

# **An Examination of the Relationships between Pre-service teachers' Test Anxiety, Use of Social Networking Sites, and Cumulative Grade Point Average**

## **Abstract**

This study aimed to determine situations or conditions that promote test anxiety, identify the frequent uses of social networking sites, and examine the relationship between social media use, test anxiety, and Cumulative Grade Point Average (CGPA). A test anxiety and social networking questionnaire which consisted of 49 items was administered to randomly selected pre-service teachers in a college of education at the end of the second-semester examination. A multi-stage sampling technique was employed to select 106 pre-service teachers. The data collected from the respondents was analyzed using Pearson's Product Moment Correlation Co-efficient, mean, and frequency. In this study, it was found that taking an unannounced examination, feeling one should have done better than he/she did after an examination, waiting to see the results of an examination published, discussing with the tutor the answer one believed to be right, however, that was marked wrong and reading through the examination questions and feeling that one does not know any of the answers promote test anxiety among the pre-service teachers. The pre-service teachers used social networking sites predominantly to read news, get information regarding current social events, conduct research, share new ideas, relieve academic stress, share pictures, and view funny videos. It was found that there is a significant positive moderate correlation between test anxiety and the use of social networking sites among pre-service teachers. It was also found that, statistically, there was no relationship between test anxiety and CGPA, and CGPA and use of social networking sites.

Keywords: Pre-service teachers, Test Anxiety, Social Networking Sites, Cumulative Grade Point Average, academic performance, Ghana

## **Introduction**

The utilization of social media among tertiary education students has become increasingly prevalent. In the last decade, two prime factors have influenced social media use among tertiary education students. The proliferation of social media applications and the ease of accessing the internet have on one hand been a key contributing factor. Another factor is the role that social media plays in facilitating the exchange of academic ideas and information among students. (Islam, Laato, Talukder & Sutinen, 2020). While social media makes it easy to socialize, it has also brought a new dimension to sharing information, discussing, and sharing academically useful media. Audio, video recordings, and notes in the form of text are shared among students very easily. As highlighted by Kumar and Nanda (2019), it is now commonplace to find educators joining student-managed social networks. Since educators began integrating social media networks into teaching and learning, the academic environment has become borderless, and students and educators interact on the go. Students do not want to be left out of the use of social networking sites, especially where it is an extension of the lecture halls.

The use of social networking sites among tertiary education students **has received attention from researchers**. Some **of the studies** have delved into the prevalence of the use of social networking sites in tertiary education institutions (Kausar, & Awan, 2019; Issahaku 2017; Danquah, Asiamah, and Fordjour, 2018) while others have gone a step further to study students' preference of social media sites and application (Habes, Salloum, Alghizzawi, & Mhamdi, 2019; AlFaris, et. al., 2018; Yeboah & Ewur, 2014). **The interest of some researchers** has been in both students' preferences and what they use **social networking sites for** (Al-Qaysi, Mohamad-Nordin, Al-Emran & Al-Sharafi, 2019; Giunchiglia, Zeni, Gobbi, Bignotti, & Bison, 2018). For these, the primary concern has been how students use **social networking sites** to support their academic life. Some of these studies have reported that even though students are hooked onto **social networking sites**, the use of social networking sites to support their academic life **may be low**.

Studies **on** the effect of social media on students' academic performance have reported mixed findings. Yeboah and Ewur (2014) used a mixed methods design to investigate the impact **of use** of WhatsApp messenger, a popular social media application, on students' performance in **tertiary education institutions in Ghana**. In their study, Yeboah and Ewur (2014) administered a questionnaire to 500 students of **a tertiary education institution** and interviewed 50 of the students who completed the questionnaire. They reported that the use of WhatsApp messenger deprives students **of** time for studies, **hence**, students who use **WhatsApp messenger** **underperform** in examinations.

**A study conducted by Asante and Martey (2015) reported that social media use has a detrimental impact on students' academic performance.** Asante and Martey (2015) designed their study to examine the nature of the relationship between tertiary education students' use of social networking sites **and** their academic performance. According to Asante and Martey (2015), analysis of the data collected from 733 students through a survey, indicated that social media use negatively affected **students' performance**. **Some studies examining the relationship between social media use and academic performance, have found results that challenge the commonly reported negative effects.**

Danquah, Asiamah, and Fordjour (2018) examined the impact of selected social media applications on students' academic performance and reported that social media use has a positive effect on academic performance. Danquah, Asiamah, and Fordjour (2018), used a stratified sampling technique to sample 298 students from three public universities to participate in a descriptive survey. They found that, the use of social networking sites positively correlates with the academic performance of the sample. This result is consistent with findings from a study conducted by Issahaku (2017).

