Gender Differences among Chinese Adolescents in the Usage and Perception of Social Media

Thesis

Presented in Partial Fulfillment of the Requirements for the Degree Master of Arts in the

Graduate School of The Ohio State University

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Graduate Program in Educational Studies

The Ohio State University

2023

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Abstract

Internet and interactive technology have become increasingly widespread and integral parts of daily life, contributing to the growing number of internet users in China. Gender is a popular topic in diverse fields and areas and plays a critical role in many contexts. The current study focuses on investigating and exploring the differences and similarities between genders among Chinese adolescents in their usage and perceptions of social media. A total of 232 participants (108 males, 123 females, and 1 participant who refused to answer) completed online questionnaires about their usage of social media and perceptions or insights regarding the impact of social media on peer relationships and academic outcomes. The results showed significant discrepancies and similarities between gender among Chinese adolescents in their usage of social media. However, there was no significant difference between genders in their perception of the impact of social media on peer relationships and academic learning. Understanding adolescents' usage and perceptions of social media enables researchers and others interested in the relationship between social media and adolescents to take more effective actions to facilitate its positive effects and inhibit or mitigate its drawbacks on adolescents.

Keywords: Gender; Adolescents; Social media use; Perception towards social media.

Acknowledgments

I would like to express my gratitude and appreciation to my family, especially my parents, for

their unwavering support and encouragement throughout my pursuit of a Master's degree. No

matter what challenges or difficulties I encountered, they always provided me with a sense of

comfort and pushed me to keep going. Next, I would like to acknowledge my advisor, Dr.

Michael Glassman. Thank you for agreeing to be my advisor and serving on my thesis

committee. Despite being in a busy period, you always responded to my queries promptly and

provided me with timely support to push me forward. Your patience, intelligence, and guidance

have been instrumental in my growth as a competent Master's student. I am deeply grateful for

all that you have done for me. I also extend my thanks to Dr. Tzu-Jung Lin for your kindness and

guidance, both in class and in research. I appreciate the opportunity that you provided me to join

the research team and develop my relevant skills and competencies. Lastly, I would like to thank

the research team and project leader for granting me permission to access the research data and

materials. I am also grateful for their timely assistance whenever I needed help. Without all your

support and guidance, I would not have been able to conduct and complete this research and

thesis. Thank you all for everything you have done for me.

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Chapter 1. Introduction

The incorporation of the internet and interactive technology into daily life has become inseparable (Valkenburg & Peter, 2013), resulting in social media being ubiquitous and indispensable for youth. Best et al. (2014) found that teenagers aged between 15-16 years spent an average of 118 minutes per day online, while in the UK, 99% of adolescents spend at least 21 hours per week online (O'Reilly, 2020). This issue is not limited to the UK, as O'Reilly (2020) found similar results across the US and Europe. In China, according to CNNIC (2022), the number of mobile phone users reached 1.028 billion as of December 2021, 13.3 percent of which are adolescents (aged 10–19 years). When the number of internet users exceeded 1.011 billion, there were more than 124.4 million adolescents (ages 10-19) internet users (CNNIC, 2021), making this age cohort an important part of internet users. Chinese adolescents have been reported to spend twenty-six hours per week on the internet. Screentime is mainly committed to social media, video games, educational applications, and online streaming platforms (CNNIC, 2021).

The increasing use of social media among adolescents has sparked debates regarding its potential effects on their academic achievement, peer interactions, and relationships, whether positive or negative (e.g., Uhls et al., 2017; Reid and Weigle, 2014; Boer et al., 2021; Van Den Eijnden et al., 2018; Tartari, 2015; O'Keeffe and Clarke-Pearson, 2011). O'Keeffe and Clarke-Pearson (2011) have shown that social media can facilitate basic but essential and critical social activities and networking online, which is more convenient than face-to-face interaction, such as sharing daily life and feelings with family and friends, staying connected with loved ones, and

exchanging ideas with others. Furthermore, adolescents can expand their insights into themselves, their community, and the world and gain a new perspective on society through social media participation (O'Keeffe and Clarke-Pearson, 2011). Wang and Gu (2019) suggest that social media can also serve as a platform for students to maintain motivation and inspiration for learning and studying through high-quality peer relationships and online social capital. In addition, online communication and interaction can be more effective than face-to-face conversations when it comes to sharing emotions and intimate experiences with adolescents, resulting in greater emotional support. Emotional support is particularly significant for adolescents (Wang and Gu, 2019). Overall, many studies have explored and discussed the positive effects of social media on adolescents' outcomes, particularly their academic achievement, peer interactions, and relationships.

However, social media use can also have negative consequences for adolescents, particularly in cases of addictive and problematic social media use (e.g., Sampasa-Kanyinga et al., 2019; You et al., 2023; Keles et al., 2020; Oberst et al., 2017; Brunborg and Andreas, 2019). According to Sampasa-Kanyinga et al. (2019), heavy social media use is negatively associated with academic performance in middle and high school students. This is because spending excessive time on social media may lead adolescents to neglect their academic responsibilities such as completing homework, reading, and studying, which are essential for achieving high academic success. Consequently, heavy social media use may lead to poorer academic outcomes. Likewise, studies have found that heavy social media use is positively and significantly correlated with depression and anxiety among adolescents (Tsitsika et al., 2014). In addition, research has shown a significant relationship between the amount of time spent on social media

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and anxiety levels in Chinese adolescents (Yan et al., 2017), indicating that social media use can have negative impacts on adolescents' mental health. Evers et al. (2020) found that social media use indirectly affects adolescents' academic performance by increasing their use of social media to cope with school burnout. This can further affect their sleep quality and time, ultimately resulting in poor academic achievement. Given the diverse and sometimes contradictory findings regarding social media use, it is difficult to make a definitive conclusion on whether social media is exclusively beneficial or harmful to adolescents' development and outcomes (Rajamohan et al., 2019). Therefore, researchers need to conduct more extensive research and approach social media dialectically and critically to gain a comprehensive understanding of its effects on adolescents.

As demonstrated by the aforementioned studies, understanding the correlation between adolescents and social media has become a significant area of interest for education researchers. Researchers have also acknowledged the impact of gender on adolescents' social media usage and perceptions as teenagers may utilize the internet and social media differently based on their gender (Herring and Kapidzic, 2015). Moreover, there might be gender differences in various online tasks, especially the use of social networking sites, such as women having a higher tendency to update their status and comment on other people's posts (Chen et al., 2015). However, there is a lack of sufficient and adequate literature exploring whether gender differences still exist in Chinese adolescents' social media usage. Furthermore, the role of gender in Chinese adolescents' perceptions of social media's impact on peer relationships and academic learning is still unclear. Thus, this study aims to investigate the gender differences in Chinese

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adolescents' social media usage and their perceptions of its effects on peer relationships and

academic learning by integrating and carefully considering all relevant factors and ideas.

Chapter 2. Literature Review

The Effect of Social Media on Adolescents' Outcomes

Social media can have both positive and negative impacts on the academic and health outcomes of adolescents. While previous studies have delved into the effects of social media on academic achievement, peer relationships, and health outcomes, many researchers have focused on the negative aspects of social media use. The consequences can be more severe when adolescents rely on or become addicted to social media or use it heavily (Sampasa-Kanyinga et al., 2019; You et al., 2023; Keles et al., 2020).

