

# Investigating the impacts of social media on international university students' academic performance in China

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**Abstract:** The impact of using social media on academic performance for university students has become a continuous research topic because of its positive and negative. However, little is known about how international students harness social media to improve academic performance (GPA). This study used the quantitative method to explore the impact of social media on academic performance experienced by international university students in Tianjin, China and highlighted the relationship between social media use and academic performance. The findings are as follows: The negative impact is very small compared to the positive impact, and the negative and positive impact caused by social media is dependent on the student. The number of hours spent on social media is not related to the number of hours spent on learning. Male students are strongly related to using social media to learn in class. Master's students are strongly related to having a social media group for their courses. There is a significant difference between majors in improving GPA due to the use of social media, and engineering students using social media in the learning process have helped them improve their GPAs. Teachers in universities should use social media in learning strategies to be more effective for international students of non-engineering majors, the female, and the bachelor degree.

**Keywords:** Social media; Media in education; Post-secondary education; Pedagogical issues; International students

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## 1. Introduction

Social Media are interactive platforms and digital channels of content production and exchange based on user relationships on the Internet. Social media is also a tool people use to share information, opinions, insights, experiences, and ideas, and it mainly includes social networking sites, such as WeChat (famous in China), Facebook, Twitter, Instagram. The use of social media is more and more prevalent in university students. However, the use of social media within the university creates a debate between agreeing and disagreeing. Therefore, the impact of using social media on academic performance for university students has become a continuous research topic because of its positive and negative. However, little is known about how international students harness social media to improve academic performance, and it is valuable to be investigated.

This study aims to examine whether social media impacts the academic performance of international university students in Tianjin, China. It analyzed the role of social media on the academic performance of international students and disclosed the factors that may influence students' use of social media. This research is also expected to be useful for universities and teaching staff to understand better how international university students use and utilize social media to support their

academics. The study results try to fill a gap in research on the impact of social media use on the academic performance of international university students in China.

## 2. Literature Review

### 2.1. The role of social media in university student academics

Educators and students should use social media as a teaching and learning tool to facilitate and improve the learning process (Sivakumar, 2020). The more efforts the university makes to support the use of social media in learning, the more enthusiastic students will be in using social media for academic purposes, besides that social media can make the university's reputation better because it combines technology in learning (Fiaz et al., 2019). Some respondents positively welcomed using social media to support their academics because they could send learning materials quickly and facilitated direct discussion through social media (Bold & Yadamsuren, 2019). In its use in the university environment, social media is not only a one-way communication tool. It can also be used to disseminate research results related to teaching materials, to conduct university surveys on how students are satisfied with the services provided by the university and can be used

to promote campus events to make students more active (Gori et al., 2020).

Students and educators can easily share information and data related to learning through social media to support academic activities (Rasheed et al., 2020; Mahdiun et al., 2020). Social media can improve the quality of the learning and classroom environment more effectively (Mahdiun et al., 2020). Teachers can use social media to integrate the reading of digital books into their learning activities; utilizing social media platforms' social and interactive functions can make social media even more helpful to facilitate and improve students' digital reading literacy (Chen et al., 2021).

The social support gained through social networking allowed new students to successfully adjust to academic study (DeAndrea et al., 2002). The use of social media must be supported in a university environment because it can create active collaborative learning, such as facilitating group discussions between students (Al-Rahmi et al., 2018). The existence of social media encourages the progress of the development of open learning because it facilitates collaboration, group discussions, and the exchange of ideas between students (Ashraf et al., 2021).

## **2.2. Social media and academic performance of university students**

### **2.2.1. There is a positive impact between using social media and academic performance**

The existence of social media encourages the progress of the development of open learning because it facilitates collaboration, group discussions, and the exchange of ideas between students, which positively affect student behavior to improve their knowledge and skills for better academic performance and results (Chang et al., 2019; Ashraf et al., 2021). Chatting, discussing online, and sharing files through social networking sites were predictors of knowledge sharing that could improve learning performance (Eid & Al-Jabri, 2016). When encouraged for academic discussion, the use of Twitter positively affected students' grades, engagement, and motivation (Junco et al., 2011). Students often use social media to make new friends, help them research by finding other sources of related materials, and keep up with the latest trends and news. Gender significantly influenced students' academic performance (Oguguo et al., 2020). Male students have the highest percentage of addiction to social media compared to female students, but in academic performance, the percentage of female students addicted to social media is higher (Alnjadat et al., 2019).

