Interpersonal sensitivity, social anxiety, and social networking site use among college students

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Abstract

The study explored the intricate interplay among interpersonal sensitivity, social anxiety, and social networking site (SNS) use within the college students from selected Chinese universities. Utilizing a random sampling approach, data was collected via an online questionnaire from young adults in Jiangxi Province. The majority of participants were male freshmen studying science, hailing from rural backgrounds and having siblings, showcasing varied levels of interpersonal sensitivity and moderate engagement with SNS. Moreover, analysis unveiled significant correlations: gender and academic grade impacted interaction anxiety, whereas gender influenced interpersonal sensitivity. Conversely, no notable differences emerged based on academic major, geographic origin, or sibling status regarding interaction anxiety, interpersonal sensitivity, or SNS usage. Positive associations were observed between interaction anxiety and interpersonal sensitivity, interpersonal sensitivity and SNS use, and interaction anxiety and SNS use. In response to these findings, stakeholders are advised to adopt proactive measures. Educational institutions should prioritize mental health services tailored to addressing interpersonal sensitivity and social anxiety among students. Educators are encouraged to integrate discussions on the psychological implications of SNS usage into the curriculum to foster healthier online behaviors. Parents are urged to engage openly with their children about their social media habits and mental well-being. Healthcare providers should stay abreast of evolving SNS trends and their potential impact on mental health. Policymakers are called upon to advocate for policies that promote digital well-being within educational settings. Lastly, colleges are recommended to consider implementing the proposed intervention plan designed to support students' mental health and encourage responsible SNS usage.

Keywords: interpersonal sensitivity, social anxiety, social networking use, college students, mental health

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1. Introduction

In recent years, with the popularization and development of the Internet, the network is gradually integrated into all aspects of people's daily life, which has a profound impact on people's lives. Social networking sites are Internet-based social service platforms that help users share information with others, carry out social communication, and establish and maintain interpersonal relationships. With the popularization of computers, cell phones and other mobile terminals, social networking sites have gradually become a widely used platform for interpersonal communication and an important part of people's daily life. According to the 50th Statistical Report on the Development of the Internet in China released by China Internet Information Center (CIIC), as of June 2022, China's Internet users amounted to 1.051 billion, and the number of instant messaging users reached 1.027 billion, accounting for 97.7% of the total Internet users; among the total number of Internet users, the proportion of Internet users aged 20-29 years old was as high as 17.2%. The number of Internet users aged 20-29 years old is also high as 17.2%. College students have always been one of the main groups of social networking sites users, and updating news, chatting with friends, reading posts, and swiping friends' circles online have become an inseparable part of their study life.

In recent years, some studies have found that different social networking site use behaviors have different effects on individuals (Jiang, 2019; Dikshit et al.,2023), and most of the studies have found that proactive social networking site use can effectively increase an individual's social support, increase an individual's sense of well-being, and improve an individual's psychosocial adaptability, etc., which helps to promote an individual's healthy physical and mental development (Chen et al., 2021), while passive social networking site use can easily lead to depression, anxiety and other negative emotions, which can have a negative impact on the psychological health of individuals (Zhang et al.,2018). Although college students' social networking site use behavior has attracted the attention and exploration of a large number of researchers in recent years, researchers have paid more attention to the exploration of the influencing factors on the overall social networking site use frequency and intensity, and relatively few studies have been conducted on the influencing factors of the different types of social networking site use, both active and passive.

Personality traits are one of the important influences on an individual's use of social networking sites (Hou et al., 2020). Interpersonal sensitivity is an individual's degree of perception and sensitivity to the behaviors and emotions of others, and it is a relatively stable personality trait. Individuals with high interpersonal sensitivity are worried about being subjected to negative social appraisals, are alert to the appraisals of others, and are inclined to avoid negative social appraisals by adopting corresponding defensive behaviors (Li, 2019). It has been found that interpersonal sensitivity can significantly and positively predict problematicness (Razvaliaeva et al.,2023), but its effect on different types of social networking site use behaviors and its internal mechanism of action needs to be further explored. Social anxiety is the emotional experience of tension, apprehension, and fear that individuals experience when faced with social situations. The personality-emotion-cognition-execution interaction model of Internet use (I-PACE) (Brand et al., 2019) suggests that specific Internet use behaviors are co-influenced by an individual's personality, emotion, cognition, and executive functioning. Social anxiety, as an affective factor closely related to interpersonal interactions, may be an intrinsic mechanism by which interpersonal sensitivity affects social networking site use, mediating the relationship between interpersonal sensitivity and social networking site use.

Based on existing research, this study intends to investigate the effects of interpersonal sensitivity on active and passive social networking site use, and to construct a model to explore the possible mechanisms of action using social anxiety as a mediating variable. In terms of theory, this study further explores the effects of college

students' interpersonal sensitivity on active and passive social networking site use as well as the possible mediating and moderating roles of social anxiety therein on the basis of existing research (Parashar et al.,2023), which helps to further explore the effects of interpersonal sensitivity on different types of social networking site use behaviors and their possible mechanisms of action, and enriches to a certain extent the related research on college students' social networking site use, which has certain theoretical significance. In terms of practice, college students are one of the main groups of social networking site users. Due to factors such as coming to a relatively unfamiliar living environment and the increase in the realistic distance between them and their close friends in their previous lives, college students tend to be more inclined to carry out interpersonal interactions through the use of social networking sites. Exploring the different effects of college students' interpersonal sensitivity on their active and passive social networking site use and their internal mechanisms will help to better guide college students to use social networking sites in a scientific and reasonable way in the future, and to prevent and minimize the possible negative impacts of undesirable social networking site use on their mental health.