Studies have found that media multitasking negatively affects Chinese adolescents' academic performance, with poorer attention, executive function, and memory tasks (Luo et al., 2020). Additionally, spending more time on social media is associated with decreased academic learning and outcomes for Chinese adolescents (Yan et al., 2017). Lau (2017) suggests that social media use for non-academic purposes, such as video games and social media multitasking, negatively impacts academic performance, supporting Luo's findings. Moreover, spending time on social media negatively affects academic performance. Türel and Dokumaci (2022) suggest that social media use has negative effects on adolescents' academic achievement, specifically that it correlates positively with academic procrastination. This implies that adolescents tend to spend more time on social media due to its attractiveness, which consequently leads to delay and postponement of academic assignments and tasks.

Apart from the effects of social media on adolescents' academic learning and achievement, past studies have suggested that social media use can have negative effects on adolescents' health outcomes as well. Notably, the harm effects of social media use on adolescents on health outcomes are typically reflected on three dimensions: sleep quality and time or duration, mental disorders such as anxiety and depression, and other risks behaviors, including sexual behavior (e.g., Abi-Jaoude et al., 2020; Pujazon-Zazik and Park, 2010; Kelly et al., 2018; Reid Chassiakos et al., 2016). For instance, Abi-Jaoude and his team (2020) indicate that part of social media use may expose adolescents to negative and hazardous social interaction and communications, including cyberbullying, which in turn contributes to poor health outcomes. Also, there is a significant relationship between social media use and lack of sleep, which can influence adolescents' health outcomes. The previous research indicates that adolescents who spend excessive time on social media (more than 4 hours each day) have a higher likelihood to negatively feel about themselves, such as feelings of uselessness, than those who do not spend any time on social media, which presents an unhealthy mental and psychological status (Mcnamee et al., 2021). Likewise, Qi et al. (2022) claim that normal adolescents would have better mental health than those with an internet addiction, and adolescents with an internet addiction are more likely to have poor psychological well-being and low self-esteem. Besides, raising social media use has a significant relationship with poorer sleep quality and worse life satisfaction (Buda et al., 2021). Furthermore, Uhls and her colleagues (2017) suggest that excessive social media use may have negative effects on adolescents' health outcomes, such as sleep deprivation, memory loss, and depression. Additionally, social media use has been linked to high-risk behaviors, such as sexual behavior, substance abuse, and

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violence, which can potentially lead adolescents down a dangerous path with serious consequences. Summarizing the findings from the literature, it's not difficult to demonstrate that social media use, especially excessive and problematical social media use, is significantly associated with serious outcomes and aftermath of adolescents, particularly their sleeping status or conditions (i.e., sleep quality and how long they sleep), their health outcomes (mental health and psychological health), and academic achievement and learnings (Paakkari et al., 2021; Mérelle et al., 2017; Sampasa-Kanyinga et al., 2019).

In contrast to studies that merely focused on the negative effects of social media on adolescents, recent research has recognized the potential benefits of social media use. These studies acknowledge both the positive and negative effects of social media and suggest that adolescents can derive benefits from social media use, such as improved academic performance, better health outcomes, and stronger peer relationships (e.g., Uhls et al., 2017; Reid and Weigle, 2014; Boer et al., 2021; Van Den Eijnden et al., 2018).

For instance, Apaolaza et al. (2014) point out that using Qzone (a kind of Chinese social media) may provide emotional gratification for Chinese adolescents, thereby facilitating the improvement of their moods and emotions. Additionally, Qzone's functions, such as socializing and information-seeking, can promote positive emotions and feelings among Chinese adolescents (Apaolaza et al., 2014). In the same way, social media use has been found to promote well-being in China, particularly among LGBTQ populations (Ghai et al., 2022), which is similar to the idea that mental health practitioners and adolescents believe that social media and the internet can protect their well-being, and they can find valuable sources of information and tips for self-support from social media and the internet (O'Reilly, 2020). More importantly,

social media use among teenagers is important because it enables them to access health information and knowledge that are relevant to their health concerns, thereby contributing to better health outcomes (Reid Chassiakos et al., 2016; Tartari, 2015).

Moreover, social media use is positively associated with perceived social competence, suggesting that it helps adolescents maintain their social relationships (Van Den Eijnden et al., 2018). According to Uhls et al. (2017), social media also contributes to maintaining and developing friendships among adolescents, allowing them to better understand their friends' emotions and feel more connected to them. Research has consistently shown that social media use helps youths develop and improve their interpersonal relationships and social networking skills, enabling them to stay connected with their friends and family, make new friends, and share their ideas and emotions with others (O'Keeffe and Clarke-Pearson, 2011).

In addition to the two dimensions mentioned earlier, social media use can also enhance teenagers' learning opportunities. According to Tartari (2015), social media use can improve their English skills, written expression, and creativity, and allow them to communicate with others on group projects. They can also collect and acquire useful and valuable thoughts about assignments by collaborating and exchanging with others outside of class. Moreover, engaged social media use is associated with better cognitive abilities. In a study by Alloway et al. (2013), adolescents who had used Facebook for over one year scored higher in working memory, verbal ability, and spelling compared to those who had used Facebook for less than a year. This may be because individuals who use Facebook need to process complex information and react to it in various ways while browsing their account. Despite the negative effects of social media use, particularly addiction and extreme use, several studies suggest that it is beneficial for

adolescents' outcomes. Social media use can improve their peer relationships, academic learning, health outcomes, and personal development and competencies such as self-disclosure (e.g., Reid and Weigle, 2014; Tartari, 2015; O'Keeffe and Clarke-Pearson, 2011; Alloway et al., 2013; Van Den Eijnden et al., 2018).

Consequently, it is important for us to adopt a balanced and objective perspective towards social media use, recognizing that it can have both positive and negative effects on adolescents' outcomes in both China and other countries, as demonstrated by numerous studies.

The Gender Difference Within Different Areas and Fields

Despite inconclusive findings on gender differences in general (Chen et al., 2015), many organizations and researchers attempt to use different theoretical frameworks to explain differences in behaviors and cognition between males and females, both in person and online. For example, the cognitive social learning theory is a commonly used and broad approach to understanding psychological gender differences. This theory argues that these differences result from various factors, including cognitive processes such as attention and self-efficacy, as well as differential reinforcement and punishment for behavior among females and males (Hyde, 2014). Additionally, people's behavior can be shaped through reinforcement and punishment, and they are also likely to model those who are powerful or admirable in their environment (Bussey & Bandura, 1999; Hyde, 2014).

Sociocultural theory, also known as social role theory, provides an alternative approach to explaining gender differences. Developed by Eagly and Wood (1999) and Wood and Eagly (2012), this theory suggests that gender differences result from the adaptation of different roles for males and females. In prehistoric periods, males and females were assigned different roles to

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fulfill. As they developed the competencies and abilities to deal with the difficulties relevant to their roles, gender differences emerged. For example, due to greater strength and size, men may have engaged in competitive activities such as warfare, which gave them more wealth and higher status. Women, on the other hand, were more likely to care for children, resulting in the development of nurturing qualities and characteristics (Hyde, 2014). Based on this logic and insight, it can be postulated that males and females play different social roles, which can impact their social behaviors due to varying societal and cultural expectations (Archer, 1996; Eagly and Wood, 1991; Lin et al., 2017).

