Fit) model, the study found that mobile technology serves as a valuable educational tool without significantly contributing to technostress when used appropriately. This suggests that integrating mobile platforms into academic environments can enhance learning outcomes while mitigating the risks of digital overuse.

Overall, SMSs play a crucial role in higher education by advancing academic collaboration, enhancing accessibility, and supporting professional development. Nevertheless, its success depends on structured integration, proper guidance, and institutional support. Universities should balance the benefits of digital engagement with the need to reduce its potential consequences, ensuring that students receive a productive and enriching academic experience.

2.2. The Risks of Social Media in Higher Education

While SMSs enhance collaboration and accessibility in higher education, excessive use presents significant challenges, particularly cognitive overload, weakened academic performance, and harmful psychological effects. Research has identified a negative correlation between high social media engagement and academic achievement, as frequent task-switching diminishes focus and increases procrastination [38]. According to attention residue theory, persistent digital interactions disrupt cognitive processes, further weakening sustained academic engagement [39,40].

Fu et al. [41] apply the stressor-strain-outcome (SSO) framework to examine the impact of system feature overload, information overload, and social overload on user exhaustion and social media discontinuance. Their findings indicate that excessive disclosure to digital stimuli increases cognitive strain, resulting in students' ability to concentrate and engage in academic activities. It is crucial to address digital fatigue, particularly for students and professionals who depend on SMSs for learning and career development.

Excessive use of SMSs diminishes self-regulation, negatively affecting academic performance, mental health, and overall wellbeing [42,43]. Frequent task-switching between academics and social media reduces cognitive focus, leading to procrastination and reduced study time [16,44,45]. Additionally, problematic smartphone use (PSPU) is associated to poor sleep quality, anxiety, and depression, mainly among younger students [46]. The research of Jarman et al. [47] focuses on a bidirectional relation between the usage of SMSs and well-being, where psychological distress leads to increased usage, further causing mental health. This cycle of digital dependence highlights the need for digital literacy and self-regulation techniques. Mojtabai [48] confirms PSMU as a cause of psychological distress through a structural analysis of linear non-Gaussian acyclic model (LiNGAM), demonstrating its central role in adolescent mental health issues.

The psychological effects of excessive use of SMSs are beyond academics, affecting well-being through poor sleep quality, low self-esteem, increased anxiety, and depressive symptoms [49]. These insights emphasize the need for digital well-being plans, institutional assistance, and awareness campaigns to foster responsible use among university students. Ponnusamy et al. [43] linked Instagram addiction to social withdrawal, highlighting the significance of promoting responsible digital commitment to alleviate its negative effects.

This study aims to uncover this gap by studying SMS usage patterns, signs of addiction, and their impact on university students in both Egypt and Saudi Arabia. Furthermore, the study aims to investigate the impact of sociodemographic factors, such as gender, academic discipline, and SMSs daily usage on the prevalence of social media addiction. The results of this study will contribute to the development of targeted interventions and procedures aimed at identifying the negative effects of social media addiction and advancing responsible usage among university students in both Arab nations. To achieve these objectives, the current study is guided by the following research questions:

1. How valid and reliable is the SMD-9 scale in determining social media addiction among Saudi Arabian and Egyptian universities?
2. Are there any differences in social media addiction among Saudi Arabian and Egyptian universities?
3. How does the use of social media contribute to the rise of social media addiction among Saudi Arabian and Egyptian students?
4. How do sociodemographic factors influence the prevalence of social media addiction among Saudi Arabian and Egyptian students?
5. What are the major factors influencing the prediction of social media addiction among Saudi Arabian and Egyptian universities?

3. Method

3.1. Participants

This study examines social media risks among university students in Saudi Arabia and Egypt, drawing on a randomly selected sample of 1,935 students. The research was conducted in two phases: a pilot study with 30 participants, followed by the main study involving 1,905 students. Table 1 presents the demographic characteristics of the sample, offering valuable insights into students' social media usage patterns and behaviors.

Table 1 displays the demographic characteristics of the 1,935 participating university students. The majority (68.9%, 1,312 responses) were Egyptian university students, and Saudi participants accounted for 31.1% (593 responses). Female university students dominate (67.0%, 1,277 responses) compared to 33.0% (628 responses) male students.

In terms of field of study, the largest (59.1%, 1,125 students) participants enrolled in Education and Humanities colleges, followed by science colleges

(27.5%, 524 students) and medical colleges (13.4%, 256 students). The disparity suggests potential differences in the use of social media across the field of study, gender, and origin country.

