

The current situation and intervention measures of college students of China abusing mobile phones in class

Luo Zukui, Wang Zhao

School of Sports and Health Science, Kaili University, Guizhou, 556011, China

Abstract: Chinese college students need to complete a large number of teaching related activities in class through their mobile phones, which provides opportunities for some students to abuse their phones (such as playing games on their phones). In order to understand the situation of college students abusing mobile phones in class and propose solutions, we conducted a survey of 326 second and third year students at Kaili University. The survey follows the principles of voluntariness and anonymity to increase the reliability and accuracy of the survey data. We obtained a total of 304 valid paper survey questionnaires. Based on the survey results, suggestions were put forward to curb the abuse of mobile phones in class. Among them, we believe that two solutions may have a good inhibitory effect on students' misuse of mobile phones in class, namely: (1) Desk mate monitoring, which has strong tracking characteristics; (2) Helping students develop plans and establish learning objectives is essential for motivating them to learn and to consciously break free from their addiction of mobile phones. Our suggestions are of great significance for regulating behavior in the class and improving class learning efficiency.

Keywords: abusing mobile phone; college student; negative impact; solution way

I. Introduction

Mobile phones have various functions such as communication, payment, office, social and entertainment, and have become convenient communication tools for people. They are a necessity in daily life, and many people have developed a dependence on mobile phones (Tsan and Yuan, 2017; Liu and Xu, 2023; Xu et al., 2023). Young people have a strong ability to accept new things and mobile phones have become their indispensable personal belongings (Zhang, 2016; Chen et al., 2023).

During the COVID-19 epidemic, in order to solve the problem of being unable to attend classes on the spot, China started online teaching in schools at all levels nationwide in 2020. Since then, multiple teaching activities in university class have been linked to mobile phones. After the epidemic, many aspects of online teaching models have been continued by universities, and mobile phones continue to carry multiple teaching processes. During the classroom teaching process, teachers use software as the initiating end and students use their mobile phones as the receiving end to achieve teaching and related activities such as student check-in, answering questions, teaching evaluation, and exams. This has increased the frequency of college students using mobile phones in class, and also provided chances for students to abuse their phones during class, which involves playing games, chatting, watching entertainment programs, and so on. Once students develop a dependence on mobile phones, they will also use them for leisure outside of class, wasting a lot of time. This negative impact seriously affects the growth and development of college students (Chen et al., 2023; Yu et al., 2023).

Therefore, a deep understanding of the current situation of mobile phone usage among college students in class is of great significance for doing a good job in teaching and mobile phone usage management, regulating behavior in class, and improving learning efficiency (Xu et al., 2023; Yu et al., 2023).

II. Research Methods and Data Analysis

Respondent

Our research subjects were college students from Kaili University, which is located in Guizhou Province, China and is a local undergraduate institution. The school has purchased various teaching software to serve teaching, and many teaching processes require students to use online media to complete tasks. Mobile phones were one of the most direct and convenient tools for completing tasks.

The survey subjects of this study were only second and third year college students, as they spent more time using mobile phones in class than first and fourth year college students. The investigation follows two principles: (1) Voluntary principle. The respondents were informed that they could abstain or only fill in the parts they were interested in, and if they were willing to participate in the survey, they would need to fill in carefully. (2) The principle of anonymity. We believed that allowing investigators to have no concerns can increase the reliability of survey data. The survey questionnaire was distributed 1-2 months after the start of the school year. We believed that during this period, students may have developed a dependence on using mobile phones in class, and their experience of using mobile phones was profound, which increased the accuracy of the survey results.

The survey questionnaire includes three aspects: (1) Basic information on students' use of mobile phones in class. (2) Factors influencing the use of mobile phones in class. (3) Students' feelings and attitudes towards the use of mobile phones in class. A total of 326 paper survey questionnaires were distributed to students from 6 majors and 8 classes, of which 304 were valid. In addition, we also conducted private interviews with teachers and students to gain a more comprehensive understanding of the issue of college students using mobile phones in class.