A considerable number of previous studies have explored gender differences across various areas and fields, highlighting the role that gender plays in shaping the variables being studied (Galasso et al., 2020; He and Wong, 2011; Chen et al., 2015; Karatsoli and Nathanail, 2020). These studies have demonstrated how females and males may react, perform, behave, and think differently on the same subjects. For instance, Galasso et al. (2020) found that women are more likely to view the pandemic as a serious health problem. Also, females and males display themselves differently, as males stress their status in their profile photos, while females focus on family relationships and emotional expressivity (Tifferet and Vilnai-Yavetz, 2014; Tifferet and Vilnai-Yavetz, 2018). He and Wong (2011) showed that girls tend to have a stronger performance on thoroughness of thinking, while boys exhibit greater performance on boundary-breaking thinking. Moreover, compared to boys, girls are more sensitive to the stress of maintaining friendships and current networks (Hawi & Samaha, 2019; Mérelle et al., 2017), as well as being more likely to have a bigger phone obsession (Błachnio & Przepiorka, 2019), which can lead to problematic social media use (Buda et al., 2021). More importantly, girls who

experience heavy or great social media use are associated with negative outcomes such as low self-esteem, poor body image and sleep quality, and higher depressive symptoms (Kelly et al., 2018; Buda et al., 2021). Interestingly, the amount of women who share misinformation through social media is much higher than that of men (Chen et al., 2015). Furthermore, Zwar et al. (2023) noted that male caregivers during the outbreak of COVID-19 in Germany experienced a lower level of anxiety and higher quality of life than their female counterparts. Therefore, it is interesting and valuable to investigate the nature and extent of gender differences and the role of gender in diverse contexts and cases, especially among adolescents in the usage of social media and the perception of the influences of social media.

Gender Differences in Adolescents' Usage and Perception of Social Media

Social media networking sites can be seen as sociotechnical systems in which the interactions between individuals and others in virtual or online communities facilitate their social experiences and social roles (Lin et al., 2017). Because social media users' social roles are significant and important to the present study, sociology and social psychology perspectives are more suitable to explain gender differences in social media use compared to other perspectives, such as psychological perspectives (Lin et al., 2017). Also, the current study assumes that "social roles in the offline world largely transfer to the online world and affect users' online behaviors," as suggested by Lin et al. (2017). Thus, the differences between genders in the usage and perception of social media can be explained by the notion that males and females have different social roles in reality. Several studies also support this idea of gender differences in the usage and perception of social media.

Krasnova and her colleagues (2017) state that men and women continue to use social networking sites for similar and different reasons. Women are more likely to be motivated by the ability to maintain close relationships and connections with others and gain social information, while men may tend to obtain general information by continuing to use social networking sites. Additionally, Ullah Khan and other researchers (2018) indicate that there is a difference between genders in using cyber communication. Females tend to use Facebook and other social networks to stay connected with old friends and maintain current relationships, while males use Facebook and other social networks to make new friends and relationships (Mazman et al., 2011). Moreover, research suggests that boys are more likely to allow their profiles to be viewed publicly, while girls tend to restrict access to their profiles, often only allowing their connections to view their content or completely locking their profiles for outsiders (Herring and Kapidzic, 2015). However, despite these differences, boys may also engage in the posting of false information on their online profiles. On the other hand, females tend to post more photos and share more status updates compared to males (Dhir et al., 2016; Muscanell and Guadagno, 2012; Junco, 2013; Tifferet, 2020).

The gender difference in social media usage persists, as male adolescents spent more time on playing online games and were much more likely to play online games, while female adolescents had a greater likelihood to browse online shopping websites and focus on the social communication networks during their leisure time (Li et al., 2023). Similarly, Mari et al. (2023) underline that men are more likely to sense a requirement to engage in online games and spend more time playing games than women, whereas females are more prone to have social media addiction than males. This finding is resemblance to the results of another study, which

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suggested that females tend to prefer social activities and connections on the internet, while males exhibit a preference for competitive activities such as online games (Zarate et al., 2023). Women are more receptive to information provided by social media, resulting in social media content such as reviews, comments, and ratings having a greater influence on their decision-making (Karatsoli and Nathanail, 2020).

Furthermore, another past study suggests that females who have more social media interaction at age 10 have lower levels of well-being when they get older, while men do not have such an association with social media interaction (Booker et al., 2018). Similarly, there is a gender difference in the usage of *Last.FM* (a kind of social media platform), with women maintaining more virtual friendships on *Last.FM* than men, while men are more likely to listen to "more pieces of music on social media platforms" than women (Putzke et al., 2014). More importantly, girls are more emotionally sensitive to social media use compared to boys. This implies that girls may be more likely to heavily invest their emotions in both positive and negative online events when using social media (Nesi et al., 2022).

Overall, it is evident that there are gender differences in the usage and perceptions of social media. However, the literature does not provide a definitive statement that gender determines the use of social media and perceptions of it. Since the research on gender differences in the usage and perceptions of social media among Chinese adolescents is limited, it is valuable and meaningful to investigate how gender impacts the usage and perception of social media.

Current Study

Although the significance of gender differences in the usage and perspectives of social media among adolescents is well-established (e.g., Dhir et al., 2016; Muscanell and Guadagno,

2012; Junco, 2013; Tifferet, 2020; Mazman et al., 2011; Herring and Kapidzic, 2015; Karatsoli and Nathanail, 2020), there is a surprising lack of systematic understanding of these differences among Chinese female and male adolescents. Therefore, this study aims to fill this research gap and provide new insights into the gender differences in social media usage and perceptions among Chinese adolescents. Specifically, the study will explore common and different social media platforms used by Chinese female and male adolescents and examine gender differences in their perspectives on social media's impact on peer relationships and academic learning. There are two research questions: the first research question is to investigate whether there are the similarities and differences between Chinese female and male adolescents in their usage of social media; and the second research question is to examine whether Chinese female and male adolescents differ in their perceptions of social media's impact on peer relationships and academic learning.

Chapter 3. Methods

Participants and Procedure

In total, 621 responses were initially received and collected by Qualtrics. After cleaning

the dataset, a total of 389 responses were excluded and removed, including duplicates, responses

with lower validity (i.e., the duration of completing the survey being less than 8 minutes),

unconsented responses, unsuitability (e.g., educational level being bachelor), and incomplete

responses. The reason for part of the high number of invalid data was due to the QR code and

survey link being hacked, resulting in many bot responses rather than real people. One of the

indicators of such responses was an abnormal survey completion time. The available and valid

dataset showed that the total number of participants was 232 (108 males, 123 females, and 1

participant preferred not to answer) (See Table 1). These participants were all Chinese high

school students/adolescents aged between 14 to 19 ($M = 16.03$, $SD = 0.973$) as shown in Table 2.

The majority of participants (74.6%) were in 10th grade, followed by 20.3% of participants in

11th grade, and the remaining 4.7% were in 12th grade (See Table 3). They were recruited

through a snowball sampling approach, starting with potential social media platforms such as

WeChat and the researchers' local and personal social network in China, including the

researchers' friends and acquaintances, their parents' friends, and other potential social networks.

Gender

		Frequency	Percent
Valid	Male	108	46.6
	Female	123	53.0
	Prefer not to answer	1	.4
	Total	232	100.0

Table *1*. Gender Distribution

Statistics

Age

N	Valid	230
	Missing	2
Mean		16.03
Std. Deviation		.973

Table *2*. Age Distribution

Educational Level

		Frequency	Percent
Valid	10th Grade	173	74.6
	11th Grade	47	20.3
	12th Grade	11	4.7
	Other	1	.4
	Total	232	100.0

Table *3*. Educational Level

Prior to the main survey, consent and assent forms were presented to both the participants and their parents or guardians. All consenting participants voluntarily completed an online social media questionnaire without any time limitations, which took on average 15 minutes to complete. As an incentive, participants were informed that they would be entered into a raffle to

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win a gift card valued at $100 in Chinese currency upon completion of the survey. Fifteen $100 gift cards were to be distributed to the raffle winners.

Please note that the data for this study was obtained from another research project titled "Parental and Adolescent Perceptions towards Social Media and Video Games in China and the United States: A Cross-Cultural Comparison Study." The investigator of the current study was granted permission by the research faculty mentor and project leader to use the collected data and all necessary materials, including the online social media questionnaire.

