

**RESEARCH PAPER****The Interplay between Social Anxiety, Online Social Networking Behaviors, and Perceived Quality of Offline Relationships in University Students****Uzair Mustafa Sahu ¹, Gulnaz Sarwar ², Darain Skindar* ³**

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***Corresponding Author:** zeenalfatima5@gmail.com**ABSTRACT**

The objective of this study is to explore the relationship between social anxiety, online social networking behaviors, and the perceived quality of offline relationships in university students. The rise of social networking sites (SNS) has transformed social engagement, raising concerns about the mental health of university students, especially those with social anxiety. A cross-sectional study involving 300 university students was conducted using the Social Interaction Anxiety Scale (SIAS), Facebook Intensity Scale (FBI), and Quality of Relationships Inventory (QRI). Data were analyzed to examine correlations between SNS use, social anxiety, and offline relationship quality. Social anxiety was positively correlated with higher SNS use but negatively associated with the perceived quality of offline relationships. Online engagement predicted increased social anxiety and reduced offline relationship quality. Future studies should explore interventions to improve offline relationship quality for students with high SNS use and social anxiety, promoting healthier social habits.

KEYWORDS: Mental Health, Offline Relationships, Online Behavior, Social Anxiety, Social Networking, University Students**Introduction**

The rapid proliferation of digital technologies has revolutionized the way individuals communicate, particularly among university students who are often at the forefront of adopting new online platforms. Social networking sites (SNS) like Facebook, Instagram, and Twitter have become integral to daily life, offering students new opportunities for connection, self-expression, and social validation. These platforms provide a space for students to explore their identities, engage with peers, and navigate social relationships in ways that were unimaginable a few decades ago (Muzaffar, et. al., 2020; Ellison et al., 2007). The ubiquity of SNS in the lives of university students has led to an increasing dependence on these platforms for social interaction and the maintenance of social networks (Smith & Anderson, 2018).

However, the shift towards online social interaction has raised important questions about its effects on students' psychological well-being and the quality of their offline relationships. While SNS can facilitate connections and create a sense of belonging, they can also contribute to feelings of loneliness, anxiety, and depression (Primack et al., 2017). These platforms can sometimes amplify social comparison, leading to increased social anxiety and a diminished sense of self-worth (Muzaffar, et. al., 2019; Vogel et al., 2014). Consequently, the role of online social networking behaviors in either exacerbating or alleviating social anxiety has become a subject of considerable interest.

University students are at a critical developmental stage where forming and maintaining social connections is vital. These years are often marked by significant transitions, including the move from high school to a more independent college life, which can be accompanied by stress and anxiety (Arnett, 2000). Among the various psychological challenges faced by university students, social anxiety is particularly prevalent. Social anxiety, characterized by intense fear and avoidance of social situations due to concerns about negative evaluation, can significantly hinder students' ability to engage in meaningful social interactions, both online and offline (Levinson et al., 2020).

In this context, online social networking behaviors offer both opportunities and challenges. Some students may use SNS as a tool to overcome social barriers, finding comfort in the relative anonymity and control over self-presentation that these platforms afford (Caplan, 2007). However, others may find that excessive online engagement further isolates them from meaningful offline interactions, creating a cycle of social avoidance and increased anxiety (Ehrenreich et al., 2021). This duality raises questions about the overall impact of SNS on the quality of offline relationships, an essential component of mental health and well-being.

University students represent a unique population for studying the interplay between social anxiety, online social networking behaviors, and the perceived quality of offline relationships. This group is not only highly active on social media but also particularly vulnerable to the pressures of social comparison and the quest for social acceptance, both online and offline (Keles et al., 2020). The university environment, with its emphasis on social integration and peer relationships, can amplify these pressures, making it a critical context for examining how online behaviors influence psychological well-being.