### **2.2.2. There is a negative impact between using social media and academic performance**

Using social media excessively negatively impacts academic performance (Sivakumar, 2020; Busalim et al.,

2019; Busalim et al., 2019; Masood et al., 2020). The reasons are socialization, social comparison, pleasure, and information seeking (Masood et al., 2020) by used social media like WhatsApp, Facebook, Instagram, and YouTube. The effects of Facebook usage on students' grades found that students who used Facebook for social activities had lower GPAs than students who used Facebook for information collection and sharing activities (Junco et al., 2011). Social media could distract students from learning because they were more interested in using social media for entertainment (Bold & Yadamsuren, 2019). More than half of university students had poor sleep quality due to addiction to social media, and they spent their time actively accessing two of the seven social media platforms. Social media made students addicted (Tayo et al., 2019; Abu-Snienh et al., 2020) and they spent about 2 to 3 hours every day on average (Tayo et al., 2019). Techno-stress and fatigue are also negative impacts caused by addiction to social media, and they also trigger a factor in decreasing student interest in using social media to support their academics (Loh et al., 2021). Prolonged use of social media for non-academic purposes can make students lose focus in their studies (Wakil et al., 2018), distract students from academic work, adversely affect academic performance quality (Kolhar et al., 2021), and significantly impact self-esteem (Busalim et al., 2019). The percentage of male students addicted to social media was higher than female students, which had a negative and significant effect on academic performance (Azizi et al., 2019).

### **2.2.3. There is no significant relationship between using social media and academic performance**

There is no significant relationship between using social media and academic performance, such as medical students about the use of social media with the following results: for entertainment (95.8%), to follow the latest news (88.3%), and to socialize (85.5%), while for academic studies is (40%) (AlFaris et al., 2018). There is no significant effect of students' time-frequency of using social media on academic performance (Oguguo et al., 2020). The use of social media and technology did not have a significant negative effect on students' academic performance, while multitasking and self-regulation control affected students' academic performance outcomes (Uzun & Kilis, 2019). The addiction to social media use has no impact on academic performance (Pekpazar et al., 2021) but has a significant difference in academic procrastination. The higher the level of addiction to social media, the higher the procrastination behavior (Suárez-Perdomo et al., 2022). The relationship between addiction to Instagram and academic performance is mediated by procrastination including self-esteem, which also affects Instagram addiction and procrastination (Pekpazar et al., 2021).

### 2.3. Social media and international university students

International students rely heavily on social media to support academic and non-academic activities (Zhao, 2016). Social media plays a vital role in international students' lives and is potentially an important channel through which international students pursue their well-being (Wong et al., 2014). International students use social media to strengthen, build, and maintain relationships by interacting with people in their home countries for assisting them in dealing with cultural differences and the difficulties they experience while adapting to their new environment and making them feel like they are still in their community (Sawyer & Chen, 2012). In addition to social activities, There are a variety of ways for international students to use social media for learning purposes, including group work, aggregating links and contents, gathering and sharing information, encouraging discussions, validating ideas, and making decisions (Saw et al., 2013; Zhao, 2016).

In Australian universities, most international students surveyed had greater prior experience with social network sites for personal and educational use rather than wikis, blogs, and discussion forums, which are often used in institutional settings. The educational use of social network sites led many participants to add new classmates as profile friends (Sleeman et al., 2020). In United States universities, social media use was positively predictive of satisfaction with life, and there

was a positive relationship between satisfaction with life and academic performance. Namely, the positive influence of social media use had on international students' perceptions of their experiences, which in turn could positively impact their academic performance (Saha & Karpinski, 2018).

