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RESEARCH

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Smartphone addiction and its relation to social phobia in female university students

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Abstract

Background The problematic smartphone use has emerged with negative mental health consequences. The current study aims to assess the rate of occurrence of smartphone addiction and the relationship between smartphone addiction and social phobia and its severity in a sample of female university students.

Results Out of 540 female students, 28.7% have severe smartphone addiction with higher number in students of academic faculties; also, 71.86% of the whole sample have social phobia with 22.78%, 21.85%, 16.3%, and 10.93% reported mild, moderate, severe, and very severe social phobia scores respectively. The number of students reporting very severe social phobia in the academic group is higher than that in the practical group; also, the study shows a significant relation between smartphone addiction and social phobia.

Conclusion and implications There is a high rate of distribution of social phobia in young adult females, which is accompanied with increased in a high rate of occurrence of smartphone addiction; so, there is a need for raising the public awareness regarding hazards of problematic smartphone use in students and the importance of screening of different psychiatric disorders, as social phobia in such population.

Keywords Social phobia, Smartphone, Addiction, Female students

Background

Social phobia is a disabling mental health problem that begins before or during adolescence; it is usually associated with significant impairment as it increases the risk of dropout from school, work absence, unemployment, and utilization of social welfare, causing significant financial costs in the society and reduced quality of life. Among university students, social phobia symptoms arise in a great number of students, or previously existing symptoms increase, and students go into the effort of having himself or herself accepted by others [1].

Smartphone has become an essential part of daily life, and research has shown that certain people become so attached to their device that they experience separation anxiety when it is not with them [2]. Smartphone addiction is considered as one form of technological addictions. Technological addiction is defined as one type of behavior addiction that involves human–machine interaction and is non-chemical in nature. Smartphone addiction consists of four main components: compulsive behaviors, tolerance, withdrawal, and functional impairment [3].

Among factors affecting smartphone use are aversive emotions and negative experiences, as they result in a need for distraction and avoidance of chronic stressors, which may result in addictive behavior; so, anxiety can be a risk factor of problematic smartphone use with strong association between stress, general anxiety, and PSU [4].

Along social interactions, socially anxious people search for reassurance, but they are always afraid of

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negative evaluations during face-to-face interactions; so, they prefer virtual social interactions as they experienced less social anxiety due to less stress and more reassuring social interactions [5],as a result, they keep checking their smartphones for new messages and updates, and they spend more time on the device on social networking sites due to easy accessibility of virtual online interactions than real face-to-face interactions,also, they feel comfortable with being anonymous especially physically, so higher levels of social anxiety are related to longer time spent using smartphone [6].

Smartphones have both considerable benefits as well as exposure to online risks such as access to inappropriate content and abusive interaction with others, which could have a detrimental effect on mental health [7], these new technologies can lead to depression, social anxiety, and other types of anxiety and sleep disorders such as insomnia, interrupted sleep, and early morning wake up, revealing a significant relation between sleep problems and smartphone addiction. Most common sleep complication among the high-risk group was feeling sleepy during work that affects their efficacy and achievement during work, as they spend night using their smartphones [8].

Drivers who use smartphones while driving pay attention to their mobile not to other road hazards, and this leads to increased risk of accidents such as frequent checking of mobile phone, chatting, and listening to audio; these habits will increase the risk of accidents according to WHO study [9].

Also, holding a smartphone for a long time may cause musculoskeletal complications and smartphone addiction. The distribution of musculoskeletal symptoms or pain of any severity was most common in the neck, followed by the upper back and then the shoulders; as a result, the gait can be affected with abnormal posture of their backbone [10], and the problematic smartphone use may cause financial burden especially among students due to spending part of their budget in charging their Internet data, phone bills which may even exceed their financial limits [11].

The treatment strategies need to focus on engaging smartphone users into more physical activities and into real social networks focusing on face-to-face interactions rather than interacting through social media apps [12], so, children should be encouraged to take up activities that can help them learn self-regulation such as sports, outdoor activities, painting, music, dance, yoga, and meditation [13].