According to Issahaku (2017), since the use of social networking platforms **has** become popular among undergraduate students, it will **be reflected** in students' **Cumulative** Grade Point Average (CGPA). **Therefore, when examining the various factors that influence students' academic performance, Issahaku (2017) specifically delved into the impact of social media on academic achievement.** Questionnaires were distributed to "a non-random, self-selected sample of 1,500 upper year (Levels 300-400) undergraduate students in four public universities" (p. 261) to complete. Issahaku's (2017) study found that students who used social **media performed better**.

The prime factor that has been reported to account for these mixed findings is students' specific use of social networking sites. The manner in which students utilize social media can either positively impact or hinder their academic performance. As mentioned by George, Dixon, Stansal, Gelb, and Pheri (2008), 'passive leisure', influences the academic performance of students. When students join social media networks that are academically oriented, they get the chance to increase their 'stock of ideas/knowledge' (Issahaku, 2017: 264), by identifying and finding learning materials and friends who will help them answer questions, connecting to discuss projects and sharing study notes.

Also, students' desire to learn more leads to filtering out non-academic posts from academic posts on social media sites, thereby increasing their stock of knowledge by focusing on posts that will enhance their knowledge and ideas. This could be the reason why Boahene, Fang, and Sampong (2019) reported a positive correlation 'between the frequency of use of social networking sites (WhatsApp) for educational purposes, and the academic performance (CGPA) of tertiary education students' (p. 12). Social media sites that primarily promote socialization are distractors to good academic performance (Owusu-Acheaw, & Larson, 2015). When students spend too much time on non-academic social media activities, their academic performance is negatively affected (Celestine & Nonyelum, 2018) and also, it may create test anxiety among students. Test anxiety may increase among students who are negatively affected by the use of social networking sites.

However, the effect of social media on test anxiety has not been reported in studies unlike the impact of test anxiety on academic performance. Studies conducted on anxiety in academic settings have mostly examined the effect of anxiety on academic performance. As noted by Seipp, (1991), the strength of the relationship between test anxiety and academic performance varies from one study to another, with correlations ranging from extremely negative to positive values. Liew, Hamzah, and Mustapha (2021) sent a questionnaire to 143 undergraduate students through the internet. In their cross-sectional research, a regression analysis was conducted to examine the effect of anxiety on participants' self-reported CGPA. Liew, Hamzah, and Mustapha (2021), found that there is no causal relationship between anxiety and academic performance of undergraduate students in public universities in Malaysia.

Like Liew, Hamzah, and Mustapha (2021), Ecem (2019) found that there is no significant correlation between test anxiety and low academic performance among 150 students of Atilim University. This result is not consistent with the findings of Jha, Punia, and Babita (2019). In a cross-sectional study conducted at BPS Government Medical College for Women, Khanpur Kalan, Sonapat, the result of the analysis of data collected from 240 students showed that there is a negative correlation between test anxiety and academic performance.

The negative impact of social media on students could be a source of test anxiety among the current tertiary education students, however, studies have not focused on the link between social media use, test anxiety, and academic performance. The studies on test anxiety have primarily focused on how test anxiety affects academic performance, excluding variables that may create test anxiety among tertiary education students. Though studies conducted on the effect of social media on academic performance in the Ghanaian context are ubiquitous, such studies have not tied in test anxiety. Also, most studies that focused on the relationship between test anxiety and academic

performance are outside the Ghanaian context. The current study was designed to determine situations or conditions that promote test anxiety, identify the frequent uses of social networking sites, and examine the relationship among social media use, test anxiety, and Cumulative Grade Point Average (CGPA).

## **METHOD**

The research design used for the study was a descriptive survey. The population for the study was 1666, level 100 to 400 College of Education pre-service teachers. Each level had approximately 400 pre-service teachers. Multi-stage sampling procedure was used to sample 106 students. One of the four levels – Levels 100, 200, 300, and 400, was selected using simple random sampling technique. Simple random sampling technique was used to select one out of seven programs for the selected level. To get a fair representation of males and females, students offering the selected program were put into two strata – males and females. For each stratum, student registration numbers were electronically randomized. The first 60 randomized registration numbers of males were selected while the first 46 randomized registration numbers of females were selected to participate in the study.

The selected students were informed that as part of responding to statements on test anxiety and social media use, their Cumulative Grade Point Average (CGPA) will be collected and used in the study. The sampled pre-service teachers were then assured of anonymity and also informed that, the data would be used for research purposes only. Following this, all 106 students (60 males and 46 females) opted to participate in the study. However, when the questionnaire was administered two students failed to indicate their student registration numbers and so their data were not included in the analysis.