The survey questionnaire included three aspects: (1) Basic information on students' use of mobile phones in class. (2) Factors influencing the use of mobile phones in class. (3) Students' feelings and attitudes towards the use of mobile phones in class. A total of 326 paper survey questionnaires were distributed to students from 8 classes of 6 majors, of which 304 were valid. In addition, we also conducted private interviews with teachers and students to gain a more comprehensive understanding of the issue of college students using mobile phones in class.

Data analysis

For the single-choice questions, if the respondent chose multiple answers or did not choose, this question was considered invalid, but the other questions of the questionnaire were adopted. When calculating the percentage for each question, the denominator is the total number of valid choices for that question.

III. Results

Characteristics of the respondents

Out of the 304 valid questionnaires completed, 139 were for boys and 165 were for girls; Second year college students completed 199 copies, and third year college students completed 105 copies.

The use of mobile phones in class

The survey showed that students carried mobile phones in most classes (Table 1), with 97.70% of

students indicating that they carried mobile phones at least 90% of class. 63.16% of students used their phones for an average of 5-10 minutes during a 45-minute-class. 99% of students used their mobile phones in class mainly for studying or following the messages from their class group. 77.06% of students stated that using their mobile phones for entertainment purposes is not related to the course category they attended.

Table 1. Statistics on the use of mobile phones by students in class (304 valid questionnaires)

Question	Option	Sample	Selection	Percent
How often do you bring your mobile phone to class? (single choice)	A. More than 90% of class	304	297 (A)	97.70
	B. 50-90% of class		5 (B)	1.64
	C. 10-50% of class		2 (C)	0.66
	D. Less than 90% of class		0 (D)	0.00
The average time you spend using phone for 45 minutes per class (single choice)	A. More than 30 minutes	304	9 (A)	2.96
	B. 10-30 minutes		28 (B)	9.21
	C. 5-10 minutes		192 (C)	63.16
	D. Less than 5 minutes		75 (D)	24.67
What is your main purpose of using phone during class? (multiple choice)	A. Playing games and listening to music	302	17 (A)	5.63
	B. Chatting and making friends		54 (B)	17.88
	C. Browse news and read e-books		46 (C)	15.23
	D. Used for learning or following class group messages		299 (D)	99.00
What kind of classes are you inclined to use mobile phones for entertainment? (multiple choice)	A. Public courses such as politics and English	279	78 (A)	27.96
	B. Public elective courses such as ecological civilization construction		73 (B)	26.16
	C. Elective courses		84 (C)	30.11
	D. Professional compulsory courses		6 (D)	2.15
	E. Unrelated to course category		215 (E)	77.06

Factors of using or not using mobile phones in class

The survey showed that the main reasons that students use mobile phones in class were that they had to use (99.67%), or they could not psychologically resist browsing their phones (94.37%), or they were not interested in the course content (38.74%), or the course content was too difficult (38.08%; Table 2). Students believed that it was possible to reduce the use of mobile phones in class for activities unrelated to learning by prohibiting the mobile phones from being brought into the class (98.03%) or by having a desk mate supervise the prohibition of playing mobile games (69.41%). Students in courses without exams were more likely to play with their phones (95.67%). For students who played with their phones in class, 67.34% of teachers had criticized them, while 26.93% of teachers had ignored them.