Social anxiety disorder is strongly associated with other mental disorders, comorbidity rate of up to 60% has been reported with the most common comorbidities being other anxiety disorders and affective disorders, especially depression, and also, SAD has been found to be a risk factor for alcohol and cannabis dependency; the distress caused by the comorbidities increases the suicidal behavior of individuals with social phobia [14]. There is a growing body of work demonstrating that SAD is mediated by specific neurocircuitry, with serotonergic and dopaminergic systems particularly relevant, providing a rationale for the use of pharmacotherapy like serotonin reuptake inhibitors or serotonin norepinephrine reuptake inhibitors. The glutamatergic and noradrenergic systems, as well as substance P, may also be implicated in the neurological basis of SAD, suggesting a role for agents such as gabapentin, pregabalin, and neurokinin-1 receptor antagonists [15].

Individuals with social phobia had reduced quality of life in all areas of life, including physical and psychological health and social relationships; so, society should realize those negative consequences and also hazards of problematic smartphone use, and so, there is a strong need to raise public awareness regarding both social phobia and smartphone addiction [16].

Methods

- *Type of study*: Cross-sectional study
- *Study setting*: The study will be held at different faculties of Ain Shams University, et al.-Abbassia, Cairo.
- *Study period*: Until completion of the sample
- *Study population*: Female students at the Ain Shams University
- The study included only Egyptian female students who accepted to participate in the study with age range from 18 to 25 years and owns a smartphone; meanwhile, students with medical, neurological, and mental illness due to medical illness or mental illness due to substance or medications were excluded.
- *Sampling method*: Stratified random sampling of female students of first grade from two practical faculties (Faculty of Medicine and Faculty of Sciences) and two theoretical faculties (Faculty of Psychology and Faculty of Laws) at Ain Shams University.
- *Sampling size*: Using PASS program, setting alpha error at 5% and power at 90%. Result from previous study [17] showed that the correlation between SAS and BAI is 0.276 ($r=0.276$). Based on this, the needed sample is 160 cases with taking in account 20% dropout rate.

Yet, 540 students were recruited, and the sample was taken from two practical faculties and two theoretical faculties divided as 135 students from each faculty.

Ethical considerations

This study was approved by the Ain-Shams University Medical School ethical committee and the scientific committee of neuropsychiatric department. Participants provided written informed consent, which was obtained after the study had been explained in detail, before their participation in the study.

Procedure

The study included two separate interviews: the first interview lasted for about 1 h for establishing rapport with participants and collecting sociodemographic data and excluding any other psychiatric morbidities except social phobia using SCID I; the second interview lasted for about 1 h also and was for assessment of both smartphone addiction using smartphone addiction scale and social phobia using social phobia inventory.

After collecting sociodemographic data according to the psychiatric sheet of Okasha Institute of Psychiatry, Ain Shams University, participants were assessed by SCID-I to exclude any psychiatric disorders other than social phobia, then, they were assessed by the Social Phobia Inventory to determine the presence and severity of social phobia, also, they were assessed for smartphone addiction severity by the Smartphone Addiction Scale.

Tools used

Structured clinical interview for DSM-IV axis I disorder [18] — Arabic version [19] was used

It is a semi-structured interview guide for making DSM-IV diagnoses, administered by a clinician or trained mental health professional that is familiar with the DSM-IV classification and diagnostic criteria, for diagnostic evaluation, research, and the training of mental-health professionals; our study used the Arabic version of the structured clinical interview for DSM-IV axis I diagnosis [19].

Smartphone addiction scale [20] — Arabic version [21] was used

It is a scale for smartphone addiction that consisted of 6 factors and 33 items with a 6-point Likert scale (1: "strongly disagree" and 6: "strongly agree") based on self-reporting. The six factors are daily-life disturbance, positive anticipation, withdrawal, cyberspace-oriented relationship, overuse, and tolerance.