Table 2 presents Social Media Involvement among University Students, regarding Time spent (hours/day) and Favorite media. The highest number of university students (44.8%, 854 students) spends 3–6 hours per day on social media, and 27.8% (530 students) spends over 6 hours. There is still a small group (27.4%, 521 students) spending less than 3 hours per day on social media, indicating a high amount of aggregate usage.

The most popular media is Facebook (40.4%, 768 students), followed by WhatsApp (27.5%, 524 students), followed by Instagram (16.2%, 309 students) and Snapchat (7.8%, 149 students). Twitter (5.6%, 107 students) and other websites (2.5%, 48 students) are among the rest. The findings demonstrate the dominance of Facebook and WhatsApp, followed by the impact of new platforms on student online behavior.

Table 1. Demographic Characteristics of University Students in Saudi Arabia and Egypt

Demographic Variable	Category	Number	%
Nationality	Saudi	593	31.1%
	Egyptian	1312	68.9%
Gender	Male	628	33.0%
	Female	1277	67.0%
College	Education and Humanities	1125	59.1%
	Medical	256	13.4%
	Science	524	27.5%

Source(s): Author's computation

Table 2. Social Media Involvement Patterns Among University Students

Demographic Variable	Category	Number	%
Time spent (hours/day)	1 to below 3 hours	521	27.4%
	3 to below 6 hours	854	44.8%
	Above 6 hours	530	27.8%
Favorite media	WhatsApp	524	27.5%
	Facebook	768	40.4%
	Snapchat	149	7.8%
	Twitter (X)	107	5.6%
	Instagram	309	16.2%
	Others	48	2.5%

Source(s): Author's computation

3.2. Data Collection

This study employed a quantitative, deductive approach within an explanatory framework to investigate social media addiction among university students. Data were collected using a self-administered questionnaire based on the nine-item SMD scale [1], which assesses addiction through dichotomous responses, with scores above five indicating potential disorder. The scale's effectiveness is supported by its strong validity and reliability.

For the Arab participants, the researchers used an Arabic version of the SMD scale; the translation/back-translation technique was used to translate the scale. Geisinger [50] explains that 'The quality of the translation is evaluated in terms of how accurately the back-translated versions agree with the original text' (107). Three independent professional translators were involved in the process. One translator converted the scale statements from English to Arabic and the two other translators independently converted the scale statements back to English. The two English versions of the scale statements were thereafter compared to the original scale statements. Modifications were made to the Arabic versions because of issues raised from the back-translated items. Some statements were rephrased to ensure their suitability for Arab university students, without altering the original meaning.

Data collection occurred between April and May 2025 using simple random sampling among university students in Egypt and Saudi Arabia. The survey, distributed via Google Forms and shared through social media and WhatsApp groups, utilized snowball sampling to expand participation. Ethical approval was secured, yielding 1,905 valid responses.

3.3. Statistical Analyses

The data collected were analyzed using SPSS. Descriptive statistics employed means, and standard deviations provided the description of participants' behavioral and demographic profiles, while Cronbach's alpha determined the reliability of the Social Media Disorder scale.

An exploratory factor analysis (EFA) with primary component analysis (PCA) verified the scale structure. Chi-square test was used to compare the association of categorical variables such as country, gender, and field of study. Multiple logistic regression was done to determine social media addiction predictors based on sociodemographic as well as behavior-related variables. These analyses presented a comprehensive understanding of its determinants, prevalence, and significance among two Arab nations' students.

4. Results

4.1. Reliability and Validity of the Social Media Disorder (SMD) Scale

A pilot study with 30 university students was conducted to refine the SMD scale for clarity and alignment with study objectives. Expert validation confirmed its suitability for assessing social media addiction.

Cronbach's alpha assessed internal consistency, while Pearson's correlation evaluated construct validity. Table 3 shows strong reliability, with item alpha values between 0.862 and 0.893 and an overall coefficient of 0.887, confirming the scale's robustness.

Table 3 confirms the scale's reliability, with Cronbach's alpha values ranging from 0.862 to 0.893 and an overall coefficient of 0.887, indicating high internal consistency. Significant Pearson's correlation coefficients ($p < 0.01$) validate strong inter-item relationships, while consistent standard deviations suggest uniform response patterns.