Understanding these dynamics within the university student population is critical for developing targeted interventions aimed at promoting healthier social interactions and improving overall well-being. Given that this population is at a developmental stage characterized by identity exploration and social experimentation, the findings from such research can have important implications for mental health strategies, campus policies, and the design of social media platforms that better support positive social outcomes.

Definitions of Constructs

Social Anxiety

Social anxiety is defined as a chronic mental health condition characterized by an intense, persistent fear of being watched and judged by others (American Psychiatric Association, 2013). Individuals with social anxiety often worry excessively about social interactions, fearing they will say or do something embarrassing or be negatively evaluated by others. This fear can lead to avoidance of social situations, which in turn reinforces the anxiety (Levinson et al., 2020). Among university students, social anxiety can be particularly debilitating, as it interferes with academic performance, participation in campus life, and the ability to form and maintain relationships (Russell & Shaw, 2009).

Online Social Networking Behaviors

Online social networking behaviors refer to the various activities and interactions that individuals engage in on social networking platforms. These behaviors include posting status updates, sharing photos, commenting on others' posts, and private messaging, among others (Valkenburg & Peter, 2007). For university students, SNS provide a platform for both social connection and self-expression, allowing them to maintain existing relationships, form new ones, and explore different aspects of their

identity (Ellison et al., 2007). However, the nature of these interactions can vary widely, with some students using SNS to enhance their social life, while others may engage in maladaptive behaviors such as excessive use, social comparison, and seeking validation (Kross et al., 2013).

Perceived Quality of Offline Relationships

Perceived quality of offline relationships refers to an individual's subjective assessment of the strength, depth, and satisfaction derived from their face-to-face social interactions. High-quality relationships are characterized by trust, emotional support, mutual respect, and effective communication (Umberson & Montez, 2010). For university students, the quality of their offline relationships with peers, family, and romantic partners is crucial for their mental and emotional well-being (Baker & Irwin, 2019). However, the increasing reliance on SNS has raised concerns about whether these platforms might detract from the time and effort invested in cultivating meaningful offline relationships (Chan, 2014).

Building Relationships between Constructs

The relationship between social anxiety, online social networking behaviors, and the perceived quality of offline relationships is complex and multifaceted. Social anxiety can significantly influence how university students engage with SNS. For example, students with higher levels of social anxiety may prefer online interactions where they have more control over self-presentation and can avoid the immediacy of face-to-face communication (Caplan, 2007). This reliance on online interactions can have both positive and negative effects. On one hand, it may provide socially anxious students with a safe space to connect with others, reducing feelings of loneliness (Lee-Won et al., 2015). On the other hand, it may prevent them from developing the social skills needed for offline interactions, leading to poorer quality offline relationships (Pittman & Reich, 2016).

The impact of online social networking behaviors on the perceived quality of offline relationships can vary depending on the individual and the context. Some students may find that their online interactions complement their offline relationships, providing additional avenues for communication and support (Chan, 2014). However, others may experience a decline in the quality of their offline relationships as they spend more time on SNS, potentially leading to

In sum, the interplay between social anxiety, online social networking behaviors, and the perceived quality of offline relationships is a critical area of study, particularly within the university student population. As digital communication continues to evolve, understanding how these factors interact will be essential for promoting healthier social development and well-being in this population. Future research should aim to explore these dynamics in greater depth, considering the various individual and contextual factors that influence online and offline social experiences.

Literature Review

Social Anxiety and Its Impact on University Students

Social anxiety is one of the most common psychological issues affecting university students. Research suggests that the prevalence of social anxiety among this population is notably high, with some studies indicating that up to 30% of university students experience significant social anxiety symptoms (Levinson et al., 2020). This anxiety can manifest in various forms, including fear of public speaking, reluctance to participate in group discussions, and avoidance of social gatherings. These symptoms can

severely impact academic performance, social integration, and overall quality of life (Russell & Shaw, 2009).