Social phobia inventory [22] — Arabic version [23] was used

It is a questionnaire developed by the Department of Psychology and Behavioral Sciences of Duke University for screening and measuring severity of social anxiety; SPIN is a 17-item self-rating for social anxiety disorder (or social phobia). The scale is rated over the past week and includes items assessing each of the symptom domains of social anxiety disorder (fear, avoidance, and physiologic arousal). A total score of 19 distinguished between social phobia subjects and controls. The SPIN demonstrates solid psychometric properties and shows promise as a measurement for the screening and treatment response of social phobia.

In this study, the Arabic version was used [24].

Statistical methods

The collected data was coded, tabulated, and statistically analyzed using SPSS statistics (Statistical Package for Social Sciences) software version 20. Descriptive statistics was done for quantitative data as minimum and maximum of the range as well as mean ± SD (standard deviation), while it was done for qualitative data as number and percentage; regarding analytical statistics, Student's *T*-test was used to assess the statistical significance of the difference between two study group means, and chi-square test was used to examine the relationship between two qualitative variables, *P*-value: level of significance: $P > 0.05$: non-significant, $P < 0.05$: significant, and $P < 0.01$: highly significant. ANOVA test was used to assess the statistical significance of the difference between more than two study group means, correlation analysis (using Pearson's method): to assess the strength of association between two quantitative variables. The correlation coefficient denoted symbolically "r" defines the strength (magnitude) and direction (positive or negative) of the linear relationship between two variables.

Results

Descriptive analysis

Sociodemographic data

The whole sample was recruited from same age as all students are 18 years old, out of the whole sample of 540 students: regarding residence, 475 student live with their families (87.96%), while 65 (12.04%) live in hostel; regarding marital status, 524 are single (97.04%), and 16 (2.96%) are married; and regarding occupation, only 6.37% of the students are employed, and the majority (94.63%) are unemployed. Considering the faculty specialty, students are enrolled in the faculties of medicine, engineering, law, and psychology specialty (25% for each), regarding the faculty studying type, 50% of the sample is selected from academic field faculties and 50% from practical field faculties, and regarding religion, 511 subjects are Muslim (94.63%), and 29 (5.37%) are Christians (Table 1).

Table 1 Rate of distribution of the sociodemographic data among the whole sample

Sociodemographic data		*N*	%
Religion	**Muslim**	511	94.63
	Christian	29	5.37
Marital status	**Single**	524	97.04
	Married	16	2.96
Residence	**With family**	475	87.96
	In hostel	65	12.04
Faculty specialty	**Medicine**	135	25.00
	Engineering	135	25.00
	Laws	135	25.00
	Psychology	135	25.00
Faculty studying type	**Practical**	270	50.00
	Academic	270	50.00

Social phobia

Using the Social Phobia Scale, results showed that out of 540 students, 152 students (28.15%) had no social phobia, while 388 (%???) students had social phobia distributed as follows: 22.78% reported mild social phobia (score from 21–30 by social phobia inventory), 21.85% had moderate social phobia (scoring 31–40), students with severe social phobia (41–50) constituted 16.3%, and those with very severe social phobia (more than 50) constituted 10.93% of the sample (Fig. 1).

Smartphone addiction

Using the Smartphone Addiction Scale (SAS), results showed that the whole participants reported smartphone addiction with mean score of 124.313 ($SD = 30.342$) and range of 33–192; as the score increases, this indicates higher smartphone addiction.

Comparative analysis

A) *Social phobia*: There is significant difference between living with family and living in dormitory with respect to having social phobia (Table 2).
B) *Smartphone addiction*: There is no significant difference between living with family and living in dormitory regarding smartphone addiction (Table 3).
C) *Type of study is as follows:*