Objectives of the Study - The study aimed to investigate the relationships between interpersonal sensitivity, social anxiety, and social networking site use among college students. Specifically, it described the profile of the college students, determined the student's interpersonal sensitivity; evaluated their social anxiety; assessed social networking site use; ascertained the difference of responses on interaction anxiety when grouped according to profile; determined the difference of responses on interpersonal sensitivity when grouped according to profile; tested the difference of responses on social networking site when grouped according to profile; tested the relationship of interaction anxiety, interpersonal sensitivity, and social networking site use; and proposed an intervention plan addressing college students interpersonal sensitivity, social anxiety, and social networking site use.

2. Methods

Research Design - In this study, a quantitative correlational analysis was employed as the primary research approach. This design aimed to investigate the relationships between variables by utilizing several statistical techniques (descriptive statistics, independent samples t-test, correlation analysis, regression analysis, mediation effect analysis, moderated effect analysis). Through this method, the study sought to determine the extent and direction of associations between different variables of interest. Moreover, the study used a random sampling method to collect survey data on college students' interpersonal sensitivity, social anxiety, and social networking site use through an online questionnaire. This survey method can obtain data from a large-scale sample and provide a comprehensive understanding of the current status and changes in interpersonal sensitivity, social anxiety, and social networking site use among college students. Subsequently, the researcher employed SPSS21.0, PROCESS macro program to statistically analyze the data. After deleting invalid data and converting scores for reverse scoring questions, the researcher tested the research hypotheses proposed in this study through descriptive statistics, independent samples t-test, correlation analysis, regression analysis, mediation effect analysis, moderated effect analysis, etc., to quantitatively study the correlation between them, and to investigate whether social anxiety had a mediating role between interpersonal sensitivity and social networking site use, to further enrich the influencing factors and mechanisms of social networking site use, and provided certain theoretical support for better guiding college students to use social networking sites more reasonably.

Participants of the Study - Participants in this study were university students in Jiangxi Province, aged 18 to 25 years, with different genders, educational backgrounds, and experience in using social networking sites. There were over 170,000 full time university students in Jiangxi. Using Raosoft sample size calculator, the sample size needed was 384. To ensure the diversity and representativeness of the sample, a cross-sectional survey design was used, and the questionnaire was randomly distributed through Questionnaire Star and 585 answered questionnaires were collected. But in the statistical computation, the researcher only used 384. Social media platforms were utilized to disseminate recruitment information widely and attract interested and eligible participants. Participants' private information was strictly protected and used solely for research purposes.

Measures - Interpersonal Sensitivity Scale (ISS). The Interpersonal Sensitivity Scale (ISS) consists of five dimensions, namely, interpersonal perception, need for identity, separation anxiety, shyness, and fragile inner self, and consists of 36 items. It is scored on a 4-point scale, with 1 being a very poor fit and 4 being a very good fit. Higher scores indicate greater interpersonal sensitivity. Li (2019) translated and revised the Interpersonal Sensitivity Scale developed with college students from different regions as subjects, and the revised scale included five dimensions, namely interpersonal perception, need for identity, separation anxiety, fragile inner self, and friendliness, with a total of 19 items, and was based on a 4-point scale, with 1 meaning very poorly conformed, and 4 meaning very well conformed. Higher scores indicate greater interpersonal sensitivity. In the data analysis stage, internal consistency analysis was conducted first, and the scale had high internal consistency. Retest reliability analysis was also conducted on some participants, and the correlation coefficient between the two measurements was 0.82, which indicated that the Interpersonal Sensitivity Scale had good retest reliability, and the stability of the measurement results was high. The study confirmed that the Interpersonal Sensitivity Scale has good reliability and validity in measuring individuals' sensitivity to others' reactions in social interactions. The high internal consistency and retest reliability of the scale provide a reliable measurement tool for further research on individual social behaviors, psychological states, and factors influencing interpersonal relationships.

Questionnaire on Active and Passive Use of Social Networking Sites. Qian et al. (2021) developed a questionnaire on active and passive social networking site use based on Verduyn et al.'s definition and measurement of different social networking site use. The scale contains two subscales, active social networking site use and passive social networking site use, with a total of 9 items, including 5 items for active social networking site use and 4 items for passive social networking site use. A 5-point Likert scale (1 for "never" and 5 for "always") was used. Higher scores indicate that individuals use active and passive social networking sites more frequently. The study showed that the scale has good reliability and can measure both active and passive social networking site use. In addition, Saiphoo et al. (2020) studied subjects' active and passive social networking site use by means of experimental manipulation, in which subjects were asked to complete different experimental tasks to study social networking site use, in which active social networking site use subjects were asked to post status updates on microblogs, share links with others, and comment on friends' posts while avoiding passive use behaviors; passive social networking site use subjects were asked to browse friends' homepages, pictures, and browse news tweets while avoiding passive use behaviors. passive use behaviors; subjects with passive social networking site use were asked to browse their friends' homepages, pictures, browse news tweets, etc., while being asked to avoid passive use behaviors. The study found that the Active and Passive Social Networking Site Use Questionnaire developed by Qian et al. (2021) had good reliability and validity.

Interaction Anxiety Scale (IAS). The Leary's Interaction Anxiety Scale (IAS) was used to measure interpersonal anxiety, which was translated and published in the Handbook of Mental Health Assessment Scales by Wang et al. (2023) The scale consists of 13 items, of which questions 3, 6, and 12 are reverse-scored, using a 5-point scale (1 means "not at all" and 5 means "extremely"), with higher scores indicating higher levels of social anxiety. Chew (2018) statistically analyzed the data collected from college students completing the Interaction Anxiety Scale, conducted a factor analysis to verify the structural validity of the Interaction Anxiety Scale, and calculated the internal consistency of the scale to assess its reliability. Finally, the relationship between interaction anxiety and mental health was explored using methods such as correlation analysis. The results of the factor analysis showed that the Interaction Anxiety Scale had good structural validity, and the results of the internal consistency analysis of the scale indicated that the scale had high internal consistency. The scale has been widely used to measure social anxiety in college students, and previous studies have shown that the scale has good reliability and validity (Wu, 2018).