### 3. Research questions

(1) Do international university students in Tianjin use social media only for academic purposes?

(2) How does the use of social media affect the academics of international university students in Tianjin?

(3) Is there a relationship between academic performance and the use of social media with variables such as length of time on social media, time to study, GPA?

(4) Is there a relationship between gender, academic status, and major academics in the use of social media?

### 4. Research method

#### 4.1. Participant

The 136 international university students in Tianjin from 18 to 30 years of age who participated in this research included 68 males and 68 females. As to the academic status, 72 (53 %) were bachelor's degree students, and 64 (47 %) were master's degree students. Participants' majors and numbers were shown in table 1, and each participant represented his major.

Table1 participants' Major and their numbers

| Major                             | Numbers | Percent | Major                                  | Numbers | Percent |
|-----------------------------------|---------|---------|--|---------|---------|
| Pharmaceutical science            | 4       | 2.94%   | Computer science and technology        | 4       | 2.94%   |
| TESOL                             | 12      | 8.82%   | Chinese pharmacy                       | 4       | 2.94%   |
| Environmental engineering         | 8       | 5.88%   | E-commerce                             | 4       | 2.94%   |
| Chinese business                  | 4       | 2.94%   | Logistics management                   | 4       | 2.94%   |
| Bioengineering                    | 4       | 2.94%   | Physical education                     | 4       | 2.94%   |
| Chinese medicine                  | 4       | 2.94%   | Civic education                        | 8       | 5.88%   |
| MBA                               | 12      | 8.82%   | Mechanical manufacturing & automation  | 12      | 8.82%   |
| Environment design                | 4       | 2.94%   | Management science and engineering     | 4       | 2.94%   |
| Industrial engineering            | 4       | 2.94%   | Electronics information engineering    | 4       | 2.94%   |
| Chemical engineering              | 4       | 2.94%   | Linguistics in International languages | 8       | 5.88%   |
| International economics and trade | 4       | 2.94%   | Civil engineering                      | 4       | 2.94%   |
| Piano performance                 | 4       | 2.94%   | Mechatronics and technology            | 4       | 2.94%   |
| Telecommunication engineering     | 4       | 2.94%   |  |         |         |

#### 4.2. Research Instrument

We chose and adapted the Social Media And Academic Success of Students (SMAAPOS) questionnaire (Osharive, 2015) as a research instrument,

which utilized split-half tests using odd and even objects to make two-thirds, and the reliability was tested.

We revised this questionnaire because it is the only survey available to address the same population. It was

also used to examine the relationship between the use of social media networks and student academic performance. Given these two factors, we found that the use of this instrument would provide sufficient answers to the research questions. However, this instrument has been used in Nigeria. As a result, we introduced and revised various questions to ensure that the questionnaire was suitable for international university students in Tianjin.

The questionnaire was divided into two parts. Part A consists of 7 items, including gender(I<sub>1</sub>), academic status(I<sub>2</sub>), major(I<sub>3</sub>), current GPA(I<sub>4</sub>), most used social media(I<sub>5</sub>), hours spent on studying average per day (I<sub>6</sub>), and hours spent on social media average per day (I<sub>7</sub>). Part B consists of 21 items (I<sub>8</sub>-I<sub>28</sub>, shown in table 1 and table 2) that provide knowledge about students in the use of social media: Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree, and one open-ended item at the end of the questionnaire asks whether they have any further comments on the impact of social media on their academic performance(I<sub>29</sub>).

Pearson's Correlation Coefficient is used to assess the questionnaire. A co-efficient value of 0.68 indicated that the analysis method is entirely accurate. According to (Taber, 2018), the acceptable level of reliability varies from 0.67 to 0.87.

#### 4.4. Data collection and analysis procedure

##### 4.4.1. Data collection procedure

We published an online questionnaire in English using Wenjuanwang (<https://www.wenjuan.com/>) and used it to collect data. Questionnaire connections were sent to students via WeChat. We sought input from students in various classes and departments at all levels. We started the survey and assured students that the survey was anonymous. The correlation template was used in the analysis. The independent variable was the

use of social media, and the dependent variable was student academic performance and whether it was increasing or decreasing.