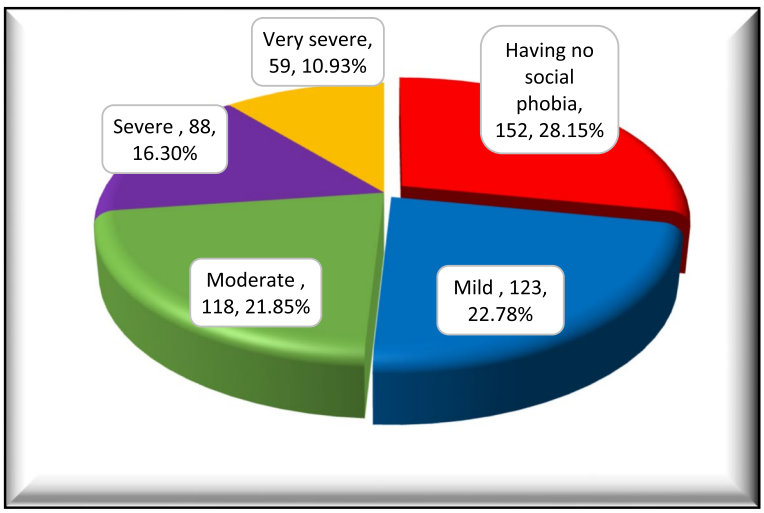

Fig. 1 Descriptive analysis of social phobia in the sample

Table 2 Social phobia and sociodemographic characteristics

		Social phobia				*T*-Test	
		N	Mean	±	SD	*T*	*p*-value
Social status	**Single**	524	32.231	±	14.462	−0.073	0.942
	Married	16	32.500	±	14.976		
Residence	**With family**	475	31.653	±	14.315	−2.559	0.011*
	In hostel	65	36.523	±	14.927		
Occupation	**Unemployed**	511	32.260	±	14.382	0.144	0.885
	Employed	29	31.862	±	16.091		

*Statistically significant

Table 3 Smartphone addiction and sociodemographic characteristics

		Smartphone				*T-Test*	
		N	**Mean**	**±**	**SD**	***T***	***p*-value**
Social status	**Single**	524	124.351	±	30.383	0.175	0.861
	Married	16	123.000	±	30.120		
Residence	**With family**	475	124.394	±	30.143	0.171	0.864
	In dormitory	65	123.708	±	32.043		
Occupation	**Unemployed**	511	124.258	±	30.310	−0.170	0.865
	Employed	29	125.241	±	31.548		

D) *Regarding social phobia scores*: Using *T*-test to compare the score of social phobia in academic studying students group with that in practical studying students group. It shows that the score of social phobia inventory in the students of academic group is more than that in the students of practical group, with a statistically significant difference ($P < 0.005$).

E) *Regarding smartphone addiction scores*: Using *T*-test to compare the score of smartphone addiction in academic studying students group with that in practical studying students group, the mean of scores of smartphone addiction scale in the academic studying group exceeds that in the practical studying group with a statistically significant difference ($P < 0.005$) (Table 4).

The relation between social phobia and smartphone addiction

a) *The relation between social phobia and smartphone addiction in the whole sample*: Using *T*-test to determine relation between having social phobia and smartphone addiction, there is significant relation between having social phobia and smartphone addiction ($P > 0.001$) (Table 5).

Using analysis of variance (ANOVA) test to determine relation between social phobia and smartphone in the whole sample, it shows that the severity of smartphone addiction is highly related to the severity of social phobia scores, with a highly statistically significant difference ($P < 0.001$) (Table 6).

b) *The relation between social phobia and smartphone addiction among academic and practical studying students type groups*: Using *T*-test to determine relation between having social phobia and smartphone addiction among academic and practical studying groups, there is significant relation between having social phobia and smartphone addiction (Table 7).

Using analysis of variance (ANOVA) test to determine the relation between social phobia and smartphone addiction among academic and practical studying groups, there

Table 4 Comparison between academic and practical studying groups regarding social phobia and smartphone addiction

		Faculty						*T*-test	
		Practical			**Academic**			***t***	***p*-value**
Social phobia	**Range**	6	-	70	8	-	70	−3.037	0.003*
	Mean ± SD	30.363	±	13.623	34.115	±	15.050		
Smartphone	**Range**	33	-	182	32	-	192	−6.000	< 0.001*
	Mean ± SD	116.719	±	30.966	131.904	±	27.763		

*Statistically significant

Table 5 Relation between having social phobia and smartphone addiction

Social phobia	**Smartphone**						***T*-test**	
	Range			**Mean**	**±**	**SD**	***T***	***p*-value**
No social phobia	33	-	192	103.586	±	26.794	−10.983	< 0.001*
Social phobia	33	-	190	132.433	±	27.700		