A test anxiety and social networking questionnaire which consisted of 49 items was administered to the sample at the end of the second-semester examination. The questionnaire was in three sections - sections A, B, and C. Section A collected demographic information from respondents. Section B was on students' anxiety before, during, and after the examination. Section C was used to collect information from respondents on their use of social networking sites for academic, socialization, entertainment, and informative purposes. Section C was adopted from Gupta and Bashir (2018). Gupta and Bashir (2018) developed and tested a questionnaire to assess the social media use of tertiary education students.

The reliability of the instrument was estimated using Cronbach's Alpha reliability, to ascertain the suitability of the adopted section of the instrument in the Ghanaian context. The Cronbach's Alpha reliability was estimated to be 0.864. Cronbach's Alpha reliability was estimated for sections B and C as 0.850 and 0.794 respectively. The data collected from the respondents was analyzed using Pearson's Product Moment Correlation Co-efficient, mean, and frequency.

## **Results**

The result of the study has been presented in this section using descriptive and inferential statistics. Frequency distribution tables were used to analyze pre-service teachers' responses to statements on the factors that promote test anxiety and the use of social networking sites. The mean scores

were used to rank the factors which influences test anxiety as high, moderate, and low. Lastly, means scores were used to determine what the pre-service teachers frequently used social networking sites for. The interpretation of the mean scores has been presented in Table 1.

**Table 1: The Interpretation of the mean scores**

Level	Mean
Very Low	0.00 – 0.90
Low	1.00 – 1.90
High	2.00 – 2.90
Very High	3.00 – 4.00

Table 1 indicates the interpretation of the mean scores range and level of test anxiety, and use of social networking sites by the pre-service teachers. That is, a mean of 0.00 – 0.90 indicates very low-level while test mean of 3.00 – 4.00 shows very high level.

The relationship between academic performance and anxiety and social media use was investigated using Pearson Product Moment Correlation Coefficient (Pearson's r). Pearson's r from 0.10 to 0.29, 0.30 to .49, and 0.50 to 1.0 were interpreted as Small, moderate, and large respectively (Cohen, 1988 p.79-81). Small Pearson's r meant a weak association between the variables while large Pearson's r meant a strong association.

### Situations Perceived to Promote Test Anxiety Among the Pre-service Teachers

In order to gain a better understanding of the factors contributing to test anxiety among pre-service teachers, they were asked to indicate their agreement or disagreement with various situations believed to induce test anxiety. The responses of the pre-service teachers have been presented in Table 2.

**Table 2: Pre-Service Teachers' Responses to Perceived Situations that Promote Test Anxiety**

#	Statement	SD	D	A	SA
1	Hearing the announcement of an upcoming examination makes me anxious	8	24	45	27
2	Studying for an examination the night before the examination makes me shiver.	25	30	30	19
3	Waiting to enter the room where an examination is to be taken disturbs me.	17	40	27	20
4	Discussing approaching examination with friends a few weeks before the examination makes me confused.	44	40	11	9
5	Being asked by my course mates my readiness to take an upcoming examination frightens me.	26	29	39	10
6	Discussing course content with fellow students, just before entering the examination center makes me confused.	20	36	26	22
7	Seeing an examination question and not being sure of the answer makes me lose hope.	11	25	35	33

8	Waiting for an examination paper to be shared is stressful.	13	27	37	27
9	I feel very panicky when I have to take an unannounced examination	9	5	41	49
10	Seeing the number of questions that need to be answered on the examination overwhelms me.	18	24	37	25
11	Being among the few candidates yet to finish our examination makes me anxious.	24	32	27	21
12	Being the last candidate to finish an examination makes me very bothered.	34	26	23	21
13	During the examinations, I frequently get so nervous that I forget facts that I really know.	21	21	37	25
14	Getting a good grade on one examination does not seem to increase my confidence on the second examination.	46	28	17	13
15	Reading through the examination and feeling that I do not know any of the answers upsets me.	10	11	39	44
16	Seeing my results in an exam in relation to other student's results I get frustrated.	16	14	37	37
17	Discuss with the tutor an answer I believed to be right but that was marked wrong makes me feel uncomfortable.	11	10	34	49
18	Waiting to see the result published makes me anxious.	8	9	40	47
19	After the examination, listening to the answers which my course mates selected makes me disturbed.	15	10	31	48
20	After taking an examination, I always feel I should have done better than I actually did.	7	10	40	47

As shown in Table 2, 90 (86.54%) of the pre-service teachers either agreed or strongly agreed they feel very panicky when they have to take unannounced examination. The 87 (83.65%) agreed or strongly agreed that after taking an examination, they always feel they should have done better than they actually did. The pre-service teachers who indicated that they become anxious when waiting for the publication of their result were 84 (80.77%). The majority 83 (79.81%) of the pre-service teachers either agree or strongly agree with the statement 'discussing with the tutor an answer they believed to be right but that was marked wrong makes them feel uncomfortable'. The same percentage of pre-service teachers indicated that reading through the examination and feeling that they do not know any of the answers upsets them.