Online Social Networking Behaviors

The rise of social media has created new avenues for individuals to connect, share, and engage with others. For university students, SNS offer a platform to maintain existing relationships, forge new connections, and explore different facets of their identity (Valkenburg & Peter, 2007). However, the nature and frequency of online social networking behaviors can vary widely. Some students may engage in positive online behaviors, such as maintaining contact with friends and participating in supportive communities, while others may exhibit maladaptive behaviors, including excessive use, social comparison, and cyberbullying (Kross et al., 2013).

The relationship between online social networking and social anxiety is complex. On one hand, SNS can provide a less intimidating environment for socially anxious individuals to interact with others, potentially reducing feelings of loneliness and enhancing social connectedness (Caplan, 2007). On the other hand, excessive reliance on online interactions may prevent students from developing the necessary social skills for offline interactions, thereby exacerbating social anxiety and leading to poorer quality of offline relationships (Ehrenreich et al., 2021).

Perceived Quality of Offline Relationships

Offline relationships, encompassing friendships, family ties, and romantic partnerships, are crucial for psychological well-being and personal development. The quality of these relationships has been linked to various positive outcomes, including increased life satisfaction, better mental health, and improved academic performance (Umberson & Montez, 2010). However, the increasing time spent on SNS has raised concerns about its potential to detract from the time and effort invested in offline relationships.

Studies have shown mixed results regarding the impact of online social networking on offline relationship quality. Some research indicates that online interactions can complement offline relationships by providing additional channels for communication and support (Chan, 2014). However, other studies suggest that heavy social media use can lead to feelings of social isolation, decreased face-to-face interactions, and a decline in relationship quality (Primack et al., 2017).

Interplay Between Social Anxiety, Online Social Networking, and Offline Relationships

The interplay between social anxiety, online social networking behaviors, and the perceived quality of offline relationships is a topic of growing research interest. For university students with social anxiety, SNS may serve as both a coping mechanism and a potential source of further anxiety. For example, socially anxious students may prefer online interactions due to the reduced risk of immediate negative feedback (Lee-Won et al., 2015). However, this reliance on online communication may also limit their opportunities for face-to-face interaction, which is essential for building deep and meaningful offline relationships (Pittman & Reich, 2016).

Moreover, the extent to which online social networking behaviors affect offline relationship quality may depend on various factors, including the type of SNS used, the nature of online interactions, and the individual's overall level of social anxiety. Understanding these dynamics is crucial for developing effective interventions that address the specific needs of socially anxious students.

This introduction and literature review highlight the importance of studying the relationships between social anxiety, online social networking behaviors, and the perceived quality of offline relationships among university students. As digital communication continues to evolve, understanding how these factors interact will be essential for promoting healthier social development and well-being in this population. Future research should aim to explore these dynamics in greater depth, considering the various individual and contextual factors that influence online and offline social experiences.

Material and Methods

Research Design

The study employed a cross-sectional research design to investigate the relationships between social anxiety, online social networking behaviors, and the perceived quality of offline relationships among university students. A quantitative approach was utilized, involving the administration of standardized questionnaires to measure the variables of interest. The choice of a cross-sectional design was appropriate for capturing a snapshot of the current state of these relationships within the population, allowing for the examination of correlations between variables.

Participants

The participants in this study were university students aged 18 to 25 years, enrolled in undergraduate programs at a large public university. A total of 300 participants were recruited using convenience sampling. The inclusion criteria required participants to be full-time students, active users of social networking sites, and willing to provide informed consent. Participants who were not active on social media or had a history of psychiatric disorders were excluded from the study to avoid confounding variables that might have affected the results.

Measures

Social Anxiety

Mattick and Clarke (1998). The SIAS is a 20-item self-report questionnaire designed to assess the fear of social interaction. Each item is rated on a 5-point Likert scale ranging from 0 (not at all) to 4 (extremely), with higher scores indicating greater levels of social anxiety. The total score is obtained by summing all the item scores. The SIAS has demonstrated high internal consistency, with a Cronbach's alpha of .93, indicating its reliability. Moreover, it has shown strong convergent validity by correlating significantly with other measures of social anxiety, such as the Social Phobia Scale (SPS), making it a robust tool for assessing social anxiety in the population.