***P* > 0.005: significant relation *T*-test was used**

*Statistically significant

Table 6 Smartphone addiction in relation to social phobia severity in the whole sample

Social phobia	Smartphone						ANOVA	
	Range			Mean	±	SD	*F*	*p*-value
No social phobia	33	-	192	103.586	±	26.794	53.502	< 0.001*
Mild social phobia	35	-	186	118.398	±	28.770		
Moderate social phobia	63	-	180	132.669	±	20.158		
Severe social phobia	33	-	182	138.318	±	27.118		
Very severe social phobia	70	-	190	152.441	±	24.049		

***P*-value < 0.005, significant ANOVA test was used**

*Statistically significant

Table 7 The relation between having social phobia and smartphone addiction among academic and practical studying type groups

Faculty	Social phobia	Smartphone						*T*-test	
		Range			Mean	±	SD	*t*	*p*-value
Practical	**No social phobia**	33	-	150	97.663	±	28.023	− 7.146	< 0.001*
	Social phobia	34	-	182	124.742	±	28.603		
Academic	**No social phobia**	66	-	192	110.167	±	23.866	− 8.796	< 0.001*
	Social phobia	33	-	190	139.813	±	24.711		

*Statistically significant

is also a highly significant difference between severity of social phobia and smartphone addiction in both groups ($P < 0.001$ for each) (Table 8).

Correlations

a) *The correlation between social phobia and smartphone addiction in the whole sample*: Using Pearson correlation to assess correlation between social phobia and smartphone addiction, there is a moderate positive relation between social phobia and smartphone addiction ($r = 0.590$) with a statistically significant difference ($P < 0.001$) (Table 9).

b) *The correlation between social phobia and smartphone addiction among academic and practical studying type groups*: Using Pearson correlation to assess correlation between social phobia and smartphone addiction, there is a positive correlation between social phobia and smartphone addiction in both academic and practical faculties; the correlation is strong in academic studying group ($r = 0.609$) and moderate in the practical group ($r = 0.559$), with statistically significant difference between social phobia and smartphone addiction scores in both groups ($P < 0.001$ for each) (Table 10).

Table 8 Smartphone addiction in relation to severity of social phobia in academic and practical studying students groups

Faculty	Social phobia	Smartphone						ANOVA	
		Range			Mean	±	SD	F	*p*-value
Practical	**No social phobia**	33	-	150	97.663	±	28.023	24.343	< 0.001*
	Mild social phobia	35	-	147	108.754	±	27.450		
	Moderate social phobia	63	-	180	129.133	±	23.416		
	Severe social phobia	34	-	182	134.811	±	26.788		
	Very severe social phobia	85	-	174	144.917	±	28.138		
Academic	**No social phobia**	66	-	192	110.167	±	23.866	29.683	< 0.001*
	Mild social phobia	51	-	186	129.207	±	26.469		
	Moderate social phobia	99	-	174	136.328	±	15.483		
	Severe social phobia	33	-	172	143.629	±	27.130		
	Very severe social phobia	70	-	190	154.362	±	22.833		

ANOVA test was used, *P*-value < 0.005, significant

*Statistically significant

Table 9 Correlation between social phobia and smartphone addiction scores of the whole sample

Linear analysis		
	Social phobia	
	R	*p*-value
Smartphone	0.590	< 0.001*

***P*-value < 0.005, *r* = 0.4–0.59, moderate relation; *r* = 0.6–0.79, strong relation**

*Statistically significant

Table 10 Correlation between social phobia and smartphone addiction scores among academic and practical studying groups

Correlations		
Smartphone	Social phobia	
	R	*p*-value
Practical	0.559	< 0.001*
Academic	0.609	< 0.001*

***P*-value < 0.005, *r* = 0.4–0.59, moderate relation; *r* = 0.6–0.79, strong relation**

*Statistically significant

Discussion

Smartphone addiction has a significant impact on the overall health as well as mental health of individuals, as it leads to impaired behavioral attitude: low school/work performance, impaired social interaction, and interpersonal relationship, in addition to an increased risk of musculoskeletal pain, headache, blurred vision, and hearing impairment [25].