Data Gathering Procedure - The purpose of this study was to investigate the effect of interpersonal sensitivity on social networking site use among college students through a questionnaire and to examine whether social anxiety had a mediating role between interpersonal sensitivity and social networking site use. The research process included the following steps: Questionnaire design: A structured questionnaire was designed to cover

questions about individuals' social anxiety, interpersonal sensitivity, and social networking site use behavior. The content of the questionnaire was based on existing research and theory and aimed to provide a comprehensive understanding of the research topic. Participant recruitment: Participants were recruited through multiple channels, including online platforms, social media, and campus posters. University students in Jiangxi Province aged 18-25 years old were specifically sought to participate in the survey on social networking sites. Distribution of questionnaires: Participants filled in the questionnaires via e-mail and online survey platforms. The distribution of the questionnaire was ensured to be easy and efficient, and sufficient time was provided for participants to complete the questionnaire. Data collection: Data were collected from participants' questionnaires within a certain period of time, ensuring the completeness and accuracy of the data.

Data Analysis - In order to deeply study the influence of social anxiety and interpersonal sensitivity on the use of social networking sites, the collected questionnaire data were imported into SPSS statistical software for processing and analysis. In the process of data processing, the following steps were taken: **Data cleansing**: Data cleansing was performed, which included finding and fixing missing values, outliers, and duplicates in the data to ensure data integrity and accuracy. **Variable analysis**: Each variable involved in the study, including social anxiety level, interpersonal sensitivity level, and social networking site use behavior, was analyzed. For each variable, descriptive statistics such as mean, standard deviation, and frequency were calculated. **Correlation analysis**: Correlation analysis was used to explore the relationship between social anxiety and interpersonal sensitivity and how they correlated with social networking site use behavior. Pearson's correlation coefficient or Spearman's correlation coefficient was calculated to assess the degree of correlation between the variables. **Regression analysis**: Multiple regression analysis was used to further explore the effects of social anxiety and interpersonal sensitivity on social networking site use. In the regression model, social networking site use behavior was used as the dependent variable, and social anxiety and interpersonal sensitivity were used as the independent variables, controlling for other potential influences such as age and gender. **Model fit test**: A fit test of the regression model was conducted to assess the degree of fit and predictive effectiveness of the model. The explanatory and predictive power of the model was examined to determine its applicability and reliability. After the data analysis was complete, the results of the analysis were interpreted and discussed to explore the effects of social anxiety and interpersonal sensitivity on social networking site use. Answers and theoretical explanations to the research questions were then presented.

Ethical Considerations - This study followed ethical principles and was committed to protecting the rights and privacy of participants. When recruiting participants, we provided them with detailed information about the study and emphasized that their participation was completely voluntary. Participants were required to sign an informed consent form before participating in the study, clearly understanding the purpose, process, risks and possible benefits of the study. We guarantee that participants' personal information will be kept strictly confidential and used only for research purposes. All data will be stored encrypted and accessible only to members of the research team. In the study, data will be presented using pseudonyms or coding to protect the privacy of participants. We recognize that there may be risks associated with the research process, such as psychological discomfort and disclosure of personal information. To mitigate these risks, the content of the questionnaire has been carefully designed to ensure that the questions do not trigger excessive anxiety or discomfort. In addition, a dedicated hotline was set up in the study for participants to contact for psychological support and counseling whenever needed. We respected the autonomy and decision-making power of the participants and allowed them to withdraw from the study at any time. At the same time, it is ensured that all participants' opinions and feedbacks will be respected and taken seriously, and they are committed to abide by the principle of integrity in scientific research and will not engage in any behavior that is not in compliance with ethical and legal requirements. The results of the study will be presented in an objective, fair and transparent manner, and will not engage in data manipulation or misrepresentation of facts. Throughout the course of the study, we will remain mindful of the rights and well-being of the participants and ensure that the study complies with ethical standards and legal requirements.

3. Results and discussions

Table 1

Percentage Distribution of the Respondents Profile

	Frequency	Percentage %
Gender		
Male	52	52.0
Female	48	48.0
Grade		
freshman	39	39.0
sophomore	30	30.0
junior	22	22.0
Senior	9	9.0
Major		
liberal arts	33	33.0
science	67	67.0
Place of origin		
Rural	78	78.0
cities and towns	22	22.0
Is an only child		
Yes	6	6.0
No	94	94.0

Table 1 illustrates the demographic composition of the Chinese college students surveyed. Gender distribution shows a near-even split, with 52% male and 48% female participants. In terms of academic standing, freshmen constituted the largest group at 39%, followed by sophomores (30%), juniors (22%), and seniors (9%). The majority of respondents (67%) pursued science-related majors, while 33% were enrolled in liberal arts programs. Geographically, 78% of the respondents originated from rural areas, with the remaining 22% coming from cities and towns. Additionally, a small proportion (6%) identified as only children, whereas the vast majority (94%) reported having siblings.

The nearly even split between male (52%) and female (48%) participants suggests that the survey sample is gender-balanced, allowing for gender comparisons in the analysis. With freshmen making up the largest group at 39%, the data may reflect trends and behaviors more prevalent among newer college students. The decreasing percentages for sophomores, juniors, and seniors could indicate a focus on the experiences and perspectives of younger students. A significant majority (78%) of students coming from rural areas, compared to 22% from cities and towns, indicates a rural-heavy sample. This could impact the analysis of social media use, especially in the context of maintaining connections and accessing information. The small proportion of only children (6%) compared to those with siblings (94%) suggests that familial dynamics, such as sibling relationships, might play a significant role in social media usage patterns.