The pre-service teachers did not perceive all the statements to promote test anxiety. The pre-service teachers 20 (19.23%) indicated that they do not get confused when they discuss an approaching examination with their friends. To 30 (28.85%) of the pre-service teachers, getting a good grade on one examination does not seem to increase their confidence on the second examination. Almost 70% of the pre-service teachers were of the view that performing well in an examination gives them the confidence to take the next examination. About 60% of the pre-service teachers were not bothered if they were the last to finish an examination room. The majority of the pre-service teachers were not disturbed while waiting to enter an examination room to take an examination. A

little below half (45.23%) of the pre-service teachers either agreed or strongly agreed that discussing course content with colleagues, just before entering the examination center makes them confused.

**Table 3: Level of Factors that Promote Anxiety among Pre-Service Teachers**

#	Item	Mean
1	Waiting to see the result published makes me anxious.	3.2178
2	I feel very panicky when I have to take an unannounced examination	3.2075
3	After taking an examination, I always feel I should have done better than I actually did.	3.1981
4	Discuss with the tutor an answer I believed to be right but that was marked wrong makes me feel uncomfortable.	3.1415
5	Reading through the examination and feeling that I do not know any of the answers upsets me.	3.0849
6	After the examination, listening to the answers which my course mates selected makes me disturbed.	3.0571
7	Seeing my results in an exam in relation to other student's results I get frustrated.	2.8962
8	Seeing an examination question and not being sure of the answer makes me lose hope.	2.8654
9	Hearing the announcement of an upcoming examination makes me anxious	2.8571
10	Waiting for an examination paper to be shared is stressful.	2.7010
11	Seeing the number of questions that need to be answered on the examination overwhelms me.	2.6509
12	During the examinations, I frequently get so nervous that I forget facts that I really know.	2.6226
13	Waiting to enter the room where an examination is to be taken disturbs me.	2.4717
14	Discussing course content with fellow students, just before entering the examination center makes me confuse.	2.4528
15	Being among the few candidates yet to finish with our examination makes me anxious.	2.4245
16	Studying for an examination the night before the examination makes me shiver.	2.4000
17	Being asked by my course mates my readiness to take an upcoming examination frightens me.	2.3048
18	Being the last candidate to finish an examination makes me very bothered.	2.2952
19	Getting a good grade on one examination does not seem to increase my confidence on the second examination.	1.9712
20	Discussing approaching examination with friends, a few weeks before the examination makes me confused.	1.8396

The mean of the responses provided for each statement in Table 2 was computed and used to determine situations or conditions that highly promote or least promote anxiety among the pre-service teachers. The mean has been presented in Table 3. As shown in Table 3, waiting for the publication of results (m=3.21), taking unannounced examinations (m=3.20), discussing responses pre-service teachers consider correct but have been marked wrong by tutors (m=3.14), realizing they cannot answer any of the questions after reading through the questions (m=3.08), feeling one could have done better after the examination (m=3.19) and listening to the answers provided by colleagues after the examination (m=3.05) are the top five situations or conditions that promote test anxiety.

Other situations or conditions that promote pre-service teachers' test anxiety include; comparing results and possibly realizing others have performed better (m=2.89), not being sure of the answers to questions (m=2.86), hearing the announcement of an upcoming examination (m=2.85), and waiting for an examination paper to be shared (m=2.70). The situations or conditions that least promote anxiety among the pre-service teachers were discussing an upcoming examination with friends a few weeks before the examination (m=1.83) and getting good grades in an examination (m=1.97).

### Pre-Service Teachers Use of Social Networking Sites

In order to investigate the utilization of social networking sites among pre-service teachers, participants were requested to express their level of agreement or disagreement with statements regarding the use of social networking sites for academic, entertainment, and social purposes. The responses are presented in Table 4.