Design and Measures

The current study mainly applied quantitative survey methods for investigation, which adopted self-report surveys among Chinese adolescents as the main research method. The social media questionnaire was divided into two sections. The first section gathered basic demographic information about the participants, including gender, Hukou status, educational level, and age. The second section was further divided into two themes. The first theme focused on social media usage, gathering information about the social media platforms or networking sites that participants frequently used (e.g., Weibo, QQ, Xiaohongshu, TikTok, gaming streaming platforms, and other networking sites), the reasons for using those platforms, and the amount of time spent on social media. Participants could choose multiple options for each social media usage question, except for the daily social media usage time question. The daily usage time question had the following options: one hour or less, one to two hours, two to three hours, three to four hours, four to five hours, five hours or above, and prefer not to answer. However, participants could only select one option for this question.

The second theme of the study aimed to assess participants' perceptions of the impact of social media on their peer relationships and academic learning. The Adolescent Social Media Perception Scale, which was developed by the research team currently conducting a study titled "Parental and Adolescent Perceptions towards Social Media and Video Games in China and the United States: A Cross-Cultural Comparison," was adopted as the main Likert scale for this study. The scale used a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The Adolescent Social Media Perception scale measured Chinese adolescents' perceptions of how social media affects their academic learning and peer relationships. Each of the two factors (academic learning and peer relationships) had eight items. Examples of items include "*I use social media to relieve my stress from intense academic demands.*"

Analyses

The data collection was conducted by Qualtrics, whereas all the processes and progress of data analysis, including the descriptive statistics and demographic dataset, such as the mean and standard deviation of age, the frequency of gender, and the usage of social media, were conducted in SPSS. The two dependent variables in this research were Chinese adolescents' usage and perceptions of social media, while the independent variable was Chinese adolescents' gender. This study mainly used ANOVA to explore and examine whether there was a significant difference between genders in the perspectives or perceptions of Chinese adolescents towards the effects of social media on peer relationships and academic learning.

Prior to conducting the ANOVA test in SPSS, the reliability statistics of the Adolescent Social Media Perception scale's sixteen items were measured by Cronbach's alpha. The results indicated that the Cronbach's alpha value between the eight items of SMAL (social media

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academic learning) was 0.733, which was an acceptable value. Furthermore, the Cronbach's alpha value between the eight items of SMPR (social media peer relationship) was 0.860, indicating good and high reliability.

Chapter 4. Results

Based on the results shown in Table 4, most Chinese adolescents, both females and

males, spent less than 3 hours per day on social media. Specifically, 49.1% of Chinese male

adolescents used social media for less than one hour, whereas 53.7% of Chinese female

adolescents used social media for less than one hour. Also, 22.2% of male adolescents spent

about 1-2 hours on social media, while 28.5% of female adolescents spent approximately 1-2

hours on social media. Males who spent 2 to 3 hours on social media accounted for 13% of the

total, while females made up 7.3%.

How much time do you spend on social media/networking sites daily

Gender		Frequency	Percent
.	Less than 1 hour	1	100.0
Male	Less than 1 hour	53	49.1
	Between 1 hour and 2 hours	24	22.2
	Between 2 hours and 3 hours	14	13.0
	Between 3 hours and 4 hours	4	3.7
	Between 4 hours and 5 hours	4	3.7
	More than 5 hours	3	2.8
	Prefer not to answer	6	5.6
	Total	108	100.0
Female	Less than 1 hour	66	53.7
	Between 1 hour and 2 hours	35	28.5
	Between 2 hours and 3 hours	9	7.3
	Between 3 hours and 4 hours	6	4.9
	Between 4 hours and 5 hours	3	2.4
	More than 5 hours	2	1.6
	Prefer not to answer	2	1.6
	Total	123	100.0

Table *4*. Time Spent on Social Media Daily

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Regarding the main social media networking sites or platforms that participants use, Table 5 highlighted that Chinese adolescents primarily used WeChat, QQ, short-video platforms such as Tiktok, and Bilibili as their preferred common social media platforms or networking sites. Notably, WeChat had a remarkably high proportion of users in each gender group, with 79.6% of males and 89.4% of females using the platform. Meanwhile, 75% of male adolescents and 70.7% of female adolescents used QQ. However, it was interesting to note that the number of girls who used Sina Weibo and Xiaohongshu was significantly higher than the number of boys, while none of the female teenagers used Hupu.

	Gender			
	Male		Female	
	Count	Valid N %	Count	Valid N %
WeChat	86	79.6%	110	89.4%
QQ	81	75.0%	87	70.7%
Short-video platforms such as Tiktok	62	57.4%	70	56.9%
Douban	12	11.1%	20	16.3%
Zhihu	5	4.6%	5	4.1%
Hupu	3	2.8%	0	0.0%
Baidu Tieba	17	15.7%	20	16.3%
Toutiao	12	11.1%	12	9.8%
Sina Weibo	11	10.2%	40	32.5%
Game Streaming Platforms	16	14.8%	2	1.6%
Xiaohongshu	16	14.8%	44	35.8%
Bilibili	62	57.4%	65	52.8%
Instagram	7	6.5%	7	5.7%
Facebook	12	11.1%	4	3.3%
Others	4	3.7%	2	1.6%

Table 5. Social Media/Networking Sites that Chinese Adolescents Frequently Use

The study found both similarities and differences in social media usage between Chinese male and female adolescents. As demonstrated in Table 6, both genders showed a preference for reading postings on social media (62% male and 66.7% female), clicking "like" on a page, video,

photo, or comment (61.1% male and 61.8% female), and checking their social media pages (59.3% male and 50.4% female). However, females were more likely to read postings on social media with a higher proportion than males (66.7% compared to 62% of males), whereas males were more likely to check their social media pages (59.3% compared to 50.4% of females). Additionally, females were more active in browsing profiles and photos on social media (44.7% compared to 38.0% of males), posting statuses and updating to their social media accounts (43.1% compared to 30.6% of males), and commenting on postings, status updates, and photos (35% compared to 27.8% of males). Female adolescents were less likely to check their social media accounts while at school (9.8% compared to 17.6% of males), while both genders showed a low likelihood of logging on to someone else's social media account to check it out (10.6% female and 9.3% male). Overall, according to the data analysis and results conducted by SPSS, it showed that there were both similarities and discrepancies between Chinese female and male adolescents in the usage of social media, which addressed the first research question "whether there are the similarities and differences between Chinese female and male adolescents in their usage of social media."

	Gender			
	Male		Female	
	Count	Valid N %	Count	Valid N %
Check your social media page	64	59.3%	62	50.4%
Post status updates to your social media account	33	30.6%	53	43.1%
Browse profiles and photos on social media	41	38.0%	55	44.7%
Read postings on social media	67	62.0%	82	66.7%
Comment on postings, status updates, photos, etc.	30	27.8%	43	35.0%
Click "like" to a page, video, photo or comment	66	61.1%	76	61.8%
Log on to someone else's social media account to check it out	10	9.3%	13	10.6%
Check your social media account while at school.	19	17.6%	12	9.8%
Other	6	5.6%	10	8.1%

Table *6*. What Chinese Adolescents Typically Do on Social Media

Unfortunately, the ANOVA tables showed that there was no significant difference between genders in the perceptions of Chinese adolescents towards the effects of social media on academic learning and peer relationship. This resolved the second research question, which was whether Chinese female and male adolescents differ in their perceptions of social media's impact on peer relationships and academic learning. In detail, the mean perception score of males towards the effects of social media on academic learning was 4.70 with a standard deviation of 0.93, while the mean perception score of females was 4.65 with a standard deviation of 0.80. The F-value is 0.244 with a p-value of 0.622 (>0.05), as demonstrated in Tables 7 and 8,