Online Social Networking Behaviors

Online social networking behaviors were assessed using the Facebook Intensity Scale (FBI), developed by Ellison, Steinfield, and Lampe (2007). This scale consists of 8 items that measure the intensity of Facebook use, including the emotional connection users have with the platform and the extent to which Facebook is integrated into their daily activities. The items are rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating greater intensity of Facebook use. The FBI has demonstrated good internal consistency, with a Cronbach's alpha of .83. Its construct validity is supported by correlations with measures of social capital and social connectedness, affirming its suitability for measuring the intensity of social media use.

Perceived Quality of Offline Relationships

The Quality of Relationships Inventory (QRI), developed by Pierce, Sarason, and Sarason (1991), was used to assess the perceived quality of offline relationships. This 25-item scale evaluates the quality of relationships based on three dimensions: support, conflict, and depth. Each item is rated on a 4-point Likert scale ranging from 1 (not at all) to 4 (very much), with higher scores reflecting better quality relationships. The QRI has demonstrated good internal consistency, with a Cronbach's alpha of .85. Additionally, the scale has been validated through its significant correlations with other measures of social support and relationship satisfaction, establishing its reliability and validity for evaluating relationship quality in the context of offline interactions. Validity: The QRI was validated through its correlations with other measures of social support and relationship satisfaction.

Procedure

Participants were invited to complete an online survey, which included the SIAS, FBI, and QRI scales. The survey also collected demographic information such as age, gender, academic year, and frequency of SNS use. Before starting the survey, participants were provided with a brief introduction to the study, including its purpose, the voluntary nature of participation, and assurances of confidentiality. The survey was expected to take approximately 20 minutes to complete.

Ethical Considerations

The study adhered to the ethical guidelines set forth by the American Psychological Association (APA). Prior to data collection, the study protocol was reviewed and approved by the university's Institutional Review Board (IRB). Participants were required to provide informed consent electronically before participating in the study. They were informed of their right to withdraw from the study at any time without penalty. All data were anonymized to protect participants' privacy, and the results were reported in aggregate form to ensure confidentiality. Additionally, participants who may have experienced discomfort or distress related to the content of the survey were provided with information about counseling services available at the university.

Data Analysis

The data were analyzed using SPSS software. Descriptive statistics were used to summarize the demographic characteristics of the sample and the distribution of scores on the SIAS, FBI, and QRI. Pearson correlation coefficients were calculated to assess the relationships between social anxiety, online social networking behaviors, and the perceived quality of offline relationships. Multiple regression analysis was conducted to determine the predictive value of online social networking behaviors on social anxiety and the perceived quality of offline relationships, controlling for demographic variables.

Results and Discussion

Descriptive Analysis

The data collected from 300 university students were analyzed to assess the relationships between social anxiety, online social networking behaviors, and the perceived quality of offline relationships. The descriptive statistics for the primary variables, including means, standard deviations, and range of scores, are presented in Table 1.

Table 1
Descriptive Statistics for Social Anxiety, Online Social Networking Behaviors, and Perceived Quality of Offline Relationships (N = 300)

Variable	M	SD	Range	Possible Range
Social Anxiety (SIAS)	34.25	11.50	0-60	0-80
Online Social Networking Behaviors (FBI)	28.40	6.75	10-40	8-40
Perceived Quality of Offline Relationships (QRI)	65.10	12.85	35-100	25-100

Note. SIAS = Social Interaction Anxiety Scale; FBI = Facebook Intensity Scale; QRI = Quality of Relationships Inventory.