**Table 4: Pre-Service Teachers Responses to the Use of Social Networking Sites**

#	Statement	SD	D	A	SA
1	I use social networking sites to solve my academic problems.	9	15	55	25
2	I use social networking sites to do research work.	3	8	57	36
3	I use social networking sites for online academic group discussions.	20	18	36	30
4	I communicate with my friends via social networking sites for preparation of examination.	22	24	37	21
5	I use social networking sites for collaborative learning.	12	28	41	23
6	I use social networking sites to learn about my curricular aspect.	20	27	35	22
7	I use social networking sites to seek help from my teachers.	14	25	42	23
8	I use social networking sites to become more sociable.	16	17	41	30
9	I use social networking sites to create my social identity.	15	35	34	20
10	I prefer using social networking sites to attending social gathering.	21	30	35	18
11	I use social networking sites for strengthening interpersonal relationships.	13	28	45	18
12	I use social networking sites to keep in touch with my relatives.	10	16	48	30

13	I use social networking sites to get information regarding current social events.	5	6	38	55
14	I use social networking sites for sharing pictures.	7	8	53	36
15	I use social networking sites to view funny videos.	6	9	47	42
16	I use social networking sites for watching movies.	6	20	39	39
17	I use social networking sites to get relief from academic stress.	3	12	49	40
18	I use social networking sites for reading news.	2	5	44	53
19	I use social networking sites to share new ideas.	4	10	55	35
20	I use social networking sites for getting job-related information.	14	11	48	31

Table 4 shows the pre-service teachers' responses to using social networking sites. From Table 4, 97 (93.27%) of the pre-service teachers either agreed or strongly agreed they use social networking sites for reading news. In addition, 94 (90.38%) of the pre-service teachers either agreed or strongly agreed they use social networking sites to get information regarding current social events. Only 11 pre-service teachers disagreed or strongly disagreed they use social networking sites to do research work while 90 (86.54%) of the pre-service teachers, either agreed or strongly agreed they use social networking sites to share new ideas. The pre-service teachers who strongly agreed or agreed that they use social networking sites to get relief from academic stress, for sharing pictures and viewing funny videos were 89 (85.58%) each.

From Table 4, 53 (50.96%) of the pre-service teachers either agreed or strongly agreed they prefer using social networking sites to attending social gatherings. the pre-service teachers who either agree or strongly agree they use social networking sites to create their social identity were 54 (51.92%). A little above half 58 (55.77%) of the pre-service teachers either agreed or strongly agreed they communicate with their friends via social networking sites as they prepare for the examination.

**Table 5: Level of Use of Social Networking Sites among Pre-Service Teachers**

#	Item	Mean
1	I use social networking sites for reading news.	3.4369
2	I use social networking sites to get information regarding current social events.	3.3302
3	I use social networking sites to get relief from academic stress.	3.2115
4	I use social networking sites to view funny videos.	3.2019
5	I use social networking sites to do research work.	3.1905
6	I use social networking sites to share new ideas.	3.1635
7	I use social networking sites for sharing pictures.	3.1238
8	I use social networking sites for watching movies.	3.0571
9	I use social networking sites to keep in touch with my relatives.	2.9423
10	I use social networking sites to solve my academic problem.	2.9057
11	I use social networking sites for getting jobs related information.	2.9048

12	I use social networking sites to become more sociable.	2.8019
13	I use social networking sites for online academic group discussion.	2.7308
14	I use social networking sites for collaborative learning.	2.7075
15	I use social networking sites to seek help from my teachers.	2.6792
16	I use social networking sites for strengthening interpersonal relationships.	2.6538
17	I use social networking sites to learn about my curricular aspect.	2.5566
18	I use social networking sites to create my social identity.	2.5566
19	I communicate with my friends via social networking sites for preparation of exam.	2.5377
20	I prefer using social networking sites to attending social gathering.	2.4667

Table 5 presents the level of use of social networking sites among the pre-service teachers. It can be seen that the pre-service teachers used social networking sites mostly for reading news (m=3.43), getting information regarding current social events (m=3.33), getting relief from academic stress (m=3.21), viewing funny videos (m=3.20), conducting research work (m=3.19), sharing new ideas (3.16), and sharing pictures and watching movies (m=3.05). The pre-service teachers did not mostly prefer using social networking sites to attending social gatherings (m=2.46). Their use of social networking sites for preparation for examination (m=2.53), seeking help from their teachers, and creating their social identity (m=2.55) were low.

#### **Correlations of the Pre-Service Teachers' Test Anxiety and Social Media Use And CGPA**

Pearson's r was used to determine the nature of the relationship among test anxiety, use of social networking sites, and CGPA. Table 6 shows the results of the correlation.