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which meant that Chinese female adolescents' perception towards the effects of social media on academic learning did not differ Chinese male adolescent' perceptions about the effects of social media on academic learning. Similarly, the mean perception score of males towards the effects of social media on peer relationship was 4.30 with a standard deviation of 1.13, while the mean score of females was 4.24 with a standard deviation of 1.15 (See Table 10). The F-value is 0.153 with a p-value of 0.696 (>0.05) (See Table 9), indicating that there was no significant difference between genders in the perception of social media on peer relationships. As for the perceptions of Chinese adolescents regarding the impacts of social media on their academic learning and peer relationships, the mean perception scores for Chinese male adolescents and Chinese female adolescents towards the effects of social media on academic learning were 4.70 and 4.65, respectively. These scores illustrate that both genders have a neutral attitude and perception towards the effects of social media on academic learning. Similarly, the mean perception scores for Chinese male adolescents and Chinese female adolescents towards the effects of social media on peer relationships were 4.30 and 4.24, respectively, indicating that both genders have a neutral attitude and perception towards the effects of social media on peer relationships. Furthermore, the Pearson Correlation Coefficient between SMAL and SMPR conducted in SPSS was 0. 250 (p <0.001), which revealed a significant and positive but small relationship between the two variables, as shown in Table 11.

ANOVA

SMAL_Perception

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.183	1	.183	.244	.622
Within Groups	171.332	229	.748		
Total	171.515	230			

Table 7. ANOVA for SMAL

Descriptives

SMAL_Perception

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Male	108	4.7037	.92956	.08945	4.5264	4.8810	2.50	7.00
Female	123	4.6474	.80407	.07250	4.5038	4.7909	2.50	6.75
Total	231	4.6737	.86355	.05682	4.5618	4.7857	2.50	7.00

Table 8. ANOVA for SMAL

ANOVA

SMPR_Perception

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.200	1	.200	.153	.696
Within Groups	298.753	229	1.305		
Total	298.953	230			

Table 9. ANOVA for SMPR

Descriptives

SMPR_Perception

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Male	108	4.2998	1.12843	.10858	4.0845	4.5150	1.00	7.00
Female	123	4.2409	1.15413	.10406	4.0348	4.4469	1.00	7.00
Total	231	4.2684	1.14009	.07501	4.1206	4.4162	1.00	7.00

Table *10.* ANOVA for SMPR

Correlations

		SMPR_Perception	SMAL_Perception
SMPR_Perception	Pearson Correlation	--	
	N	232	
SMAL_Perception	Pearson Correlation	.250	--
	Sig. (2-tailed)	<.001	
	N	232	232

Table *11.* Correlations between SMPR and SMAL

Chapter 5. Discussion

The present study primarily investigates gender differences in the usage of social media and in the perception of the effects of social media on adolescents' peer relationships and academic learning in China, which also figured out and settled the two research questions: whether there are the similarities and differences between Chinese female and male adolescents in their usage of social media, and whether Chinese female and male adolescents differ in their perceptions of social media's impact on peer relationships and academic learning. The results regarding social media usage show similarities and differences between girls and boys. Specifically, it is not surprising that a remarkable and considerable proportion of participants (both male and female) chose WeChat and QQ as their preferred common social media platforms, given that "WeChat is the most popular social media platform in mainland China with over 1 billion active users" (Luan et al., 2020), and that both WeChat and QQ have become an integral part of everyday social life for many Chinese people (Zhao, 2019). More importantly, compared to Chinese male adolescents, Chinese female adolescents were more likely to post statuses and update to their social media accounts, read postings on social media, and comment on postings, status updates, and photos, suggesting a greater willingness to interact socially and share personal moments on social media. Therefore, this finding is consistent with insights that females engage in more social media interaction than males and reflects the fact that women tend to reveal their emotional experiences and seek to share special moments as motivations for using virtual networks (Booker et al., 2018; Li et al., 2023; Zarate et al., 2023; Zheng et al., 2016). This may also explain the current finding that the number of females who used Xiaohongshu was significantly higher than males. As Xiaohongshu is perceived as the Chinese version of

Instagram, it allows females to share their special moments and participate in social media interactions. Additionally, the results showed a significant difference in the usage of Sina Weibo and Hupu between genders, with a higher proportion of girls using Sina Weibo compared to boys, while none of the female teenagers used Hupu. This can be explained by the fact that females may be more interested in social topics (Lester et al., 2012), while males may use social networks for sports-related reasons (Oezsoy, 2011). Sina Weibo in China is more focused on social and trending topics, while Hupu is mainly associated with sports.

Although there were no direct and clear results supporting the idea that boys have a greater chance to engage in online games, the relevant findings displayed that the number of Chinese male adolescents who used game streaming platforms was much larger than the number of Chinese female adolescents who used game streaming platforms. This illustrates that male youths indeed have a tendency to engage in online activities that involve gaming. This result is corresponding with the finding that males engage more in gaming (e.g., Booker et al., 2018; Li et al., 2023; Zarate et al., 2023). The reason behind the idea that males tend to be more interested in gaming is that playing games is driven and motived by competition as the principal reason (Greenberg et al., 2010), and boys tend to play competitive outdoor games in groups as a result of different social roles (Krasnova et al., 2017; Lin et al., 2017). Given the sociocultural theory and the assumption that social roles in the offline world largely transfer to the online world, the findings about males being prone to engage in online games can be explained by the fact that males are competitive and more likely to participate in competitive games in reality. When it comes to transferring to online, they naturally have a higher likelihood to engage in online

games. Thus, the higher number of male adolescents who chose game streaming platforms makes sense in light of the literature mentioned above.

There was no significant difference between genders in Chinese adolescents' perceptions of the effects of social media use on academic learning and peer relationships based on the ANOVA test, but the results showed that both male and female Chinese adolescents had neutral (neither positive nor negative) perceptions or attitudes about the effects of social media on their peer relationships and academic learning. This indicates that Chinese adolescents perceive social media as neither facilitating nor inhibiting their peer relationships and academic learning.

Notably, the results regarding how much time adolescents spend on social media daily were satisfactory and worth noting. They indicate that the majority of Chinese adolescents, both male and female (71.3% male and 82.2% female), only engage in social media use for approximately two hours or less per day. Additionally, the majority of these adolescents, both male and female (49.1% male and 53.7% female), use social media networking sites for only one hour or less per day. This finding is incredibly significant because it means that most Chinese adolescents comply with recommended guidelines for appropriate social media use, which suggests that children and adolescents should spend less than two hours per day on social media (Bar-On et al., 2001; Sampasa-Kanyinga et al., 2019; Tremblay et al., 2016).

Although this study did not find specific differences between genders on the perceptions of the effect of social media use on academic learning and peer relationships, it does show the differences and similarities between Chinese female and male adolescents in terms of social media usage. Therefore, we can gather valuable information from this study, such as the common social media platforms and activities among Chinese adolescents, how much time

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Chinese adolescents spend on social media use, as well as their perceptions of the impact of social media use on their peer relationships and academic learning. Moreover, understanding adolescents' social media usage and perceptions can aid researchers and other stakeholders in taking effective measures to promote positive effects and reduce negative impacts of social media use on adolescents. This paper serves as a useful and worthy reference for individuals interested in researching and exploring the relevant topic.