##### 4.4.2. Data analysis

Quantitative data collected was scored, entered into SPSS, and analyzed using inferential statistical tests based on research questions and data quality. Analysis tools are frequency tables, cross-tabs, and t-tests. SPSS has been used to evaluate and interpret data obtained from surveys. Data collected is stored online at Wenjuanwang. As applicable, Pearson's Chi-square test (or Fisher's exact test) was used for subgroup comparisons, and  $P < 0.05$  was considered statistically significant. Pearson correlation is used to measure the relationship between self-assessed academic success and individual determinants, assuming a linear relationship.

## 5. Results

### 5.1. Responses on students' use of social media for academic purposes

Responses on students' use of social media for academic purposes were shown in Table 2. These results were mostly good, and some were not good. Based on the results, students in some subjects were more dependent on social media, primarily if they used social media as a data collection tool, for example, students from business and economics majors. Furthermore, according to the last open question asked if they wanted to comment on social media, all students had mentioned that using social media for academic purposes was easier for them. A student said, "Social media has improved my communication skills to a better level."

Table 2 Responses on students' use of social media for academic purposes

| Item            | Statement  | Strongly Disagree | Disagree | Neutral | Agree  | Strongly Agree |
|-----------------|--|-------------------|----------|---------|--------|----------------|
| I <sub>8</sub>  | I am involved in academic discussions on social media platforms  | 0%                | 8.82%    | 44.11%  | 38.23% | 8.82%          |
| I <sub>9</sub>  | I use WeChat or other social media to share information with my classmate  | 0%                | 0%       | 11.76%  | 55.88% | 32.35%         |
| I <sub>10</sub> | I keep up with the latest developments in my field through social media  | 0%                | 2.94%    | 35.29%  | 44.11% | 17.64%         |
| I <sub>11</sub> | I only use information obtained from social media to do my work without seeking information from other sources   | 2.94%             | 20.58%   | 29.41%  | 44.11% | 2.94%          |
| I <sub>12</sub> | Being involved in academic forums on social media confused me  | 5.88%             | 17.64%   | 58.82%  | 14.70% | 2.94%          |
| I <sub>13</sub> | Sometimes I use social media to understand further what I have learned in class                                  | 0%                | 5.88%    | 11.76%  | 55.88% | 26.47%         |
| I <sub>14</sub> | Social media is encouraged by professors as part of class assignments  | 2.94%             | 5.88%    | 47.05%  | 41.17% | 2.94%          |
| I <sub>15</sub> | We have social media groups for several classes  | 0%                | 5.88%    | 11.76%  | 47.05% | 35.29%         |
| I <sub>16</sub> | I use social media because most of my course assignments/projects are in the form of blogs/ online presentations | 0%                | 11.76%   | 32.35%  | 44.11% | 11.76%         |
| I <sub>17</sub> | I communicate with lecturers through social media  | 0%                | 2.94%    | 26.47%  | 44.11% | 26.47%         |



**Social media is an important teaching and learning tool.** 82.35 % of participants used social media to understand further what they had learned in class. 88.23 % of participants used WeChat or other social media to share academic information with their classmates. 61.75 % of participants kept up with the latest developments in their fields through social media. 82.34 % of participants had social media groups for several classes. 70.58 % of participants communicated with lecturers through social media. 76.46 % of participants reported that involving in academic forums on social media did not confuse them. 47.05 % of participants were involved in academic discussions on social media platforms. 47.05 % of participants only used information obtained from social media to do their work without seeking information from other sources.

**Some teachers encourage the use of social media in their course teaching.** 55.87 % of participants used social media because most of their course assignments or projects were in the form of blogs/online presentations. 44.11 % of participants reported their teachers using social media as part of class assignments.