**Table 6: Correlations of the Pre-Service Teachers Anxiety, Social Media Use, and Academic Performance**

		2020 CGPA	Anxiety	Social Media Use
2020 CGPA	Pearson Correlation	1	-.165	-.019
	Sig. (2-tailed)		.093	.850
Anxiety	Pearson Correlation	-.165	1	.363**
	Sig. (2-tailed)	.093		.000
	N	104	104	104

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

As shown in Table 6, there is a significant moderate positive correlation between the anxiety and social media use of the pre-service teachers ( $r = 0.363$ ,  $n = 104$ ,  $p = 0.00$ ). This means that the test anxiety and the social media use have a positive relationship. The result implies that frequent use of social networking sites causes an increase in test anxiety among pre-service teachers. From Table 6, the relationship between CGPA and test anxiety and CGPA and use of social networking

sites were negative, low, and not significant. There was a low negative correlation between CGPA and test anxiety ( $r = -0.165$ ,  $n = 104$ ,  $p = 0.093$ ).

The low negative correlation means as pre-service teachers' test anxiety increases, their CGPA decreases only to a very small degree. However, it is not significant and therefore statistically implies that test anxiety does not affect the CGPA of pre-service teachers. There was a low negative correlation between CGPA and the use of social networking sites ( $r = -0.019$ ,  $n = 104$ ,  $p = 0.850$ ). Similarly, the low negative correlation means as pre-service teachers frequently use social networking sites, their CGPA decreases only to a very small degree. However, the decrease is not significant and therefore statistically implies that use of social networking sites does not affect the CGPA of pre-service teachers.

## Discussion

The current study was in three parts. It explored the situations or conditions that promote test anxiety among pre-service teachers and the most common uses of social networking sites, and thirdly, determined the relationship among pre-service teachers' test anxiety, use of social networking sites, and their CGPA. The top situations that are perceived by pre-service teachers to promote test anxiety are, waiting for the publication of results, taking unannounced examinations, knowing one could have done better in the examination, and realizing the answers one provided are not consistent with what friends provided. The pre-service teachers used social networking sites for reading news, getting information on current social events, getting relief from academic stress, sharing ideas and images, conducting research work, and watching movies. It was found that, while there is no relationship between test anxiety and CGPA and Social networking sites and CGPA, there was a positive significant moderate correlation between test anxiety and the use of social networking sites.

The study revealed that test anxiety among pre-service teachers is primarily influenced by several factors. These include: unexpected exams, feelings of underperformance, anticipation of exam results, disputing marked answers with instructors, and struggling to answer exam questions. These factors consistently contribute to heightened levels of test anxiety in pre-service teachers.

The pre-service teachers predominantly used social networking sites for entertainment and socialization. The result is consistent with the findings of Mude and Undale (2023). Mude and Undale (2023) reported that social networking sites are mostly used for chatting with friends and family and for entertainment. Kircaburun, Alhabash, Tosuntaş, and Griffiths (2020) found that the use of social networking sites for academic work is low among the sample. They reported that the motivation for the use of social networking sites was entertainment and socialization. According to Abbas Naqvi, Jiang, Miao, and Naqvi (2020), social networking sites are significant providers of entertainment and socialization. Social networking sites like Facebook, WhatsApp, and Telegram gained popularity as educational tools during the COVID-19 pandemic (Sobaih, Hasanein & Abu Elnasr, 2020; Aduba, & Mayowa-Adebara, 2022; Sengupta & Vaish, 2023).

Out of the three variables, only the use of social networking sites and test anxiety had a positive significant moderate relationship. The result is consistent with the findings of Dhir, Yossatorn, Kaur, and Chen (2018). The most probable reason for this relationship is that the use of social

networking sites takes a part of the time and mental capacity that the pre-service teachers must use to prepare for their examinations. According to Malik, Dhir, Kaur, and Johri (2020), the execution of an event, activity, or task results in the utilization of an individual's time and cognitive space which is naturally limited. Due to this, the use of social networking sites creates fatigue and misuse of time for educational purposes, which leads to inadequate preparation for examination and hence creates test anxiety (Dhir, Yossatorn, Kaur & Chen, 2018). This may explain why Malik, Dhir, Kaur, and Johri (2020) reported that a decrease in academic performance could be a consequence of fatigue on social networking platforms.

Test anxiety and use of social networking sites do not have a significant relationship with CGPA. The finding is not consistent with the findings of Boahene, Fang, and Sampong (2019). Boahene, Fang, and Sampong (2019) found a strong positive relationship between the use of social networking sites for educational purposes and academic performance. However, the use of social networking sites has a negative relationship with academic performance. Though the findings from this study also showed that there is a negative relationship between CGPA and the use of social networking sites, the relationship is low and not significant. **This discovery may have stemmed from the intentions behind the pre-service teachers' use of social networking sites.** The pre-service teachers used social networking sites predominantly for non-academic purposes.