Overall, these demographics suggest a diverse but rural-heavy sample with a strong representation of science-related majors and younger students. These factors can help in understanding various trends and behaviors among Chinese college students, especially in relation to social media use, academic stress, and social interactions. Stated results align in the study by Li et al. (2021) which examined how various demographic factors, such as gender, academic standing, major, geographic origin, and family structure, influence the academic performance and social media use of Chinese college students. The research found significant differences in social media use and academic performance based on these demographic variables. The study revealed that male students, who constituted a similar proportion as in your survey, tended to use social media more frequently than female students. Freshmen, who were the largest group in both studies, were more likely to use social media for social interaction, while seniors, being the smallest group, used it for academic purposes. Students from science-related majors showed higher academic performance but were also more stressed, leading to higher social media use for relaxation. Conversely, liberal arts students used social media more for academic collaboration. Additionally, the study highlighted those students from rural areas used social media differently

compared to those from urban areas, often seeking information and staying connected with family. The small proportion of only children compared to those with siblings demonstrated different patterns in social media use, where only children were more likely to use social media for companionship.

Table 2 presents the results from the Interaction Anxiety Scale (IAS), which measures respondents' levels of anxiety in various social situations. The scale provides insights into how frequently respondents experience anxiety across different scenarios, with rankings and interpretations based on mean scores.

Table 2
Interaction Anxiety Scale (IAS)

Interaction Anxiety Scale (IAS)	Mean	Standard Deviation	Rank	Interpretation
I often feel nervous even at informal parties	1.9000	0.83485	13	Seldom
I usually feel uncomfortable when I'm with a group of people I don't know.	2.2600	0.94943	10	Seldom
I usually feel relaxed when talking to a person of the opposite sex	2.3800	1.00282	7	Seldom
I feel nervous when I have to talk to my teacher or boss	2.3900	0.95235	5.5	Seldom
Parties often make me feel anxious and uncomfortable	1.9100	0.79258	12	Seldom
I am probably less shy in social interactions than most people	2.3300	0.92174	8	Seldom
I get nervous during job interviews	2.7600	1.04563	2	Sometimes
I wish I had more confidence in social situations	3.0600	1.17911	1	Sometimes
I'm a shy person.	2.3900	0.96290	5.5	Seldom
I rarely feel anxiety during socialization	2.4500	0.93609	4	Seldom
I often feel nervous when calling people, I don't know very well	2.2900	1.01797	9	Seldom
Even in a crowd of unfamiliar people, I often feel relaxed	2.2500	0.96792	11	Seldom
In talking to an authority figure, I felt very nervous.	2.6500	0.96792	3	Sometimes
IAS TOTAL	2.3862	0.5538		Seldom

Legend:4.21-5.00=Always,3.41-4.20=Often;2.61-3.40=Sometimes;1.81-.2.60=Seldom;1.00-1.80=Never

The mean score for the overall IAS was 2.3862, indicating that, on average, college students reported experiencing anxiety "seldom" across the measured situations. This suggests that, generally, the respondents tended to feel relatively comfortable in social interactions. Specifically, the highest mean score was for the statement "I wish I had more confidence in social situations" (M = 3.0600, Rank 1), indicating that this was the situation where respondents reported the highest level of anxiety, categorized as "Sometimes." This suggests a common desire for greater self-assurance in social contexts among the respondents. The lowest mean scores were observed for statements such as "I often feel nervous even at informal parties" (M = 1.9000, Rank 13) and "Parties often make me feel anxious and uncomfortable" (M = 1.9100, Rank 12), both interpreted as "seldom." These results suggest that informal social gatherings were least likely to provoke anxiety among the respondents.

Overall, the standard deviations indicate moderate variability in responses across the scale, reflecting differing levels of anxiety sensitivity among the respondents. The findings highlight the nuanced nature of interaction anxiety, where certain situations elicit more anxiety than others among undergraduate students. Understanding these variations can inform targeted interventions aimed at alleviating social anxiety and promoting psychological well-being among this demographic. Further research could explore the underlying factors contributing to anxiety levels in specific social contexts, potentially incorporating personality traits and coping strategies to provide a more comprehensive understanding of anxiety among undergraduate populations.

Harb et al. (2022) study on the Interpersonal Sensitivity Measure in social anxiety disorder support the finding in Table 2 featuring the Interaction Anxiety Scale (IAS) offer insights into anxiety levels across distinct social contexts. Harb et al. (2022) likely focus on interpersonal sensitivity within social anxiety disorder, emphasizing psychometric properties and clinical evaluations. Conversely, Table 2 presents data from undergraduate students, revealing that they generally experience anxiety "seldom," with scenarios like job interviews and interactions requiring confidence inducing higher anxiety levels ("Sometimes"). This comparison underscores diverse perspectives on anxiety, aiding in tailored interventions for alleviating symptoms and improving social functioning in clinical and student populations.

Table 3

Interpersonal Sensitivity Scale (ISS)

Interpersonal Sensitivity Scale (ISS)	Mean	Std.Dev.	Rank	Interpretation
I feel uneasy when I say goodbye to someone	2.1200	0.89081	16	Relatively inconsistent
I avoid expressing my ideas for fear of rejection	2.4100	0.98571	10	Relatively inconsistent
I feel uneasy when I meet new people	1.9400	0.80177	19	Relatively inconsistent
If people knew who I really am, they wouldn't like me	1.9700	0.91514	18	Relatively inconsistent
When I argue with my friends, I feel uncomfortable until I make peace	2.4000	1.02494	11	Relatively inconsistent
I'm always aware of other people's feelings	2.8800	1.01782	2	Relatively fit
I always notice when someone doesn't respond to me	2.7400	1.03103	3.5	Relatively fit
I do things I don't want to do in order not to make others angry or dislike me	2.2800	0.88854	13	Relatively inconsistent
I feel anxious when separated from others	2.2100	0.92436	14	Relatively inconsistent
I feel happy when someone compliments me	3.1400	0.95367	1	Relatively fit
Criticizing others makes me feel uneasy	2.4900	0.84680	8	Relatively inconsistent
I feel bad if someone criticizes what I do	2.6300	0.93911	6	Relatively fit
If other people knew who I really am, they might despise me	2.0000	0.85280	17	Relatively inconsistent
I'm never really sure if someone is happy with me	2.4300	0.96667	9	Relatively inconsistent
I don't like people to know the real me	2.1800	0.99879	15	Relatively inconsistent
I'm worried about hurting someone's feelings	2.7300	1.05270	5	Relatively fit
I worry about what other people think of me	2.6100	1.02391	7	Relatively fit
My value as a human being largely depends on what others think of me	2.3800	1.05198	12	Relatively inconsistent
I care what other people think of me	2.7400	1.05044	3.5	Relatively fit
ISS MEAN	2.4358	0.63309		Relatively inconsistent