4.2. Factor Structure of the SMD Scale

To determine if the data were appropriate for factor analysis, both the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were applied, as recommended by Field [51] and Hair et al. [52]. A KMO value of 0.5 or higher is generally considered acceptable, indicating that the sample is adequate for conducting factor analysis [53]. Additionally, Bartlett's test of sphericity is conducted to confirm that correlation matrix of the items is not an identity matrix, with a significant $\chi 2$ p-value (p-value < 0.05) [54]. The results of the analysis in Table 4 reveal that KMO = 0.918, indicating that the sample meets the minimum threshold. Bartlett's test yielded ($\chi^2 = 8324.589$, df = 36, $p < 0.000$), suggesting that the sample used in the analysis is sufficiently adequate and the data are suitable for factor analysis, as it is not random or structured.

Table 4 provides the PCA results, indicating the scale's validity and reliability. The KMO measure of 0.918 indicates excellent sampling adequacy, while Bartlett's test of sphericity ($\chi^2 = 8324.589$, $p < 0.000$) supports factor extraction. Factor loadings (0.706–0.817) demonstrate strong item contributions to social media addiction, with communalities (0.499–0.667) reflecting substantial shared variance. These findings affirm the scale's robustness for assessing social media disorder in university students.

4.3. Comparative Analysis of Social Media Addiction among University Students in Egypt and Saudi Arabia

This section examines and compares levels of social media addiction among Egyptian and Saudi university students using SMD scale. The SMD scale was based on the DSM-5 criteria, and included nine indicators, which were preoccupation, tolerance, withdrawal, persistence, Displacement, Problems, Deception, Escape and Conflict. Findings indicate significant differences between Egypt and Saudi Arabia, highlighting the influence of cultural and social factors on addiction severity.

Table 5 displays some clear differences between Saudi and Egyptian university students in terms of their experiences with social media addiction. Generally, Saudi university students showed higher levels of problematic behaviors related to social media usage across the dimensions of the (SMD) scale, when compared to their Egyptian counterparts. In the present study, a greater number of Saudi students showed frequent preoccupation with social media (62.1% vs. 59.5%) and longer screen time daily (61.6% vs. 37.9%) compared to Egyptian students. Saudi students were also more probable to experience withdrawal symptoms, such as anxiety or restlessness when incapable of accessing social media sites (67.8% vs. 39.6%) in comparison with Egyptian counterparts.

As for concerns around self-control, they were also more evident among Saudi students, with 72.0% demonstrating difficulty in reducing their social media usage, in comparison with 51.3% of Egyptian students. Likewise, social media utilization was more likely to disrupt daily schedules among Saudi students (57.2% vs. 36.7%) compared to Egyptian students, resulting in emotional stress and reduced well-being.

Besides, Social worries were also more repeatedly reported. Saudi participants showed higher rates of conflict with friends (65.4% vs. 26.8%) and parents (49.9% vs. 31.8%) in relation to their social media habits. They were more likely to conceal their usage and go to deceptive behavior (57.8% vs.25.4%) and tend to escape to social media as a means of coping with emotional stress (63.9% vs. 56.4%).

These findings indicate that cultural and societal contexts contribute to form students' digital behavior. The high levels of addiction-related symptoms perceived among Saudi students highlight the need for culturally responsive interventions and awareness programs aimed at organizing healthier and more mindful social media activities.

Table 3. Reliability and Internal Consistency of the Social Media Disorder (SMD) Scale

Items	x̄	SD	a	SMD1	SMD2	SMD3	SMD4	SMD5	SMD6	SMD7	SMD8	SMD9	Overall
SMD1	.60	.489	.887	1									
SMD2	.45	.498	.893	.499**	1								
SMD3	.48	.500	.864	.481**	.528**	1							
SMD4	.58	.494	.862	.532**	.475**	.545**	1						
SMD5	.43	.495	.877	.504**	.434**	.487**	.568**	1					
SMD6	.39	.488	.870	.385**	.429**	.470**	.442**	.499**	1				
SMD7	.35	.479	.881	.380**	.465**	.411**	.499**	.594**	.611**	1			
SMD8	.59	.492	.862	.649**	.518**	.527**	.611**	.623**	.500**	.517**	1		
SMD9	.37	.484	.867	.413**	.426**	.448**	.438**	.502**	.570**	.530**	.498**	1	
Overall	.47	.366	.887	.722**	.713**	.732**	.762**	.777**	.730**	.744**	.811**	.718**	1