The study did not find a significant relationship between test anxiety and CGPA. Onoshakpokaiye and Okigbo (2023), studied the relationship between test anxiety and the performance of students in mathematics and reported that there is no correlation between academic performance and test anxiety. Other studies have reported similar findings. Such studies include Liew, Hamzah, and Mustapha (2021) and Ecem (2019). To Liew, Hamzah, and Mustapha (2021), test anxiety has an indirect effect on the academic performance of students. Test anxiety according to them, influences the academic motivation of the students and the academic motivation influences the academic performance of the student. The result of this study is not however consistent with the findings of Jha, Punia, and Babita (2019).

### **Implications**

The use of social networking sites for non-educational activities has some consequences on the pre-service teachers' studies and test anxiety. This implies that pre-service teachers depend solely on their lecture notes, the limited selection of books available to them, and the resources provided by the library to further their studies across different subject areas. This also does not allow the pre-service teachers to read about current issues in their subject areas to increase their pedagogical content knowledge. Therefore, pre-service teachers have a narrow scope of knowledge, which reduces their study time and preparedness to write tests or examinations and related issues. The increase in test anxiety among the pre-service teachers implies the pre-service teachers are not ready with the required content knowledge, skills, and practicum to take their examinations. Therefore, this tends to show a lack of confidence to enhance teaching and learning as pre-service teachers and when they become in-service teachers.

### **Conclusions**

The pre-service teachers who participated in the study used social networking sites primarily for non-academic purposes. They visited social networking sites to read news, get information regarding current social events, conduct research work, share new ideas and get relief from academic stress, share pictures, and view funny videos. These uses do not positively influence the pre-service teachers' preparation for examination. The use of social networking sites therefore indirectly increases the pre-service teachers' test anxiety. Due to this, conditions or situations such as taking an unannounced examination, feeling one should have done better than he/she did after an examination, waiting to see the results of an examination published, discussing with the tutor the answer one believed to be right but that was marked wrong and reading through the examination questions and feeling that one does not know any of the answers promote test anxiety among the pre-service teachers.

### **Disclaimer (Artificial intelligence)**

#### **Option 1:**

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

#### **Option 2:**

Author(s) hereby declare that generative AI technologies such as Large Language Models, etc have been used during writing or editing of manuscripts. This explanation will include the name, version, model, and source of the generative AI technology and as well as all input prompts provided to the generative AI technology

Details of the AI usage are given below:

- 1.
- 2.
- 3.

### **Consent**

As per international standards or university standards, respondents' written consent has been collected and preserved by the author(s).

### **References**

- Abbas Naqvi, M. H., Jiang, Y., Miao, M., & Naqvi, M. H. (2020). The effect of social influence, trust, and entertainment value on social media use: Evidence from Pakistan. *Cogent Business & Management*, 7(1), 1723825.
- Aduba, D. E., & Mayowa-Adebara, O. (2022). Online platforms used for teaching and learning during the COVID-19 era: The case of LIS students in Delta State University, Abraka. *International Information & Library Review*, 54(1), 17-31.