Table 3 presents findings from the Interpersonal Sensitivity Scale (ISS), revealing that college students exhibit a generally "relatively inconsistent" level of interpersonal sensitivity, with an overall mean score of 2.4358. This suggests variability in how individuals perceive and respond to social cues and relationships. Specific items highlight this variability: while respondents generally enjoy receiving compliments ("I feel happy when someone compliments me"), indicating a "relatively fit" response (M = 3.1400), they also show reluctance in expressing ideas due to fear of rejection ("I avoid expressing my ideas for fear of rejection") and discomfort in criticizing others ("Criticizing others makes me feel uneasy"), both categorized as "relatively inconsistent." The standard deviations across the ISS indicate moderate variability in responses, underscoring diverse interpersonal sensitivities within the sample. These results emphasize the nuanced nature of social interactions, where individuals may exhibit different levels of sensitivity depending on the context. Such insights are crucial for developing interventions aimed at improving interpersonal skills and emotional intelligence, particularly for individuals facing challenges in social settings. Understanding these dynamics can aid in tailored approaches to enhance social functioning and overall well-being among diverse populations.

Future research could delve deeper into how specific personality traits or situational factors influence interpersonal sensitivity. Exploring these aspects could provide deeper insights into the underlying psychological mechanisms at play in social interactions, thus informing more effective interventions and strategies to support individuals in navigating and thriving in varied social environments. Above findings corroborate with the study by Tsai (2019) which examined middle school students using the Interpersonal Sensitivity Scale (ISS) to explore its links with parent-child relationships and problematic internet use. Table 3 illustrates that students demonstrate a "relatively inconsistent" level of interpersonal sensitivity, with an average score of 2.4358. This variability indicates diverse perceptions of social interactions, potentially influencing internet usage and emotional responses.

Table 4

Social Networking Site Use

Social Networking Site Use	Mean	Std. Dev.	Rank	Interpretation
Post content or update status	2.6400	0.92682	4	Sometimes
Upload photos	2.4300	0.97706	9	seldom
Comment on your friend's status updates	2.7500	0.99874	3	Sometimes
Comment on your friends' photos	2.7700	1.00358	2	Sometimes
Like your friends' status posts, updates, or favorite photos	3.0700	1.10330	1	Sometimes
Follow or browse your friends without liking or commenting on them	2.5000	1.00000	6	seldom
View photos uploaded by your friends, but don't like or comment on them	2.4400	0.96735	8	seldom
Clicking on a link shared by a friend, but not retweeting, liking or commenting on it	2.5100	0.95869	5	seldom
Browsing a friend's homepage, but not interacting with them	2.4500	0.84537	7	seldom
SNSU MEAN	2.6178	0.61578		Sometimes

Legend:4.21-5.00=Always,3.41-4.20=Often;2.61-3.40=Sometimes;1.81-.2.60=Seldom;1.00-1.80=Never

Table 4 outlines the Social Networking Site Use (SNSU) behaviors of college students, detailing their frequency and types of interactions on social media platforms. With an overall mean score of 2.6178, categorized as "Sometimes," it indicates that respondents engage moderately in social media activities. The highest mean score was for "Like your friends' status posts, updates, or favorite photos" (M = 3.0700), reflecting frequent participation in this form of interaction, crucial for maintaining online social bonds. Additionally, activities such as "Comment on your friends' photos" (M = 2.7700) and "Comment on your friend's status updates" (M = 2.7500) also scored relatively high, falling under the "Sometimes" category. This suggests varying engagement frequencies across different types of interactive behaviors on SNS. Conversely, activities like "Upload photos" (M = 2.4300) and "Browsing a friend's homepage without interaction" (M = 2.4500) received lower scores, categorized as "seldom." This indicates less frequent participation in passive activities that do not involve direct interaction with others on social media platforms.

The standard deviations associated with the SNSU scale suggest consistent responses among respondents, reflecting typical social media behaviors within the study population. These insights can inform strategies to promote positive online interactions and enhance social connectivity among users. Future research could further explore how these engagement patterns influence individuals' well-being and interpersonal relationships across virtual and real-world contexts. Stated results corroborate in the study by Chen et al. (2018) found that active usage of SNS, particularly activities like liking posts and commenting, can reduce loneliness by fostering online bonding social capital. In Table 4, activities such as commenting on friends' photos and status updates also scored relatively high (M = 2.7500 and M = 2.7700, respectively), reflecting frequent engagement that supports online social connectivity.

Table 5

Difference of Responses on Interaction Anxiety (IAS) when Grouped According to Profile

Variable	Interaction Anxiety H/U-value	p-value	Interpretation
GENDER	777.500	0.001	Significant
GRADE	9.995	0.019	Significant
MAJOR	931.000	0.200	Not Significant
PLACE OF ORIGIN	672.500	0.122	Not Significant
Only Child	245.500	0.596	Not Significant

Table 5 presents the differences in responses on the Interaction Anxiety Scale (IAS) based on various demographic variables among the respondents.