Moreover, individuals with smartphone problematic use do experience symptoms of behavioral addiction as follows: preoccupation with and poor control of the behavior, tolerance, and withdrawal symptoms, and it may lead to different psychiatric problems such as depression, different types of anxiety, and social phobia [26].

The pervasiveness of smartphones in everyday life especially with young adults has recently raised concerns about increased problematic smartphone use among this category, so the present study aimed to detect the rate of occurrence and severity of smartphone addiction among a sample of female university students and some factors affecting this problematic use as the studying field type (whether practical or academic) also, to investigate the relation of smartphone addiction with the severity of social phobia.

Social phobia estimates

The percentage of students with social phobia in the current study is 71.35%, distributed as follows: 22.78% have mild social phobia, 21.85% had moderate social phobia, students with severe social phobia constituted 16.3%, and those with very severe social phobia constituted 10.93% of the sample; by reviewing the previously done researches on social phobia among university students, there was a wide range of prevalence rate from 7% up to 92.2%

Some studies go with these results, for example, a study of Al-Azhar University students in Egypt reported social phobia in 68% of the students [27], and a study revealed that rate of distribution of social phobia was 44% in students with a reverse correlation with age, and that the female gender was one of the predictors of social phobia [28].

This is comparable to a study done also among students of different faculties in Ain Shams University which reported anxiety in 58.99% of the sample. In another study in Saudi Arabia, it shows that social phobia constitutes 59.5% of the study sample of students [29].

Similarly, high prevalence of social phobia was found among students of Taibah University in Saudi Arabia with a percentage of 52% [30]. However, 92.2% of a sample recruited from university students in Saudi Arabia was found to have social phobia [31].

Meanwhile, a research recruited 364 participants from two universities in Indonesia and found that 76.9% of them have social anxiety [32]. The same was found in medical students in Khartoum with the majority having social anxiety disorder by percentage of 61.3% of which 19.2% have mild SAD, 21.6% have moderate SAD, 10.9% with severe SAD and 9.6% with very severe SAD [33].

Yet, a study done among 1019 Omani adults reported that 45.9% of the sample had social anxiety disorder [34], which differs from a study done among Saudi adolescent boys where 11.7% had social anxiety disorder [35].

Meanwhile, an Ethiopian study finds that 31.2% of undergraduate students had social phobia especially in females [36]. While studies held in western countries showed different results, a study on Swedish university students report having social phobia in 16.1% *only* [37]; another study on Australian first year university students reported that 18.3% has social phobia [38]. In a study done in undergraduate students in India, A total of 7.8% of students suffer of social anxiety disorder [39],the majority of them are females.

The current study shows association between social anxiety severity and living in dormitory; this is close to results of another study where students who live in dormitory have anxiety more than those living with their families which may be due to home sickness and change in their support network as they worry about the new environment [40].

This differs from results of a study done in Iran in which there were no significant relation between social anxiety and sociodemographic data [41]. These

variations between different studies may be attributed to methodological and cultural differences.

Smartphone addiction in academic and practical studying field groups

The smartphone addiction is more severe in students of academic faculties than in students of practical faculties; this may be because students in practical faculties as Faculty of Medicine and Faculty of Engineering do not have time for excessive use of smartphones due to large number of time-consuming tasks, condensed courses, and continuous assessments; also, they may be engaged in practical training courses.

In a study done in Saudi Arabia, students from the theoretical faculties showed significantly higher levels of problematic smartphone use compared to students from faculty of medicine [42]. Another study done in India showed that the mean score of smartphone addiction in academic faculties (Arts and Commerce) is higher than the mean score in practical faculty like Faculty of Science [43].

Yet, in a study done in the Faculty of Medicine in Malaysia, the percentage of smartphone addiction among students of different years is 40% not only for communication but also for professional purposes as they use smartphone in their study for researches and updates in medical field.

This differs from results of study done among Ain Shams University students which did not show significant relation between smartphone addiction and type of faculty whether academic or practical [44]. This difference may be due to different criteria from sample in the current study regarding unequal number of both practical and academic faculties, inclusion of both genders, and larger number of the sample.