- AlFaris, E., Irfan, F., Ponnampereuma, G., Jamal, A., Van der Vleuten, C., Al Maflehi, N., ... & Ahmed, A. M. (2018). The pattern of social media use and its association with academic performance among medical students. *Medical teacher*, 40(sup1), S77-S82.
- Al-Qaysi, N., Mohamad-Nordin, N., Al-Emran, M., & Al-Sharafi, M. A. (2019, October). Understanding the differences in students' attitudes towards social media use: A case study from Oman. In *2019 IEEE Student Conference on Research and Development (SCOREd)* (pp. 176-179). IEEE.
- Asante, E., & Martey, E. M. (2015). Impact of social media usage on academic performance of tertiary institution students: Evidence from Accra & Tema Metropolis, Ghana. *Journal of Advance Research in Social Science and Humanities*, 1(3), 01-14.
- Boahene, K. O., Fang, J., & Sampong, F. (2019). Social media usage and tertiary students' academic performance: Examining the influences of academic self-efficacy and innovation characteristics. *Sustainability*, 11(8), 2431.
- Celestine, A. U., & Nonyelum, O. F. (2018). Impact of social media on students' academic performance. *Int. J. Sci. Eng. Res*, 9(3), 1454-1462.
- Danquah, F. O., Asiamah, B. K., & Fordjour, M. O. (2018). Effect of social media on perceived students' academic performance of higher institutions: A case of public universities in Accra, Ghana. *Journal of Education and Practice*, 9(15).
- Dhir, A., Yossatorn, Y., Kaur, P., & Chen, S. (2018). Online social media fatigue and psychological wellbeing—A study of compulsive use, fear of missing out, fatigue, anxiety and depression. *International Journal of Information Management*, 40, 141-152.
- Ecem, Ã. (2019). The relationship between test anxiety and academic performance. *Electronic International Journal of Education, Arts, and Science (EIJEAS)*, 4(10).
- George, D., Dixon, S., Stansal, E., Gelb, S. L., & Pheri, T. (2008). Time diary and questionnaire assessment of factors associated with academic and personal success among university undergraduates. *Journal of American College Health*, 56(6), 706-715
- Giunchiglia, F., Zeni, M., Gobbi, E., Bignotti, E., & Bison, I. (2018). Mobile social media usage and academic performance. *Computers in Human Behavior*, 82, 177-185.
- Gupta, S., & Bashir, L. (2018). Social networking usage questionnaire: Development and validation in an Indian higher education context. *Turkish Online Journal of Distance Education*, 19(4), 214-227.
- Habes, M., Salloum, S. A., Alghizzawi, M., & Mhamdi, C. (2019, October). The relation between social media and students' academic performance in Jordan: YouTube perspective. In *International Conference on Advanced Intelligent Systems and Informatics* (pp. 382-392). Springer, Cham.
- Islam, A. N., Laato, S., Talukder, S., & Sutinen, E. (2020). Misinformation sharing and social media fatigue during COVID-19: An affordance and cognitive load perspective. *Technological Forecasting and Social Change*, 159, 120201.
- Issahaku, P. A. (2017). An investigation of factors that influence the academic performance of undergraduate students of public universities in Ghana. *Mediterranean Journal of Social Sciences*, 8(3), 259-259.
- Jha, S. K., Punia, A., & Babita, B. (2019, February). The relationship between test anxiety and academic performance among undergraduate medical students: A Cross-sectional study. In

- Proceedings of International Conference on Sustainable Computing in Science, Technology and Management (SUSCOM), Amity University Rajasthan, Jaipur-India.*
- Kauser, S., & Awan, A. G. (2019). Impact of using social media on academic performance of students at graduate level: Evidence from Pakistan. *Global Journal of Management, Social Sciences and Humanities*, 5(1), 116-142.
- Kircaburun, K., Alhabash, S., Tosuntaş, Ş. B., & Griffiths, M. D. (2020). Uses and gratifications of problematic social media use among university students: A simultaneous examination of the Big Five of personality traits, social media platforms, and social media use motives. *International journal of mental health and addiction*, 18, 525-547.
- Kumar, V., & Nanda, P. (2019). Social media in higher education: A framework for continuous engagement. *International Journal of Information and Communication Technology Education (IJICTE)*, 15(1), 97-108.
- Liew, Y. W., Hamzah, H., & Mustapha, R. (2021). The effect of anxiety towards the academic performance of undergraduate students in public universities in malaysia. *EDUCATUM Journal of Social Sciences*, 7(2), 82-94.
- Malik, A., Dhir, A., Kaur, P., & Johri, A. (2020). Correlates of social media fatigue and academic performance decrement: A large cross-sectional study. *Information Technology & People*, 34(2), 557-580.
- Mude, G., & Undale, S. (2023). Social media usage: A comparison between Generation Y and Generation Z in India. *International Journal of E-Business Research (IJEER)*, 19(1), 1-20.
- Onoshakpokaiye, O., & Okigbo, E. C. (2023). Relationship between test anxiety and academic performance of secondary school students in mathematics. *Mathematics Education Journal*, 7(2), 178-189.
- Owusu-Acheaw, M., & Larson, A. G. (2015). Use of social media and its impact on academic performance of tertiary institution students: A study of students of Koforidua Polytechnic, Ghana. *Journal of Education and Practice*, 6(6), 94-101.
- Seipp, B. (1991). Anxiety and academic performance: A meta-analysis of findings. *Anxiety research*, 4(1), 27-41.
- Sengupta, S., & Vaish, A. (2023). A study on social media and higher education during the COVID-19 pandemic. *Universal access in the information society*, 1-23.
- Sobaih, A. E. E., Hasanein, A. M., & Abu Elnasr, A. E. (2020). Responses to COVID-19 in higher education: Social media usage for sustaining formal academic communication in developing countries. *Sustainability*, 12(16), 6520.
- Yeboah, J., & Ewur, G. D. (2014). The impact of WhatsApp messenger usage on students' performance in Tertiary Institutions in Ghana. *Journal of Education and practice*, 5(6), 157-164.