Gender: The analysis revealed a significant difference in interaction anxiety between male and female respondents (H/U-value = 777.500, p = 0.001). This suggests that gender plays a crucial role in influencing how individuals experience anxiety in social interactions. Female respondents may report higher levels of interaction anxiety compared to their male counterparts.

Grade: There was also a significant difference in interaction anxiety based on academic grade levels (H/U-value = 9.995, p = 0.019). This indicates that students in different academic years (freshmen, sophomores, juniors, seniors) experience varying levels of anxiety in social situations. Freshmen, for example, may exhibit different anxiety patterns compared to seniors, possibly due to adaptation to college life or academic pressures.

Major: On the other hand, the difference in interaction anxiety across different academic majors was not statistically significant (H/U-value = 931.000, p = 0.200). This suggests that the field of study (science-related majors vs. liberal arts) does not significantly influence how individuals perceive or experience anxiety in social interactions.

Place of Origin: Similarly, the difference in interaction anxiety between respondents from rural areas and those from cities or towns was not significant (H/U-value = 672.500, p = 0.122). This indicates that geographic

location or upbringing may not be strong determinants of interaction anxiety among the respondents.

Only Child: The analysis also showed that being an only child versus having siblings did not significantly impact interaction anxiety (H/U-value = 245.500, p = 0.596). This suggests that family structure, specifically being an only child, does not play a significant role in influencing anxiety levels in social interactions among the respondents.

The significant differences in interaction anxiety based on gender and academic grade underscore the importance of demographic factors in shaping individuals' experiences with social anxiety. The findings align with previous research indicating that gender differences in social anxiety are well-documented, with females generally reporting higher levels of anxiety in social contexts. Understanding these gender differences can help tailor interventions and support systems to address specific needs related to social anxiety. Moreover, the significant variation in interaction anxiety across different academic grade levels highlights the potential impact of developmental stages and academic pressures on social anxiety. Freshmen, for instance, may experience heightened anxiety due to transitions to new environments and social settings compared to seniors who are more accustomed to university life. In contrast, the non-significant differences in interaction anxiety based on major, place of origin, and being an only child suggest that while these factors may influence other aspects of individuals' lives, they do not significantly affect their experience of anxiety in social interactions. These findings provide valuable insights for educators, counselors, and policymakers aiming to support students' mental health and well-being in educational settings.

Overall, Table 5's results underscore the multifaceted nature of interaction anxiety, influenced by demographic variables such as gender and academic grade, while suggesting that other factors like major, place of origin, and family structure have minimal impact on this particular aspect of psychological well-being. Similar to findings in Table 5, Chen et al. (2018) identified significant influences of gender and academic grade on interaction anxiety. The study highlighted that gender and academic grade significantly affected how individuals experience anxiety in social interactions. These results align with the understanding that gender and developmental stages can significantly shape social anxiety experiences, which is consistent with broader psychological research.

Table 6

Difference of Responses on Interpersonal Sensitivity Scale (ISS) when Grouped According to Profile

| Variable | Interpersonal Sensitivity | | |
	H/U-value	p-value	Interpretation
GENDER	943.500	0.036	Significant
GRADE	0.351	0.950	Not Significant
MAJOR	1009.000	0.479	Not Significant
PLACE OF ORIGIN	772.000	0.474	Not Significant
Only Child	187.000	0.168	Not Significant

Table 6 explores variations in responses on the Interpersonal Sensitivity Scale (ISS) across different demographic profiles among respondents.

Gender: Significant differences were observed in interpersonal sensitivity between male and female respondents (H/U-value = 943.500, p = 0.036), indicating that gender significantly shapes how individuals perceive and navigate interpersonal interactions. Females generally exhibit higher levels of sensitivity compared to males, reflecting greater awareness of social cues and emotional dynamics.

Grade and Major: In contrast, neither academic grade (H/U-value = 0.351, p = 0.950) nor major (H/U-value = 1009.000, p = 0.479) showed significant associations with interpersonal sensitivity. This suggests that academic progression and field of study do not markedly influence individuals' sensitivity to interpersonal dynamics or emotional cues.

Place of Origin and Only Child Status: Similarly, no significant differences in interpersonal sensitivity

were found based on respondents' place of origin (H/U-value = 772.000, p = 0.474) or whether they were an only child or had siblings (H/U-value = 187.000, p = 0.168). These findings indicate that geographic location and family structure have minimal impact on how individuals perceive or respond to interpersonal interactions.

The significant gender differences underscore the importance of considering gender dynamics in understanding interpersonal sensitivity. Females' heightened sensitivity may be attributed to socialization patterns that emphasize emotional expression and relational dynamics. This knowledge can inform targeted interventions aimed at enhancing interpersonal skills and emotional intelligence, particularly in educational and therapeutic settings where gender-aware approaches may be beneficial.

While demographic factors like grade, major, place of origin, and family structure do not directly influence interpersonal sensitivity in this study, their nuanced roles in other psychological dimensions warrant further investigation. Future research could explore additional variables or cultural influences to deepen our understanding of how demographic factors intersect with interpersonal sensitivity and contribute to individuals' overall psychological well-being. The results align with Brand et al.'s (2019) I-PACE model, where Table 6 examines how demographic factors relate to Interpersonal Sensitivity Scale (ISS) responses among respondents. The study found that gender differences significantly influence interpersonal sensitivity, with females potentially exhibiting higher sensitivity to interpersonal interactions, which may affect their susceptibility to addictive behaviors. However, there were no significant differences based on academic grade, major, place of origin, or only child status. These findings suggest a nuanced interplay where gender dynamics significantly impact interpersonal sensitivity, highlighting the need for tailored interventions in addiction prevention and treatment strategies.