The results indicate that the average social anxiety score among university students was 34.25 (SD = 11.50), which suggests a moderate level of social anxiety. The mean score for online social networking behaviors was 28.40 (SD = 6.75), indicating that students generally engaged with social media at a moderately high level. The average score for the perceived quality of offline relationships was 65.10 (SD = 12.85), suggesting that students perceived their offline relationships as generally positive, though there was considerable variability.

Correlation Analysis

To examine the relationships between social anxiety, online social networking behaviors, and the perceived quality of offline relationships, Pearson correlation coefficients were calculated. The results are presented in Table 2.

Table 2
Pearson Correlation Coefficients between Social Anxiety, Online Social Networking Behaviors, and Perceived Quality of Offline Relationships

Variable	1	2	3
1. Social Anxiety (SIAS)	-	.45**	-.38**
2. Online Social Networking Behaviors (FBI)	.45**	-	-.29**
3. Perceived Quality of Offline Relationships (QRI)	-.38**	-.29**	-

Note. $p < .01$. SIAS = Social Interaction Anxiety Scale; FBI = Facebook Intensity Scale; QRI = Quality of Relationships Inventory.

The results show that social anxiety was significantly positively correlated with online social networking behaviors ($r = .45$, $p < .01$), suggesting that higher levels of social anxiety are associated with more intense use of social networking sites. Conversely, social anxiety was significantly negatively correlated with the perceived quality of offline relationships ($r = -.38$, $p < .01$), indicating that higher social anxiety is associated with poorer perceived offline relationships. Additionally, online social networking behaviors were also negatively correlated with the perceived quality of offline relationships ($r = -.29$, $p < .01$), implying that more intense engagement with social networking sites is associated with lower perceived quality in offline relationships.

Multiple Regression Analysis

A multiple regression analysis was conducted to determine the predictive value of online social networking behaviors on social anxiety and the perceived quality of

offline relationships, controlling for demographic variables such as age and gender. The results are presented in Table 3.

Table 3
Multiple Regression Analysis Predicting Social Anxiety and Perceived Quality of Offline Relationships from Online Social Networking Behaviors and Demographic Variables (N = 300)

Predictor Variable	B	SE B	β	t	p
Outcome: Social Anxiety (SIAS)					
Online Social Networking Behaviors (FBI)	0.65	0.10	.42	6.50	< .001
Age	-0.20	0.15	-.08	-1.33	.185
Gender (Male = 0, Female = 1)	2.10	1.25	.12	1.68	.094
Outcome: Perceived Quality of Offline Relationships (QRI)					
Online Social Networking Behaviors (FBI)	-0.40	0.12	-.28	-3.33	< .001
Age	0.25	0.18	.10	1.39	.165
Gender (Male = 0, Female = 1)	-3.50	1.50	-.18	-2.33	.021

Note. SIAS = Social Interaction Anxiety Scale; FBI = Facebook Intensity Scale; QRI = Quality of Relationships Inventory.

The multiple regression analysis revealed that online social networking behaviors significantly predicted social anxiety ($\beta = .42$, $p < .001$), suggesting that more intense use of social networking sites is associated with higher levels of social anxiety. Additionally, online social networking behaviors were found to be a significant predictor of the perceived quality of offline relationships ($\beta = -.28$, $p < .001$), indicating that greater intensity of online engagement is linked to lower perceived quality in offline relationships. Gender also emerged as a significant predictor of the perceived quality of offline relationships ($\beta = -.18$, $p < .05$), with females reporting lower quality compared to males. Age did not significantly predict either social anxiety or perceived quality of offline relationships.

Discussion

The findings of this study provide evidence for the complex interplay between social anxiety, online social networking behaviors, and the perceived quality of offline relationships among university students. The positive correlation between social anxiety and online social networking behaviors suggests that students with higher social anxiety may turn to social media as a way to manage their social fears. However, the negative correlation between online social networking behaviors and the perceived quality of offline relationships raises concerns about the potential for online engagement to detract from the quality of in-person social connections. These results underscore the need for interventions aimed at promoting balanced social media use and enhancing offline social skills, particularly for students struggling with social anxiety.