## 5. 2. Responses on the impact of social media on student engagement and academic performance

Responses on the impact of social media on student engagement and academic performance are shown in Table 3. Most international university students disagreed about the negative impact of social media on their academic performance, and a low percentage of

students did not agree about the positive impact of social media on their academic performance.

**The impact of using social media on learning engagement.** 29.41% of participants agreed that unlimited access to social media via their cellphone distracted them in class. 47.05% of participants agreed that social media divert them from learning. 61.75% of participants agreed that they spent on social media means they did not have time to study. 70.58% of participants agreed that they spend more time on social media than reading materials outside of class. 49.99% of participants agreed that they would lose concentration to study once they opened social media.

**The impact of using social media on GPA score.** 41.17% of participants disagreed that social media had a negative impact on their GPA scores. 35.29% of participants agreed that social media positively influenced their GPA scores. 20.58% of participants agreed that social media negatively influenced their GPA scores, and 38.23% were neutral. 41.17% of participants agreed that using social media for the learning process helped increase their GPA scores. 41.17% of participants disagreed that they would not have good academic grades even if they stopped using social media, 14.7% agreed, and the rest were neutral.

**The impact of using social media on writing and communication skills.** 20.58% of participants agreed that social media had decreased their writing skills. 67.63% of participants agreed that social media helped them improve their communication skills.

Table 3 Responses on the impact of social media on student engagement and academic performance

| Item            | Statement   | Strongly Disagree | Disagree | Neutral | Agree  | Strongly Agree |
|-----------------|---|-------------------|----------|---------|--------|----------------|
| I <sub>18</sub> | The time I spend online on social media means I do not have time to study                             | 0%                | 0%       | 38.23%  | 44.11% | 17.64%         |
| I <sub>19</sub> | Social media networks divert me from learning   | 0%                | 11.76%   | 41.17%  | 20.58% | 26.47%         |
| I <sub>20</sub> | The time I spend online on social media more than the time I spend reading materials outside of class | 8.82%             | 5.88%    | 14.70%  | 41.17% | 29.41%         |
| I <sub>21</sub> | Unlimited access to social media via my cellphone distracts me when in class                          | 11.76%            | 17.64%   | 41.17%  | 26.47% | 2.94%          |
| I <sub>22</sub> | Social media positively influenced my GPA score   | 0%                | 8.82%    | 55.88%  | 29.41% | 5.88%          |
| I <sub>23</sub> | Social media negatively influenced my GPA score   | 5.88%             | 35.29%   | 38.23%  | 20.58% | 0%             |
| I <sub>24</sub> | Using social media for the learning process helped increase my GPA score                              | 0%                | 11.76%   | 52.94%  | 29.41% | 11.76%         |
| I <sub>25</sub> | Social media has decreased my writing skills  | 5.88%             | 35.29%   | 38.23%  | 20.58% | 0%             |
| I <sub>26</sub> | I will not have good academic grades even if I stop using social media                                | 8.82%             | 32.35%   | 44.11%  | 11.76% | 2.94%          |
| I <sub>27</sub> | Social media helps me improve my communication skills   | 0%                | 8.82%    | 23.52%  | 44.11% | 23.52%         |
| I <sub>28</sub> | Once I opened social media, I lost concentration to study   | 0%                | 14.70%   | 35.29%  | 41.17% | 8.82%          |

### 5.3. The relationship between academic achievement and the use of social media, including time spent on the use of social media, time spent on the learning, and academic performance (GPA).

GPA was used as a reference indicator of academic performance. The amount of time spent on social media reported by students per day was used to measure social media use. Table 4 will categorize three variables: GPA, hours spent on learning average per day, and hours of using social media average per day.

Table 5 shows the results of descriptive statistics of three variables. A measure of central tendency is calculated to summarize data for three variables. The results of the analysis for three variables are shown: (1) GPA:  $N = 136$ ,  $M = 3.3100$ ,  $SD = .26185$ ; (2) Hours spent on learning average per day:  $N = 136$ ,  $M = 17.2059$ ,  $SD = 12.54756$ ; (3) Hours spent on social media average per day:  $N = 136$ ,  $M = 9.7647$ ,  $SD = 8.05684$ . The data above shows that the average hours spent on learning are more than the average hours spent on social media, given that the hours spent on learning are every day and the hours spent on social media are weekly.