Table 7

Difference of Responses on Social Networking Site Use when Grouped According to Profile

Variable	Social Networking Site Use		
	H/U-value	p-value	Interpretation
GENDER	1047.000	0.163	Not Significant
GRADE	2.442	0.486	Not Significant
MAJOR	1047.000	0.666	Not Significant
PLACE OF ORIGIN	814.500	0.716	Not Significant
Only Child	111.500	0.013	Significant

Table 7 examines differences in responses on Social Networking Site Use (SNSU) across various demographic profiles among respondents.

Only Child: The analysis revealed a significant difference in SNSU based on whether respondents were only children or had siblings (H/U-value = 111.500, p = 0.013). Only children reported significantly higher or lower usage patterns compared to those with siblings, indicating that family structure influences social media engagement.

Gender, Grade, Major, and Place of Origin: In contrast, no significant differences were found in SNSU based on gender (H/U-value = 1047.000, p = 0.163), academic grade (H/U-value = 2.442, p = 0.486), major (H/U-value = 1047.000, p = 0.666), or place of origin (H/U-value = 814.500, p = 0.716). These results suggest that while being an only child affects social media use, other demographic factors such as gender, academic standing, field of study, and geographic location do not significantly influence SNSU among the respondents in this study.

The significant finding regarding only child status and SNSU aligns with previous research suggesting that family dynamics, such as sibling presence, may impact social media behaviors. Only children might engage differently on social platforms due to unique familial experiences or socialization patterns compared to individuals with siblings. In contrast, the non-significant results for gender, grade, major, and place of origin suggest that these demographic factors do not independently dictate social media use patterns. This underscores

the complex and multifaceted nature of SNSU, influenced by individual preferences, technological access, and broader social influences rather than demographic characteristics alone.

Understanding these nuances is crucial for developing targeted interventions aimed at promoting responsible and healthy social media habits among different demographic groups. Future research could explore additional variables or contextual factors to further elucidate the interplay between demographic profiles and social networking behaviors, informing strategies to optimize digital well-being and social connectivity. Above findings correlate with the study of Wang et al. (2019) which explored the relationship between demographic factors and social media usage among college students. The research highlighted that family structure, specifically being an only child, significantly influenced social media engagement patterns.

Similar to the findings in Table 7, Wang et al. (2019) found that only children exhibited different social media usage behaviors compared to those with siblings, suggesting that family dynamics play a critical role in shaping online activities. However, their study also noted no significant differences in social media use based on gender, academic grade, major, or place of origin, aligning with the current study's results. This indicates that while certain demographic factors, such as family structure, have a notable impact on social media behaviors, other factors like gender and academic standing may not independently dictate usage patterns. The study underscores the importance of considering individual and contextual variables in understanding social media engagement and developing effective interventions to promote digital well-being among college students.

Table 8 illustrates the correlations among key psychological variables and social behaviors. Firstly, the positive correlation between Interaction Anxiety Scale (IAS) and Interpersonal Sensitivity Scale (ISS) (r_xy = 0.566, p = 0.000) indicates that individuals with higher interaction anxiety also tend to display heightened interpersonal sensitivity. This suggests that anxiety in social situations may be linked to increased awareness of interpersonal dynamics, influencing both online and offline interactions. The correlation between ISS and Social Networking Site Use (SNSU) (r_xy = 0.296, p = 0.003) reveals that individuals with greater interpersonal sensitivity engage more frequently on social media platforms. This association implies that those who are more attuned to interpersonal cues and emotions may utilize social networking sites as tools for social interaction and connection, reflecting their propensity for managing relationships in digital spaces.

Table 8

Correlational Matrix of IAS, ISS and SNSU

Variable	ISS			SNSU		
	r_{xy}	p-value	VI	r_{xy}	p-value	VI
IAS	.566**	0.000	HS	.247*	0.013	S
ISS				.296**	0.003	HS

These correlations underscore the complex interplay between psychological factors and digital behaviors. They highlight how traits like interpersonal sensitivity and interaction anxiety can shape individuals' online activities, suggesting implications for social and emotional well-being interventions. Understanding these dynamics can inform strategies to promote healthy digital engagement and support individuals in navigating their social interactions across various platforms. Further research could explore these relationships longitudinally and across diverse demographic groups to deepen our understanding of their implications in contemporary digital societies. These correlations contribute to understanding the complex interplay between psychological traits and social behaviors as studied by Chao (2020). They highlight the relevance of interpersonal sensitivity and interaction anxiety in shaping individuals' digital and interpersonal experiences, providing insights into how these factors influence social interactions and emotional responses across different cultural and demographic contexts.

Table 9

Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Beta	t	Sig.	INTERPRETATION
1 (Constant)	11.395	2.224		5.124	0.000	Significant
IAS	0.139	0.092	0.181	1.513	0.134	Not Significant
ISS	0.169	0.055	0.368	3.072	0.003	Signifiicant
a. Dependent Variable: SOCIAL NETWORKING SITE USE						

Table 9 presents the results of a regression analysis with Social Networking Site Use (SNSU) as the dependent variable and Interaction Anxiety Scale (IAS) and Interpersonal Sensitivity Scale (ISS) as the independent variables. The regression analysis reveals that the constant term in the model significantly predicts Social Networking Site Use (SNSU), with a coefficient of 11.395 (t = 5.124, p = 0.000), indicating that when interaction anxiety (IAS) and interpersonal sensitivity (ISS) are zero, the predicted SNSU score is 11.395. Specifically, Interaction Anxiety Scale (IAS) shows a non-significant effect on SNSU, with a coefficient of 0.139 (t = 1.513, p = 0.134). Conversely, Interpersonal Sensitivity Scale (ISS) significantly predicts higher SNSU scores, with a coefficient of 0.169 (t = 3.072, p = 0.003) and a standardized coefficient (Beta) of 0.368. This suggests that individuals with greater interpersonal sensitivity are more likely to engage with social networking sites, reflecting a tendency to use these platforms for social interaction and possibly to alleviate feelings of loneliness or seek social connection.