However, this study does have some limitations. First, while gender was the main factor examined in this study, other factors in China such as Hukou status and family background (e.g., socioeconomic status) may also contribute to perceptions of the effects of social media use. For example, the subjective well-being of new urban migrants in China is positively related to their social media use (Wei and Gao, 2017). Additionally, the main design and measurement of this study relied on self-report surveys and Likert scales, which are subject to bias and may not provide objective data. Moreover, there was no backup method to verify or confirm respondents' thinking or choices in the survey. For future research, investigators may consider using additional approaches or methods, such as combining interviews with surveys as the main measurements for the study.

Chapter 6. Conclusion

The current study aims to investigate and identify gender differences in social media usage and perceptions of its impact on peer relationships and academic learning among Chinese adolescents. The study successfully addresses the research questions and reveals that while there are some similarities in social media usage between Chinese male and female adolescents, for example, both genders tend to read and engage with social media content and prefer platforms such as QQ and WeChat, there are some differences as well, such as females were more likely to browse profiles and photos, as well as post statuses and update their accounts, compared to males. The study found no significant gender difference in perceptions of the impact of social media on peer relationships and academic learning, with most Chinese high school students having neutral attitudes towards these effects. These findings are consistent with the part of findings and outcomes of prior research and help to fill gaps in the understanding of how gender shapes social media use among Chinese adolescents.

According to the results, a significant proportion of Chinese high school students use social media appropriately, without excessive daily use. However, there are still a significant number of Chinese adolescents (28.7% male and 17.8% female) who use social media for more than two hours per day. Exceeding these time limitations can lead to concerns and serious consequences, such as poor academic performance, numerous chronic conditions, and other possible mental health problems (Singer et al., 1998; Asare & Danquah, 2015; Sampasa-Kanyinga et al., 2019; Kautiainen et al., 2005; Tremblay & Willms, 2003). This highlights the need for educators, school administrators, parents, and other relevant individuals to take

necessary actions, such as setting up rules and limitations, to further restrict heavy social media use and protect the health and academic achievement of these adolescents. Furthermore, the current research placed an emphasis on the gender differences, while the future researchers could explore and determine differences and similarities between different groups or populations in their social media use and perceptions, such as parents versus children, or focus on the same group's social media use and their perceptions of the influence of social media on different factors or variables such as their relationship with parents rather than peer relationships.

References

Abi-Jaoude, E., Naylor, K. T., & Pignatiello, A. (2020). Smartphones, social media use and youth mental health. *Canadian Medical Association Journal, 192*(6), E136–E141. https://doi.org/10.1503/cmaj.190434

Alloway, T. P., Horton, J., Alloway, R. G., & Dawson, C. (2013). Social networking sites and cognitive abilities: Do they make you smarter?. *Computers & Education, 63*, 10-16. https://doi.org/10.1016/j.compedu.2012.10.030

Apaolaza, V., He, J., & Hartmann, P. (2014). The effect of gratifications derived from use of the social networking site Qzone on Chinese adolescents' positive mood. *Computers in Human Behavior*, *41*, 203-211.

Archer, J. (1996). Sex differences in social behavior: Are the social role and evolutionary explanations compatible? *American Psychologist, 51*(9), 909–917. https://doi.org/10.1037/0003-066X.51.9.909

Asare, M., & Danquah, S. A. (2015). The relationship between physical activity, sedentary behaviour and mental health in Ghanaian adolescents. *Child and Adolescent Psychiatry and Mental Health, 9,* 11. https://doi.org/10.1186/s13034-015-0043-x

Bar-On, M. E., Broughton, D. D., Buttross, S., Corrigan, S., Gedissman, A., De Rivas, M. R. G., et al. (2001). Children, adolescents, and television. *Pediatrics, 107*(2), 423–426. https://doi.org/10.1542/peds.107.2.423.

Best, P., Manktelow, R., & Taylor, B. (2014). Online communication, social media and

adolescent wellbeing: A systematic narrative review. *Children and Youth Services

Review, 41*, 27-36. https://doi.org/10.1016/j.childyouth.2014.03.001

Błachnio, A., & Przepiorka, A. (2019). Be aware! If you start using Facebook problematically

you will feel lonely: Phubbing, loneliness, self-esteem, and Facebook intrusion. A cross-

sectional study. *Social Science Computer Review, 37*(2), 270-278.

https://doi.org/10.1177/0894439318754490

Boer, M., Stevens, G.W.J.M., Finkenauer, C., de Looze, M.E., & van den Eijnden, R.J.J.M.

(2021). Social media use intensity, social media use problems, and mental health among

adolescents: Investigating directionality and mediating processes. *Computers in Human

Behavior, 116*, 106645. https://doi.org/10.1016/j.chb.2020.106645

Booker, C. L., Kelly, Y. J., & Sacker, A. (2018). Gender differences in the associations between

age trends of social media interaction and well-being among 10-15 year olds in the UK.

BMC Public Health, 18(1), 321.

Brunborg, G. S., & Burdzovic Andrea, J. (2019). Increase in time spent on social media is

associated with modest increase in depression, conduct problems, and episodic heavy

drinking. *Journal of Adolescence, 74*, 201-209.

https://doi.org/10.1016/j.adolescence.2019.06.013

Buda, G., Lukoševičiūtė, J., Šalčiūnaitė, L., & Šmigelskas, K. (2021). Possible effects of social

media use on adolescent health behaviors and perceptions. *Psychological Reports,

124*(3), 1031-1048. https://doi.org/10.1177/0033294120922481

Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and

   differentiation. *Psychological Review, 106*(4), 676-713.

Chen, X., Sin, S.-C. J., Theng, Y.-L., & Lee, C. S. (2015). Why students share misinformation on

   social media: Motivation, gender, and study-level differences. *The Journal of Academic*

   Librarianship, 41(5), 583-592. https://doi.org/10.1016/j.acalib.2015.07.003

China Internet Network Information Center (CNNIC) (2021). *The 47th China Statistical Report*

   on Internet Development. http://www.cac.gov.cn/2021-02/03/c_1613923423079314.htm

China Internet Network Information Center (CNNIC) (2022). *The 49th China Statistical Report*

   on Internet Development.

   https://www.cnnic.net.cn/hlwfzyj/hlwxzbg/hlwtjbg/202202/P020220407403488048001.p

   df

Dhir, A., Pallesen, S., Torsheim, T., & Andreassen, C. S. (2016). Do age and gender differences

   exist in selfie-related behaviours? *Computers in Human Behavior, 63*, 549-555.

   https://doi.org/10.1016/j.chb.2016.05.053

Eagly, A. H., & Wood, W. (1991). Explaining sex differences in social behavior: A meta-

   analytic perspective. *Personality and Social Psychology Bulletin, 17*(3), 306-315.

Eagly, A. H., & Wood, W. (1999). The origins of sex differences in human behavior: Evolved

   dispositions versus social roles. *American psychologist, 54*(6), 408–423.

   https://doi.org/10.1037/0003-066X.54.6.408

Evers, K., Chen, S., Rothmann, S., Dhir, A., & Pallesen, S. (2020). Investigating the relation

   among disturbed sleep due to social media use, school burnout, and academic

performance. *Journal of Adolescence, 84*, 156-164.

https://doi.org/10.1016/j.adolescence.2020.08.011

Galasso, V., Pons, V., Profeta, P., Becher, M., Brouard, S., & Foucault, M. (2020). Gender

differences in COVID-19 attitudes and behavior: Panel evidence from eight countries.