The relation between smartphone addiction and social phobia

This study shows significant relation between smartphone addiction and social phobia, students with higher scores in social phobia have higher smartphone addiction, and this can be due to feeling more comfortable in virtual communication than real communication as they fear of being embarrassed or judged regarding their physical appearance and of talking in a group of people.

Moreover, smartphone addiction in socially anxious people may result from excessive use of smartphone in nonsocial purposes to fill their time, obtain gratifications and distraction from stressors, and compensate for the lack of face-to-face interactions. These results are similar to what was reported in another study done in Turkey and showed increased problematic smartphone use in people with interaction anxiety [45].

The same was found in study where social support plays a role in smartphone addiction by affecting interaction anxiety; so, as social support decreases, interaction anxiety increases and leads to more smartphone addiction [46]. Also, studies regarding smartphone use for social interaction reported that socially anxious young adults have problematic smartphone use to communicate with others rather than real face-to-face communication [47].

The results in a recent study showed that there may be a transactional relation between smartphone addiction and social anxiety; so, social anxiety can result in worsening smartphone addiction and vice versa [48]. In young adults, social anxiety is sometimes associated with problematic Internet addiction which is mostly through using smartphones which may be due to poor social skills [49].

Among factors mediating relation between problematic smartphone addiction and social anxiety are sense of boredom and fear of missing out new feeds in different methods of social communication [50].

Another study done in undergraduate students recruited also from different academic and practical faculties showed similar relation in which as social anxiety increases, the problematic smartphone use increases [51].

This is consistent with a study that showed that socially anxious individuals are at higher risk to develop problematic smartphone use due to the easy accessibility to online social gratifying contents and online interactions [52].

Another study revealed that the significant relationship between social anxiety and smartphone problematic use is moderated through feeling confident to trust others in online interactions than real-life interactions; so, they spend more time and become attached to their smartphones, as online trust leads to self-disclosure during social interactions [53].

The current study agrees with another that reported frequent checking of smartphones by individuals with social anxiety seeking reassurance from online interaction-related notifications**.** In addition, those with social phobia may show problematic smartphone use not only for social interactions but also for entertainment, relaxation activities, and searching for information as they avoid asking others for fear of judgment and due to their low self-esteem [54].

Several studies reported that anxiety is one of the most common mental health problems that is correlated with smartphone addiction [42, 55]. Others referred this to negative impact of smartphone addiction on mental health leading to different problems like different types of anxiety [56, 57].

This differs from a study done in Beijing which did not find a significant relation between smartphone problematic use and social phobia, this may be due to lower number of the sample than the current study and also was explained due to increased use of smartphone in undergraduates than old adults nowadays as they accept the new technologies rapidly and smartphone became the usual way of communication regardless having social anxiety or not [58].

Conclusions

Social phobia and smartphone addiction are common in students who are in academic faculties than students in practical faculties. Smartphone addiction is more common and more severe in those with social phobia, and severity increases with more severe social phobia; so, public awareness is needed regarding hazards of smartphone addiction and regarding early intervention and management of psychiatric disorders.

Abbreviations

SAD	Social anxiety disorder
PSU	Problematic smartphone use
WHO	World Health Organization
SCID	Structured Clinical Interview for DSM-IV diagnoses

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Authors' contributions
ZK recruited the participants and applied the used questionnaires and wrote the results after statistical analysis, GN reviewed the results, HH reviewed results and discussion, DS revised the background and aim, and DA revised the references. The authors read and approved the final manuscript.

Availability of data and materials
All data generated or analyzed during this study are included in this published article.

Declarations

Ethics approval and consent to participate
All procedures were reviewed and approved by the Ethical Committee of Faculty of Medicine, Ain Shams University (FWA: 00017585). Also, a written informed consent was obtained from all participants involved in the study. The consent also included publishing the results of the study with keeping the anonymity of participants.

Consent for publication
The participants gave consent for using their data in publication.

Competing interests
The authors declare that they have no competing interests.

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