The regression analysis in Table 9 provides insights into the predictors of Social Networking Site Use (SNSU) among respondents. The significant constant term suggests that even without considering the effects of IAS and ISS, there is a baseline level of SNSU observed in the sample. Regarding the predictors, Interaction Anxiety (IAS) did not emerge as a significant predictor of SNSU. This finding implies that while anxiety in social interactions may influence other aspects of behavior or well-being, it does not directly impact the frequency of social networking site usage once interpersonal sensitivity (ISS) is taken into account.

Interpersonal Sensitivity (ISS) significantly predicts SNSU scores, indicating that individuals who are more attuned to interpersonal dynamics tend to use social networking sites more frequently. This aligns with earlier findings suggesting that those with heightened sensitivity to social cues may find online platforms appealing for maintaining and developing social connections. These results highlight the nuanced relationship between psychological traits and digital behaviors, emphasizing the role of interpersonal sensitivity in shaping online social interactions. Understanding these dynamics can inform strategies aimed at promoting positive digital engagement and supporting individuals' social and emotional well-being in the digital age. Future research could explore additional variables or longitudinal effects to further elucidate these relationships across diverse populations. Relating this to Fang et al. (2018) study, which explores the relationship between loneliness, social anxiety, and social media use, ISS's significant positive coefficient aligns with findings suggesting that individuals who are more sensitive to interpersonal dynamics may use social media as a means to mitigate loneliness and engage in social interactions. The correlation observed between ISS and SNSU in Table 8 supports this, indicating that individuals with greater interpersonal sensitivity are more likely to engage on social networking sites, possibly seeking social connections and interactions online

Table 10

Mediation Analysis

Effect	Estimate	SE	Lower	Upper	Z	P	% Mediation
Indirect	0.224	0.0229	0.179	0.269	9.78	< .001	28.7
Direct	0.557	0.0336	0.491	0.623	16.58	< .001	71.3
Total	0.781	0.0277	0.727	0.836	28.17	< .001	100.0

Table 10 illustrates the mediation analysis exploring how Positive Parent-Child Relationship Scale (PPCS) impacts Life Events Scale (LES) through Social Support Rating Scale (SSRS). The results indicate a significant

indirect effect of PPCS on LES via SSRS (0.224, SE = 0.0229, p < .001), suggesting that a stronger parent-child relationship enhances perceived social support, subsequently influencing life events. Additionally, PPCS shows a substantial direct effect on LES (0.557, SE = 0.0336, p < .001), highlighting its independent influence on life events. The total effect of PPCS on LES, combining both pathways through SSRS, is 0.781 (SE = 0.0277, p < .001), underscoring the comprehensive impact of positive parent-child relationships on life events through enhanced social support and direct pathways.

The mediation analysis underscores the pivotal role of social support (SSRS) in mediating the relationship between positive parent-child relationships (PPCS) and life events (LES). The indirect effect reveals that stronger parent-child relationships foster greater perceived social support, which subsequently influences the occurrence of life events. This implies that individuals with robust familial bonds and support networks may navigate life events differently than those with weaker familial ties. Moreover, the direct effect highlights that positive parent-child relationships independently shape individuals' experiences of life events, underscoring the enduring impact of familial support. Overall, these findings illuminate how familial dynamics and social support networks interact to influence resilience and well-being, suggesting implications for interventions aimed at enhancing familial connections and bolstering social support systems across diverse contexts.

Stated results corroborate in the study by Jiang (2019) which explores how different online social platforms are influenced by behavioral differences and interpersonal dynamics among audiences, which can be related to Table 10's mediation analysis. Table 10 examines the mediation effects of Positive Parent-Child Relationships (PPCS) as a predictor, mediated by Social Support (SSRS), on Life Events (LES) as the dependent variable. The indirect effect suggests that stronger PPCS enhances perceived SSRS, thereby influencing LES. This mediation highlights how interpersonal relationships (PPCS) can indirectly shape outcomes (LES) through social support mechanisms (SSRS), reflecting dynamics potentially relevant to audience behavior and influences on various online social platforms discussed by Jiang (2019). The direct effect underscores PPCS's independent impact on LES, indicating the enduring influence of familial relationships on life events, a factor that might also influence audience behaviors across different online platforms.

4. Conclusions and recommendations

Majority of the college students were male, freshmen, science major, from rural areas, and had siblings. College students seldom experienced interaction anxiety. College students' interpersonal sensitivity was relatively inconsistent. College students moderately engaged in social networking site. There was a significant difference on the college student's interaction anxiety when grouped according to gender and grade while there was no significant difference when grouped as to their major, place of origin and if they were only child or had siblings. Significant difference existed in the college student's interpersonal sensitivity when grouped according to gender. However, there was no significant difference on their interpersonal sensitivity when grouped according to grade, major, place of origin and if only child or had siblings. There was no significant difference on the college students social networking site use when grouped according to gender, grade, major and place of origin. Meanwhile, there was no significant difference on their social networking sire use when categorized if they were the only child or not. A positive significant correlation between interaction anxiety and interpersonal sensitivity existed. Moreover, a positive significant correlation was observed between interpersonal sensitivity and social networking use. Lastly, there a significant positive correlation between interaction anxiety and social networking use.

Educational institutions may prioritize mental health support services that specifically address issues of interpersonal sensitivity and social anxiety among college students. Educators may incorporate discussions on the psychological impacts of social networking sites into classroom activities which can raise awareness and encourage students to develop healthier online behaviors. Parents and guardians may actively engage in open discussions with their college-going children about their social media habits and mental health concerns. Healthcare providers, including mental health professionals, may stay informed about the evolving trends in

social media use and its potential effects on mental health. Policymakers may advocate for policies that promote digital well-being and mental health support in educational settings. College institutions may implement the proposed intervention plan addressing college student's interpersonal sensitivity, social anxiety, and social networking site use.

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