Correlation analysis in Table 6 was used to test whether there is a significant relationship between three variables: GPA, hours spent on learning, and hours spent on social media average per day.

The results show that there is a significant, though the weak, positive relationship between the GPA and the learning time,  $r = -.041$ ,  $N = 136$ ,  $p = .817$ ; and a significant negative correlation, although the weak,

between the number of hours spent on social media and the GPA,  $r = .202$ ,  $N = 136$ ,  $p = .252$  ... The results show that an increase in the number of learning hours is related to higher GPA, which is associated with an increase in the number of hours spent on social media related to lower GPA. However, there is no significant relationship between hours spent on social media and hours spent on learning.

### 5.4. A relationship between gender, academic status, major academics, and use of social media

Three variables of gender, academic status, and significant academic include involvement in academically related social media activities, perceptions of the impact of social media on academic involvement, and how much time they spend on social media.

#### 5.4.1. Gender

The cross-tabulation was used to investigate the frequency distribution of gender variables, followed by the chi-square test to show whether there was a significant relationship between participation in academically-related gender and social media activities. Male and female students have the same attitude about using social media to understand what they have learned in class. However, male students strongly agree with a higher percentage of using social media to learn in class. Results of the chi-square analysis (Table 7) explain the importance of using social media between male students and female students to understand what is taught in class,  $\chi^2 = 5.251$ ,  $p = 0.154$ .

Table 4 GPA, hours on learning, and hours on social media ( $N = 136$ )

| GPA and Frequency |           | Time on learning average per day |           | Time on social media average per day |           |
|-------------------|-----------|----------------------------------|-----------|--------------------------------------|-----------|
| GPA               | Frequency | Hours                            | Frequency | Hours                                | Frequency |
| <2.5              | 8         | <=8.00                           | 20        | <=4.00                               | 40        |
| 2.6-3             | 24        | 8.01-14.00                       | 52        | 4.01-8.00                            | 32        |
| 3.1-3.5           | 96        | 14.01+                           | 64        | 8.01+                                | 64        |
| 3.6-4             | 20        |                                  |           |                                      |           |

Table 5 The mean and standard deviation ( $N = 136$ )

|   | Mean    | SD       |
|---|---------|----------|
| GPA   | 3.3100  | .26185   |
| Hours spent on learning average per day     | 17.2059 | 12.54756 |
| Hours spent on social media average per day | 9.7647  | 8.05684  |

Table 6 Correlation between GPA, time on study, and time on social media ( $N = 136$ )

|   |                     | Hours spent on learning average per day | Hours spent on social media average per day | GPA  |
|---|---------------------|---|---|------|
| Hours spent on learning average per day     | Pearson Correlation | 1                                       | -.041                                       | .262 |
|   | Sig. (2-tailed)     |   | .817  | .134 |
| Hours spent on social media average per day | Pearson Correlation | -.041                                   | 1   | .202 |
|   | Sig. (2-tailed)     | .817                                    |   | .252 |
| GPA   | Pearson Correlation | .262                                    | .202  | 1    |

|  | Sig. (2-tailed) | .134 | .252 |
|--|-----------------|------|------|
|--|-----------------|------|------|

\* Significant correlation at the 0.05 level

\*\* Correlation is significant at the 0.01 level

*Table 7 Chi-square analysis between gender and the use of social media*

|                    | $\chi^2$ | df | Asymp. Sig. (2-tailed) |
|--------------------|----------|----|------------------------|
| Pearson chi-square | 5.251    | 3  | .154                   |
| likelihood ratio   | 6.190    | 3  | .103                   |

*Table 8 Chi-square analysis between academic status and social media groups for courses*

|                    | $\chi^2$ | df | Asymp. Sig. (2-tailed) |
|--------------------|----------|----|------------------------|
| Pearson chi-square | 1.471    | 3  | .689                   |
| likelihood ratio   | 1.514    | 3  | .679                   |