The Proceedings of the National Academy of Sciences, 117 (44), 27285-27291.

https://doi.org/10.1073/pnas.2012520117

Ghai, S., Magis-Weinberg, L., Stoilova, M., Livingstone, S., & Orben, A. (2022). Social media

and adolescent well-being in the Global South. *Current Opinion in Psychology, 46*,

101318. https://doi.org/10.1016/j.copsyc.2022.101318

Greenberg, B. S., Sherry, J., Lachlan, K., Lucas, K., & Holmstrom, A. (2010). Orientations to

video games among gender and age groups. *Simulation & Gaming, 41*(2), 238-259.

https://doi.org/10.1177/1046878108319930

Hawi, N., & Samaha, M. (2019). Identifying commonalities and differences in personality

characteristics of internet and social media addiction profiles: Traits, self-esteem, and

self-construal. *Behaviour & Information Technology, 38*(2), 110-119.

https://doi.org/10.1080/0144929X.2018.1515984

He, W., & Wong, W. (2011). Gender differences in creative thinking revisited: Findings from

analysis of variability. *Personality and Individual Differences, 51*(7), 807-811.

Herring, S. C., & Kapidzic, S. (2015). Teens, gender, and self-presentation in social media.

International Encyclopedia of Social and Behavioral Sciences, 786-791.

Hyde, J. S. (2014). Gender similarities and differences. *Annual Review of Psychology, 65*, 373-

398.

Junco, R. (2013). Inequalities in Facebook use. *Computers in Human Behavior, 29*(6), 2328-2336. https://doi.org/10.1016/j.chb.2013.05.005

Karatsoli, M. & Nathanail, E. (2020). Examining gender differences of social media use for activity planning and travel choices. *European Transport Research Review, 12*, 44. https://doi.org/10.1186/s12544-020-00436-4

Kautiainen, S., Koivusilta, L., Lintonen, T., Virtanen, S. M., & Rimpela, A. (2005). Use of information and communication technology and prevalence of overweight and obesity among adolescents. *International Journal of Obesity (London), 29*(8), 925–933. https://doi.org/10.1038/sj.ijo.0802994

Keles, B., McCrae, N., & Grealish, A. (2020). A systematic review: The influence of social media on depression, anxiety and psychological distress in adolescents. *International Journal of Adolescence and Youth, 25*(1), 79-93.

Kelly, Y., Zilanawala, A., Booker, C., & Sacker, A. (2018). Social media use and adolescent mental health: Findings from the UK Millennium Cohort Study. *EClinicalMedicine, 6*, 59-68. https://doi.org/10.1016/j.eclinm.2018.12.005

Khan, A. U., Khan, M. S., & Jabeen, A. (2018). Gender difference and cyber communication: Internet and social media usage pattern of university students. *Global Educational Studies Review (GESR), 3*(1), 8-18. DOI: 10.31703/gesr.2018(III-I).02

Kim, Y., & Glassman, M. (2013). Beyond search and communication: Development and validation of the Internet Self-efficacy Scale (ISS). *Computers in Human Behavior, 29*(4), 1421-1429.

Krasnova, H., Veltri, N. F., Eling, N., & Buxmann, P. (2017). Why men and women continue to use social networking sites: The role of gender differences. *The Journal of Strategic Information Systems, 26*(4), 261-284. https://doi.org/10.1016/j.jsis.2017.01.004

Lau, W. W. (2017). Effects of social media usage and social media multitasking on the academic performance of university students. *Computers in human behavior*, *68*, 286-291.

Lester, D., Tudor, R.K., Loyd, D.D., & Mitchell, T. (2012). Marketing Mavens' fusion with social media. *Atlantic Marketing Journal, 1*(1), 6. https://digitalcommons.kennesaw.edu/amj/vol1/iss1/6

Li, J., Wu, Y., & Hesketh, T. (2019). Internet use and cyberbullying: Impacts on psychosocial and psychosomatic wellbeing among Chinese adolescents. *Computers in Human Behavior, 138,* 107461. https://doi.org/10.1016/j.chb.2022.107461

Lin, X., Featherman, M., & Sarker, S. (2017). Understanding factors affecting users' social networking site continuance: A gender difference perspective. *Information & Management, 54*(3), 383-395. https://doi.org/10.1016/j.im.2016.09.004

Luan, H., Wang, M., Sokol, R. L., Wu, S., Victor, B. G., & Perron, B. E. (2020). A scoping review of WeChat to facilitate professional healthcare education in Mainland China. *Medical Education Online, 25*(1), 1782594. https://doi.org/10.1080/10872981.2020.1782594

Luo, J., Yeung, P. S., & Li, H. (2020). The relationship among media multitasking, academic performance and self-esteem in Chinese adolescents: The cross-lagged panel and mediation analyses. *Children and Youth Services Review, 117*, 105308.

Mari, E., Biondi, S., Varchetta, M., Cricenti, C., Fraschetti, A., Pizzo, A., Barchielli, B., Roma,

    P., Marti Vilar, M., Gonzàlez Sala, F., Giannini, A. M., & Quaglieri, A. (2023). Gender

    differences in internet addiction: A study on variables related to its possible development.

    Computers in Human Behavior Reports, 9, 100247.

    https://doi.org/10.1016/j.chbr.2022.100247

Mazman, S. G., & Usluel, Y. K. (2011). Gender differences in using social networks. *The*

    Turkish Online Journal of Educational Technology - TOJET, 10(2), 133-139.

McNamee, P., Mendolia, S., & Yerokhin, O. (2021). Social media use and emotional and

    behavioural outcomes in adolescence: Evidence from British longitudinal data.

    Economics & Human Biology, 41, 100992. https://doi.org/10.1016/j.ehb.2021.100992

Mérelle, S. Y. M., Kleiboer, A. M., Schotanus, M., Cluitmans, T. L. M., Waardenburg, C. M.,

    Kramer, D., Van de Mheen, D., & van Rooij, T. (2017). Which health-related problems

    are associated with problematic video-gaming or social media use in adolescents? A

    large-scale cross-sectional public health study. *Clinical Neuropsychiatry, 14*(1), 11-19.

    http://hdl.handle.net/1854/LU-8040088

Muscanell NL, Guadagno RE. (2012). Make new friends or keep the old: gender and personality

    differences in social networking use. *Computers in Human Behavior, 28*(1), 107–112.

    https://doi.org/10.1016/j.chb.2011.08.016

Nesi, J., Rothenberg, W. A., Bettis, A. H., Massing-Schaffer, M., Fox, K. A., Telzer, E. H.,

    Lindquist, K. A., & Prinstein, M. J. (2022). Emotional responses to social media

    experiences among adolescents: Longitudinal associations with depressive symptoms.

Journal of Clinical Child & Adolescent Psychology, 51(6), 907-922.

https://doi.org/10.1080/15374416.2021.1955370

Oberst, U., Wegmann, E., Stodt, B., Brand, M., & Chamarro, A. (2017). Negative consequences

from heavy social networking in adolescents: The mediating role of fear of missing out.

Journal of Adolescence, 55, 51-60. https://doi.org/10.1016/j.adolescence.2016.12.008

Oezsoy, S. (2011). Use of new media by Turkish fans in sport communication: Facebook and

Twitter. *Journal of Human Kinetics, 28*, 165-176. doi: 10.2478/v10078-011-0033-x

O'Keeffe, G. S., Clarke-Pearson, K., & Council on Communications and Media. (2011). The

impact of social media on children, adolescents, and families. *Pediatrics, 127*(4), 800-

804. https://doi.org/10.1542/peds.2011-0054

O'Reilly, M. (2020). Social media and adolescent mental health: the good, the bad and the ugly.

Journal of Mental Health, 29(2), 200-206.

https://doi.org/10.1080/09638237.2020.1714007

Paakkari, L., Tynjälä, J., Lahti, H., Ojala, K., & Lyyra, N. (2021). Problematic social media use

and health among adolescents. *Int. J. Environ. Res. Public Health, 18*(4), 1885.

https://doi.org/10.3390/ijerph18041885

Pujazon-Zazik, M., & Park, M. J. (2010). To tweet, or not to tweet: Gender differences and

potential positive and negative health outcomes of adolescents' social internet use.