***. Correlation is significant at the 0.01 level (2-tailed).*

Table 4. Factor Structure of the Social Media Disorder (SMD) Scale: Principal Component Analysis (N = 1,905)

Variable	Mean	Standard Deviation	Communalities (Extraction)	Factor Loading	KMO	Chi-Square (df)	Sig.
SMD1	0.60	0.489	0.520	0.721	0.918	8324.589 (36)	0.000
SMD2	0.45	0.498	0.499	0.706			
SMD3	0.48	0.500	0.529	0.727			
SMD4	0.58	0.494	0.584	0.764			
SMD5	0.43	0.495	0.611	0.781			
SMD6	0.39	0.488	0.531	0.729			

Variable	Mean	Standard Deviation	Communalities (Extraction)	Factor Loading	KMO	Chi-Square (df)	Sig.
SMD7	0.35	0.479	0.557	0.747			
SMD8	0.59	0.492	0.667	0.817			
SMD9	0.37	0.484	0.512	0.715			

Table 5. Cross-National Comparison of Social Media Addiction Indicators Among University Students

Item	Description of Item	Egypt (N = 1312)				Saudi Arabia (N = 593)			
		Yes N (%)	No N (%)	x̄	SD	Yes N (%)	No N (%)	x̄	SD
Preoccupation	Absorbed about the next time you can use social media again	780 (59.5)	532 (40.5)	.59	.491	368 (62.1)	225 (37.9)	.62	.486
Tolerance	Wanted to spend more time on social media	497 (37.9)	815 (62.1)	.38	.485	365 (61.6)	228 (38.4)	.62	.487
Withdrawal	Felt distressed/upset when you could not use social media	519 (39.6)	793 (60.4)	.40	.489	402 (67.8)	191 (32.2)	.68	.468
Persistence	Attempted to limit time spent on social media but failed	673 (51.3)	639 (48.7)	.51	.500	427 (72.0)	166 (28.0)	.72	.449
Displacement	Disregarded other activities (e.g., hobbies) so that you could use social media	481 (36.7)	831 (63.3)	.37	.482	339 (57.2)	254 (42.8)	.57	.495
Problems	Argued with others about your social media usage	352 (26.8)	960 (73.2)	.27	.443	388 (65.4)	205 (34.6)	.65	.476
Deception	Lied to others about the duration of time you actually spend on social media	333 (25.4)	979 (74.6)	.25	.435	343 (57.8)	250 (42.2)	.58	.494
Escape	Used social media to avoid adverse emotions	740 (56.4)	572 (43.6)	.56	.496	379 (63.9)	214 (36.1)	.64	.481
Conflict	Engaged in severe disagreements with parents and siblings about your social media usage	417 (31.8)	895 (68.2)	.32	.466	296 (49.9)	297 (50.1)	.50	.500

4.4. Sociodemographic Factors and Social Media Addiction

This section investigates the effect of sociodemographic factors on social media addiction among university students in Egypt and Saudi Arabia. A chi-square (χ^2) test revealed significant associations with nationality, gender, academic discipline, social media usage duration, and preferred platform.

Table 6 presents chi-square (2) tests examining sociodemographic variable correlations with social media addiction among Egyptian and Saudi university students. The results indicate significant correlations with nationality, gender, field of study, time spent (hours/day), and preferred platform.

Regarding nationality: Saudi students have reported a higher rate of addiction (62.4%) compared to Egyptian students (39.2%) (2 = 88.521, p =.000), indicating the effect of environmental and cultural determinants on digital dependency.

In terms of gender: male students reported slightly higher addiction rates (50.5%) than female students (44.4%) (2 = 6.250, p =.012), indicating probable gender-based differences in social media usage patterns.

As for field of study: Addiction rates varied by field of study (χ^2 = 22.508, p =.000), with science students recording the highest addiction rate (55.2%), followed by education and human sciences students (42.8%) and medicine students (44.5%), perhaps indicating variation related to Academic Discipline and use of internet-based resources.

Time spent (hours/day): Addiction and social media usage were strongly correlated (2 = 54.217, p =.000), with the highest percentage of dependency for students who spent over six hours a day online (58.1%).

Favorite media: Percentages for addiction varied across platforms (2 = 24.899, p =.000), with Twitter (61.7%) and Snapchat (58.4%) having the highest percentages, while Facebook (45.0%) and Instagram (45.0%) having moderate percentages.

The conclusion: Sociodemographic factors contribute to social media addiction and therefore special awareness, and digital literacy programs are necessary to enable students to engage in healthier online habits.