Social Anxiety and Online Social Networking Behaviors

The positive correlation found between social anxiety and online social networking behaviors aligns with previous research, which suggests that individuals with higher levels of social anxiety are more likely to use social networking sites (SNS) as a means of social interaction (Lee-Won et al., 2015; Caplan, 2007). This trend can be understood within the framework of the "social compensation hypothesis," which posits that socially anxious individuals may prefer online interactions because they offer more control over self-presentation and reduce the risk of negative evaluation (Valkenburg & Peter, 2007). The relatively anonymous and asynchronous nature of online communication may thus provide a safer space for these individuals to express themselves and connect with others.

However, while SNS may offer temporary relief from the pressures of face-to-face interaction, the findings suggest that reliance on these platforms might not be without consequences. The significant negative correlation between online social networking behaviors and the perceived quality of offline relationships indicates that increased online engagement may be associated with a decline in the quality of in-person social interactions. This finding is consistent with the "displacement hypothesis," which suggests that time spent on online activities might come at the expense of real-world relationships, potentially leading to social isolation (Primack et al., 2017).

Online Social Networking Behaviors and Offline Relationship Quality

The negative association between online social networking behaviors and the perceived quality of offline relationships supports existing literature that highlights the potential drawbacks of excessive social media use (Pittman & Reich, 2016; Primack et al., 2017). As students become more engrossed in their online lives, they may neglect the time and effort required to maintain meaningful offline connections. This trend may be particularly pronounced among socially anxious individuals, who might find it easier to engage in online interactions rather than face the challenges of in-person communication.

Furthermore, the quality of offline relationships is critical for mental health and well-being. High-quality relationships provide emotional support, foster a sense of belonging, and serve as a buffer against stress (Umberson & Montez, 2010). The findings of this study suggest that over-reliance on online social networks could undermine these protective effects, particularly if it leads to the erosion of offline social ties.

Gender Differences in Relationship Quality

The multiple regression analysis revealed that gender significantly predicted the perceived quality of offline relationships, with female students reporting lower quality relationships compared to their male counterparts. This finding is consistent with previous research suggesting that females may experience more social stressors and pressures in their relationships, particularly in the context of social comparison on SNS (Vogel et al., 2014). Women are more likely to use social media for relational purposes, which may intensify the impact of online interactions on their offline relationships (Smith & Anderson, 2018). These gender differences highlight the need for tailored interventions that address the unique challenges faced by female students in managing their social interactions both online and offline.

Recommendations:

- Universities should develop targeted intervention programs aimed at reducing social anxiety among students. Cognitive-behavioral therapy (CBT) and social skills training can be integrated into campus counseling services to help students manage social anxiety and improve face-to-face interactions. These programs should emphasize reducing dependence on social networking sites (SNS) for social interaction.
- Institutions should encourage students to participate in offline social activities and campus events to strengthen their real-world relationships. Organizing workshops, group activities, and peer support groups can provide students with safe environments to interact and build confidence in social settings, fostering stronger offline connections.
- Universities should offer workshops on healthy and balanced use of SNS. These programs could highlight the benefits of moderating online behavior, managing screen time, and focusing on improving offline relationships. Educational campaigns

that promote digital well-being and mindfulness when engaging with social media could help mitigate the negative effects of excessive SNS use.

- Future studies should explore the long-term effects of SNS use on mental health and offline relationship quality. Research could also investigate whether specific types of online interactions (e.g., passive use vs. active engagement) have different impacts on social anxiety and offline relationship satisfaction. Additionally, studies could examine how personality traits influence the relationship between social anxiety and SNS use to develop more personalized interventions.
- Universities and mental health experts could collaborate with SNS platforms to design features that promote healthier online habits. This could include tools that help users manage their time online, reminders for offline engagement, and prompts to seek social support when needed.

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