### 5.4.2. Academic status

The cross-tabulation was used to investigate the frequency distribution of academic status variables, followed by the chi-square test, to show whether there was significance between involvement in related social media activities in academic majors and academic status. Undergraduate and master students tended to use social media for academic purposes. Master students strongly agreed to have a social media group for some of their courses, and bachelor students agreed to have a social media group for some of their courses. Results of the chi-square analysis (Table 8) revealed a significant difference between academic status and having social media groups for several courses,  $\chi^2 = 1.471$ ,  $p = 0.689$ .

### 5.4.3. Major academic

Cross tabulations were used to investigate the frequency distribution of significant academic variables with survey statements, followed by a chi-square test to show whether there is significance between academic involvement in social media activities and academic status.

As to only use of information obtained from social media to do work without consulting other sources, the majority of students of engineering majors chose to use social media to do their work, most business students chose to be neutral, and the rest chose not to disagree strongly. Results of the chi-square analysis (Table 9) showed significant differences between majors, who only used social media to complete the task,  $\chi^2 = 40.458$ ,  $p = 0.096$ . Students from engineering majors tended to agree to use information obtained from social

media to do their work without looking for other sources besides students from different majors.

As to “the use of social media in the learning process has helped improve GPA”, Engineering students chose to agree that the use of social media in the learning process has helped them improve their GPA, and students from business majors chose to be neutral. Results of the chi-square analysis (Table 10) showed significant differences between majors in improving GPA due to the use of social media,  $\chi^2 = 44.672$ ,  $p = 0.041$ .

As to “the use of WeChat to share information with classmates”, more than 50% of all majors chose to have a social media group for several classes. Engineering students were at a higher percentage than other majors. However, it could not be denied that sometimes they were forced to join groups to follow the development of the online learning process. Results of the chi-square analysis (Table 11) showed significant differences between majors and social media groups for some of their programs,  $\chi^2 = 24.780$ ,  $p = .210$ . Engineering students are more likely to have social media groups for their courses than other majors. As to “the use of social media because of most of my course assignments/projects in the form of blogs / online presentations”, the engineering major had a higher number of more agreed participants, while the other majors chose to be neutral. The results of the chi-square analysis (Table 12) explained that there were significant differences between majors and the desire to use social media widely because of their learning process in the form of blogs / online presentations,  $\chi^2 = 30.455$ ,  $p = .443$ . For example, engineering students had the highest percentage for this statement.

*Table 9 Chi-square analysis between majors in using social media*

|                    | $\chi^2$ | df | Asymp. Sig. (2-tailed) |
|--------------------|----------|----|------------------------|
| Pearson chi-square | 40.458   | 30 | .096                   |
| likelihood ratio   | 30.462   | 30 | .442                   |

*Table 10 chi-square analysis between majors in improving GPA and the use of social media*

|                    | $\chi^2$ | df | Asymp. Sig. (2-tailed) |
|--------------------|----------|----|------------------------|
| Pearson chi-square | 44.672   | 30 | .041                   |
| likelihood ratio   | 31.579   | 30 | .387                   |

Table 11 chi-square analysis use WeChat to share information with my classmates.

|                    | $\chi^2$ | df | Asymp. Sig. (2-tailed) |
|--------------------|----------|----|------------------------|
| Pearson chi-square | 24.780   | 20 | .210                   |
| likelihood ratio   | 24.662   | 20 | .215                   |

Table 12 chi-square analysis between the major and the desire to use social media

|                    | $\chi^2$ | df | Asymp. Sig. (2-tailed) |
|--------------------|----------|----|------------------------|
| Pearson chi-square | 30.455   | 30 | .443                   |
| likelihood ratio   | 29.730   | 30 | .480                   |

## 6. Discussion

Social media can enable students to communicate with their peers to solve their class problems. It has been described as a practical tool for communication, and lecturers and their respective faculty members make announcements. Social media allows students to communicate, create, revise, and share new forms of text, visuals, and audio content. This study indicated that many international students believe that social media are beneficial because they can discuss their assignments. This study illustrated that the negative impact of social media on their academic performance seems to be very low. The SPSS results showed no statistically significant difference in social media's positive and negative effects on students' academic performance. Most of them believe that social media positively affects their academic performance. The study also found that the negative impact of social media on students' academic performance results was not as much as the positive impact of the use of social media because most respondents described social media as a valuable tool in their learning process.