4.5. Key Predictors of Social Media Addiction among University Students

This section presents multiple logistic regression results identifying key predictors of social media addiction among university students. The analysis examines sociodemographic and behavioral factors, including nationality, gender, time spent online, and academic discipline. Regression coefficients (B), standard errors (S.E.), Wald statistics, p-values, and odds ratios (Exp(B)) are reported to evaluate the significance and impact of these variables.

Table 7 shows some logistic regression results indicating sociodemographic and behavioral factors between Egyptian and KSA university students regarding sociodemographic and behavioral factors.

Nationality: Saudi Arabian students are very likely to be social media addicted compared to Egyptian students (B = 0.946, Exp(B) = 2.576, p < 0.001), showing cultural and digital activity differences.

Gender: Male students tend to be more addicted than female students (B = 0.244, Exp(B) = 1.276, p = 0.012), and the potential reason for this is mostly behavioral and social.

Time spent: students who engaged daily 1–3 hours using social media (B = -0.924, Exp(B) = 0.397) or 3–6 hours (B = -0.496, Exp(B) = 0.609) tend to be less addicted compared to students who spent over six hours a day using social media (p < 0.001), demonstrating the effect of long-screen time.

Academic Discipline: Science students tend to be more addicted than those in Education and Humanities (B = -0.499, Exp(B) = 0.607) ($p < 0.001$) or in medical fields (B = -0.426, Exp(B) = 0.653), ($p = 0.005$), demonstrating that academic workload and study demands affect digital dependency.

In conclusion, the nationality, males, heavy usage of social media, and science discipline are considered risk factors for addiction, while less screen time and Education, Humanities, or medicine disciplines are considered protective factors. These findings indicate that there is a need for targeted intervention to prevent social media addiction among university students.

Table 6. Sociodemographic Correlates of Social Media Addiction among University Students

	Social Media Addiction			χ^2 (df)	p-value
	No N (%)	Yes N (%)	Total N (%)		
Country:					
Egypt	798 (60.8%)	514 (39.2%)	1312 (100%)	88.521(1)	.000
Saudi Arabia	223 (37.6%	370 (62.4%)	593 (100%)		
Gender:					
Male	311 (49.5%)	317 (50.5%)	628 (100%)	6.250 (1)	.012
Female	710 (55.6%)	567 (44.4%)	1277 (100%)		
College:					
Education and Humanities	644 (57.2%)	481 (42.8%)	1125 (100%)	22.508 (2)	.000
Medical	142 (55.5%)	114 (44.5%)	256 (100%)		
Science	235 (44.8%)	289 (55.2%)	524 (100%)		
Time spent (hours/day):					
1 to below 3 hours	336 (64.5%)	185 (35.5%)	521 (100%)	54.217 (2)	.000
3 to below 6 hours	463 (54.2%)	391 (45.8%)	854 (100%)		
Above 6 hours	222 (41.9%)	308 (58.1%)	530 (100%)		
Favorite media:					
WhatsApp	279 (53.2%)	245 (46.8%)	524 (100%)	24.899 (5)	.000
Facebook	438 (57.0%)	330 (43.0%)	768 (100%)		
Snapchat	62 (41.6%)	87 (58.4%)	149 (100%)		
Twitter (X)	41 (38.3%)	66 (61.7%)	107 (100%)		
Instagram	170 (55.0%)	139 (45.0%)	309 (100%)		
Others	31 (64.6%)	17 (35.4%)	48 (100%)		

Table 7. Predictors of Social Media Addiction among University Students: A Logistic Regression Analysis

Variable	B (Beta Coefficient)	S.E. (Standard Error)	Wald Statistic	df (Degrees of Freedom)	Sig. (p-value)	Exp(B) (Odds Ratio)
Country:						
Saudi	.946	.102	86.208	1	.000	2.576
Egypt (Ref)	1.000 (ref)	-	-	-	-	-
Gender:						
Male	.244	.098	6.240	1	.012	1.276
Female	1.000 (ref)	-	-	-	-	-
Time Spent (hours/day)						
1 to below 3 hours	-.924	.127	52.942	1	.000	.397
3 to below 6 hours	-.496	.112	19.766	1	.000	.609
Above 6 hours	1.000 (ref)	-	-	-	-	-
College:						
Education and Humanities	-.499	.107	21.915	1	.000	.607
Medical	-.426	.153	7.730	1	.005	.653
Science	1.000 (ref)	-	-	-	-	-

5. Discussion and Conclusion

The study focuses on investigating the determinants and prevalence of social media addiction among Egyptian and Saudi university students based on key factors such as nationality, gender, duration of time spent on social media, and area of study. The results indicate that the student with increased access to the internet, particularly more than six hours daily, is much more likely to suffer from digital addiction symptoms that accompany lower academic achievement. These results coincide with prior research that identified how excessive use of the internet among students leads to a low level of success and achievement [55,56].