American Journal of Men's Health, 4(1), 77-85. DOI: 10.1177/1557988309360819

Putzke, J., Fischbach, K., Schoder, D., & Gloor, P. A. (2014). Cross-cultural gender differences

in the adoption and usage of social media platforms – An exploratory study of *Last.FM*.

Computer Networks, 72(Part B), 519-530. https://doi.org/10.1016/j.comnet.2014.08.027

Qi, H., Kang, Q., & Bi, C. (2022). How does the parent–adolescent relationship affect adolescent

    internet addiction? Parents' distinctive influence. *Frontiers in Psychology, 13*, 886168.

    doi: 10.3389/fpsyg.2022.886168

Rajamohan, S., Bennett, E., & Tedone, D. (2019). The hazards and benefits of social media use

    in adolescents. *Nursing, 49*(11), 52-56. DOI: 10.1097/01.NURSE.0000585908.13109.24

Reid Chassiakos, Y. L., Radesky, J., Christakis, D., Moreno, M. A., Cross, C., Council on

    Communications and Media, Hill, D., Ameenuddin, N., Hutchinson, J., Levine, A., Boyd,

    R., Mendelson, R., & Swanson, W. S. (2016). Children and adolescents and digital

    media. *Pediatrics, 138*(5), e20162593. https://doi.org/10.1542/peds.2016-2593

Reid, D., & Weigle, P. (2014). Social media use among adolescents: Benefits and risks.

    Adolescent Psychiatry, 4(2), 73-80.

Sampasa-Kanyinga, H., Chaput, J. P., & Hamilton, H. A. (2019). Social media use, school

    connectedness, and academic performance among adolescents. *The Journal of Primary*

    Prevention, 40, 189-211. https://doi.org/10.1007/s10935-019-00543-6

Singer, M. I., Slovak, K., Frierson, T., & York, P. (1998). Viewing preferences, symptoms of

    psychological trauma, and violent behaviors among children who watch television.

    Journal of the American Acadademy of Child and Adolescent Psychiatry, 37(10), 1041–

    1048. https://doi.org/10.1097/00004583-199810000-00014

Tartari, E. (2015). Benefits and risks of children and adolescents using social media. *European*

    Scientific Journal, 11(13), 321-332.

Tifferet, S. (2020). Gender differences in social support on social network sites: A meta-analysis.

    Cyberpsychology, Behavior, and Social Networking, 23(4), 199-209.

    https://doi.org/10.1089/cyber.2019.0516

Tifferet, S., & Vilnai-Yavetz, I. (2014). Gender differences in Facebook self-presentation: An

    international randomized study. *Computers in Human Behavior, 35*, 388-399.

    https://doi.org/10.1016/j.chb.2014.03.016

Tifferet, S., & Vilnai-Yavetz, I. (2018). Self-presentation in LinkedIn portraits: Common

    features, gender, and occupational differences. *Computers in Human Behavior, 80*, 33-48.

    https://doi.org/10.1016/j.chb.2017.10.013

Tremblay, M. S., & Willms, J. D. (2003). Is the Canadian childhood obesity epidemic related to

    physical inactivity? *International Journal of Obesity and Related Metabolic Disorders,*

    27(9), 1100–1105. https://doi.org/10.1038/sj.ijo.0802376

Tremblay, M. S., Carson, V., Chaput, J. P., Connor Gorber, S., Dinh, T., Duggan, M., ... & Zehr,

    L. (2016). Canadian 24-hour movement guidelines for children and youth: An integration

    of physical activity, sedentary behaviour, and sleep. *Applied Physiology, Nutrition and*

    Metabolism, 41(6 Suppl 3), S311–S327. https://doi.org/10.1139/apnm-2016-0151.

Tsitsika, A. K., Tzavela, E. C., Janikian, M., Ólafsson, K., Iordache, A., Schoenmakers, T. M.,

    Tzavara, C., & Richardson, C. (2014). Online social networking in adolescence: Patterns

    of use in six European countries and links with psychosocial functioning. *Journal of*

    Adolescent Health, 55(1), 141-147. https://doi.org/10.1016/j.jadohealth.2013.11.010

Türel, Y. K., & Dokumaci, Ö. (2022). Use of media and technology, academic procrastination, and academic achievement in adolescence. *Participatory Educational Research, 9*(2), 481-497. https://doi.org/10.17275/per.22.50.9.2

Uhls, Y. T., Ellison, N. B., & Subrahmanyam, K. (2017). Benefits and costs of social media in adolescence. *Pediatrics, 140*(Supplement 2), S67-S70. https://doi.org/10.1542/peds.2016-1758E

Valkenburg, P. M., & Peter, J. (2013). The differential susceptibility to media effects model. *Journal of communication*, *63*(2), 221-243.

Van den Eijnden, R., Koning, I., Doornwaard, S., Van Gurp, F., & Ter Bogt, T. (2018). The impact of heavy and disordered use of games and social media on adolescents' psychological, social, and school functioning. *Journal of behavioral addictions, 7*(3), 697-706. https://doi.org/10.1556/2006.7.2018.65

Wang, C. & Gu, X. (2019). Influence of adolescents' peer relationships and social media on academic identity. *Asia Pacific Journal of Education, 39*(3), 357-371. https://doi.org/10.1080/02188791.2019.1598848

Wei, L., & Gao, F. (2017). Social media, social integration and subjective well-being among new urban migrants in China. *Telematics and Informatics, 34*(3), 786-796. https://doi.org/10.1016/j.tele.2016.05.017

Wood, W., & Eagly, A. H. (2012). Biosocial construction of sex differences and similarities in behavior. *Advances in experimental social psychology, 46*, 55-123. https://doi.org/10.1016/B978-0-12-394281-4.00002-7

Yan, H., Zhang, R., Oniffrey, T., Chen, G., Wang, Y., Wu, Y., Zhang, X., Wang, Q., Ma, L., Li, R., & Moore, J. B. (2017). Associations among screen time and unhealthy behaviors, academic performance, and well-being in Chinese adolescents. *International Journal of Environmental Research and Public Health, 14*(6), 596. http://dx.doi.org/10.3390/ijerph14060596

You, Y.-Y., Yang-Huang, J., Raat, H., & van Grieken, A. (2023). Factors of heavy social media use among 13-year-old adolescents on weekdays and weekends. *World Journal of Pediatrics, 19*, 378-389. https://doi.org/10.1007/s12519-023-00690-1

Zarate, D., Hobson, B. A., March, E., Griffiths, M. D., & Stavropoulos, V. (2023). Psychometric properties of the Bergen Social Media Addiction Scale: An analysis using item response theory. *Addictive Behaviors Reports, 17*, 100473. https://doi.org/10.1016/j.abrep.2022.100473

Zhao, X. (2019). Disconnective intimacies through social media: Practices of transnational family among overseas Chinese students in Australia. *Media International Australia, 173*(1), 36-52. https://doi.org/10.1177/1329878X19837684

Zheng, W., Yuan, C. H., Chang, W. H., & Wu, Y. C. J. (2016). Profile pictures on social media: Gender and regional differences. *Computers in Human Behavior, 63*, 891-898. https://doi.org/10.1016/j.chb.2016.06.041

Zwar, L., König, H.-H., & Hajek, A. (2023). Gender differences in mental health, quality of life, and caregiver burden among informal caregivers during the second wave of the COVID-19 pandemic in Germany: A representative, population-based study. *Gerontology, 69*(2), 149-162. https://doi.org/10.1159/000523846