However, students believe that the use of excessive social media impacts their learning processes, such as wasting time, money, and loss of concentration in their learning and mental health. Therefore, universities must carry out supervision in utilizing technology to support the learning process and assist students in using technology appropriately (Boahene et al., 2019). As a result, it can be concluded that social media does not negatively impact student academic performance among international university students in Tianjin. However, social media has a meaningful and positive impact on student academic performance. Students can use social media wisely for academic purposes. They can balance the use of social media for academic and entertainment (Bajpai & Maneesha, 2018) and be guided to academic activities (Giunchiglia et al., 2018).

Using social media for academic purposes only is a reason not to use social media excessively outside of academic pursuits. Excessive social media addiction does not lower a student's GPA. They can also use social media to increase their knowledge and skills to improve academic progress. To adopt social media to support the teaching and learning process at universities, we must consider some factors, including regulating the management of the use of social media, providing the necessary infrastructure, providing adequate ICT

resources and training to educators (Murire & Cilliers, 2019). Therefore, the university must have a platform to help students utilize social media for academic use relevant to the learning process. Educators should use social media as a means of communication and academic collaboration to improve academic performance, thereby helping students reduce or limit their time on social media for personal purposes. Educators in universities should modify the curriculum by incorporating social media in learning strategies to be more effective (Alnjadat et al., 2019).

Educators can also use social media platforms to collect feedback from students in real-time and provide answers to students simultaneously. Educators can take advantage of student feedback as a foundation to make their lectures more interesting and in line with student needs. Using social media for learning can create a collaborative learning environment and involve students in active learning through user-generated content. Hence, it is recommended that future research examine the psychological factors of students that influence how they use social media in education.

Overall, social media positively impacts international university students in Tianjin, China. They use it to support their learning process, namely, to facilitate interaction with each other such as discussing coursework and announcing information related to learning. The negative impact is very small compared to the positive impact because they say that the negative impact is that excessive use of social media costs a lot of time and money. It is recommended that educators and other social media users, especially WeChat users, share useful information.

## 7. Conclusion and limitation

This study investigated the impact of social media on academic performance for international university students in Tianjin. The use of social media and academic achievement (GPA) depends on how students use social media. This study used the quantitative method and 136 international university students in Tianjin voluntarily became participants. Most participants described social media as an educational tool. They use it as a means of communication for academic purposes to connect with their peers to discuss class-related content and improve their knowledge and information. Therefore, social media can help them support learning activities and positively impact students' academic performance.



Compared to previous findings, there are some highlights for this study. The use of social media to support the learning process positively impacts student academic performance, and excessive social media addiction does not lower a student's GPA. The number of hours spent on social media is not related to the number of hours spent on learning. The negative impact is very small compared to the positive impact, and the negative and positive impact caused by social media is dependent on the student. There is a significant difference between male and female students; male students are strongly related to using social media to learn in class. There is a significant difference between master and bachelor students having social media groups for several courses; master students are strongly related to having social media groups for their courses. There is a significant difference between majors in improving GPA due to the use of social media, and engineering students using social media in the learning process have helped them improve their GPA. Teachers in universities should use social media in learning strategies to be more effective for international students of non-engineering majors, the female, and the bachelor degree.

There are some limitations in this research that must be addressed further in the future. The survey in this study was limited to international university students in Tianjin who participated voluntarily. This study also only focused on examining the influence of social media on their GPA. Future research needs to examine the psychological factors of students that influence how they use social media.

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