One of the primary findings is that students who utilize social media more than six hours daily are at risk

of addiction, which is negatively linked to poor academic performance. The research of Alshanqiti et al. [57] concluded that students with higher GPAs (4.5) were less addicted, indicating that higher academic performance is positively connected with improved digital behavior. However, some academically successful students are supported by social networking for academic collaboration, demonstrating that responsible digital use programs are needed.

Gender differences also came through clearly in the data. Male students appeared more vulnerable to gaming addiction, while female students leaned more toward social networking sites [55,57,58]. Even though females often spent more time on smartphones, it was usually males who saw greater negative effects on their academic work [59]. These patterns make a strong case for tailoring interventions to the specific digital habits of different student groups.

Cultural background was another important factor. Saudi students reported much higher social media usage than Egyptian students. This result is in line with previous research [18,57], which has shown that many Arab students utilize platforms such as Twitter and Snapchat as a means of entertainment, cultural engagement, and self-expression. The popularity of these platforms in Saudi Arabia appears to be an important factor in shaping how students engage online.

The students' fields of study also mattered. Those in science and technology programs reported higher levels of digital addiction than their peers in humanities, education, or medicine. Medical students, in particular, showed stronger self-control when it came to their screen time, often limiting social media use to under two hours a day [60]. This could be due to the structured nature of their studies and the demands of their coursework, highlighting the need for discipline-specific support that helps students manage their digital engagement without sacrificing academic performance.

Interestingly, many students were not fully aware of the risks linked to excessive social media and gaming use [61]. Based on the uses and gratifications theory, students often turn to digital platforms for emotional relief, social connection, or as a form of escape. While these motives are natural and sometimes even helpful, too much unstructured or unregulated use can lead to serious issues like anxiety, stress, and even depression [56,62].

6. Recommendations

The findings of this study highlight the importance of adopting a comprehensive and interdisciplinary approach to addressing the potential adverse effects of excessive social media use among university students. In this regard, colleges can play a key role in this issue mainly by providing digital literacy programs, integrating wellness into curricula, as well as designing targeted interventions facilitating ethical use of social media among university students. As for science students who are in high demand using social media platforms, they are most likely to require codified advice to balance academic and digital demands.

Future research should further investigate the long-term effects of excessive social media use on students' academic performance, psychological well-being, and overall quality of life. Particular emphasis should be placed on developing strategies that account for individual and contextual differences, including gender, nationality, and academic discipline. At the institutional level, promoting mindful, responsible, and purposeful engagement with social media may contribute to enhancing academic achievement while fostering healthier digital behaviors and more balanced student lifestyles [49,56,63].

Future research should further examine the psychological, behavioral, and individual factors associated with problematic social media use, including personality traits, mental health status, and variations in individual patterns of digital engagement. Additionally, longitudinal research designs are recommended to clarify the temporal relationships and establish potential causal associations between excessive social media use and its academic and psychological consequences. Furthermore, the development, implementation, and systematic evaluation of targeted interventions, such as digital detox programs and strategies aimed at enhancing digital self-regulation, may provide valuable approaches to mitigating the adverse effects of social media addiction on students' academic performance and psychological well-being.

7. Limitations

While the present study offers valuable insights into social media addiction among Egyptian and Saudi university students, some limitations must be noted. The cross-sectional design of the study does not allow for causal inferences, and therefore longitudinal studies are required to examine these associations in the long term. The use of self-report questionnaires also has some biases, such as social dissatisfaction and recall bias, which can influence the response validity.

The sample of the present study, which is composed of university students from two Arab countries, restricts generalizability. Expanded sampling to include a larger sample of students from various universities and various Arab nations would render it more generalizable. Moreover, the research highly focused on predictors like nationality, gender, and usage time on social media but not controlling at the same time for psychological and environmental variables—like impulsivity, anxiety, peer pressure, and family relations—that are also similarly causally responsible for addiction. Those variables should be controlled in further studies to advance in better understanding the determinants of social media abuse.

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