Table 2. Statistics of factors influencing college students' use or not use of mobile phones in class (304 valid questionnaires)

Question	Option	Sample	Selection	Percent
Reasons for using mobile phones in class (multiple choice)	A. I wanted to play	302	285 (A)	94.37
	B. I was tempted by my desk mate's play		2 (B)	0.66
	C. Not interested in the course content		117 (C)	38.74
	D. Learning required mobile phones		301 (D)	99.67
	E. Courses that can easily pass exams		3 (E)	0.99
	F. The course was unimportant		1 (F)	0.33
	G. The course content was too difficult		115 (G)	38.08
The following situations may reduce the use of mobile phones in class (multiple choice)	A. Mobile phones was prohibited bringing into class	304	298 (A)	98.03
	B. The teacher emphasized not to play with mobile phones		1 (B)	0.33
	C. The class content was very attractive		45 (C)	14.80
	D. The course content was very important		46 (D)	15.13
	E. desk mate monitored		211 (E)	69.41
What assessment method was more likely to lead to playing with mobile phones? (single choice)	A. Closed book exam	300	0 (A)	0
	B. Open book exam		13 (B)	4.33
	C. No exam, only submitted homework for examination		287 (C)	95.67
What was the teacher's attitude towards students playing games on their mobile phones? (single choice)	A. Criticized	297	200 (A)	67.34
	B. Just a little reminder		17 (B)	5.72
	C. Satirical and sarcastic towards students		0 (C)	0
	D. Ignored		80 (D)	26.93

Students' feelings and attitudes towards the use of mobile phones in class

The attitudes of students towards the use of mobile phones in the classroom were shown in Table 3. The vast majority (70.72%) of students did not agree with the school's ban on using mobile phones in class. 84.39% of students believed that using mobile phones in class was beneficial for classroom teaching. On the contrary, the majority of students (57.57%) believed that the role of mobile phones in the classroom was useless, and the vast majority of them (80.59%) believed that the disadvantages of using mobile phones in class outweighed the benefits.

Table 3. Statistics of college students' feelings and attitudes towards the use of mobile phones in class (304 valid questionnaires)

Question	Option	Sample	Selection	Percent
Implement a ban on using mobile phones in class (single choice)	A. Agree	304	89 (A)	29.28
	B. Disagree		215 (B)	70.72
Which teaching activity do you think using mobile phones in class is beneficial for? (multiple choice)	A. Can improve learning efficiency	301	3 (A)	1.00
	B. Diversify learning methods		28 (B)	9.30
	C. Enriched the learning content		205 (C)	68.11
	D. Beneficial for all three of the above		254 (D)	84.39
	E. Not beneficial for the above three things		47 (E)	15.61
If the teaching process does not require the use of mobile phones, do you think it is still necessary to bring mobile phones in class? (single choice)	A. Need	304	127 (A)	41.78
	B. Dispensable		175 (B)	57.57
	C. No need		2 (C)	0.66
The impact of using mobile phones in class on learning (single choice)	A. The benefits outweigh the drawbacks	304	18 (A)	5.92
	B. The disadvantages outweigh the advantages		245 (B)	80.59
	C. The advantages and disadvantages each account for a half		41 (C)	13.49

IV. Discussion

Analysis of the situation and reasons for the abuse of mobile phones

Almost all students in class have used mobile phones (Table 1), as multiple teaching sessions in class required the use of mobile phones (Table 2). Therefore, college students generally carried mobile phones in class, which provided a possibility for some students to abuse their phones. A survey showed that a small number of students use their phones for more than 30 minutes per class (Table 1), and they may be playing games or engaging in other entertainment activities on their phones.

Two contradictions were found in the survey: (1) Students believed that using mobile phones in class could improve learning efficiency, diversify learning methods, and enrich learning content (Table 3). However, they also believed that using mobile phones in class had more disadvantages than advantages (Table 3). (2) Most students believed that mobile phones were unnecessary in the classroom (Table 3), and the disadvantages outweighed the advantages (Table 3), but they did not agree with the school's ban on the use of mobile phones in class (Table 3). This indicated that students subjectively believed that mobile phones brought many negative impacts, but subconsciously, they could not bear without phones because they can "see the outside world" at any time with them. This indicated that students have developed a habit of unconsciously glancing at their phones after a certain period of time, leading to a serious dependence on their phones and resulting in phone addiction (Li and Cheng, 2023; Yu et al., 2023).

Mobile phone addiction refers to an addictive behavior in which excessive use of mobile phones under the premise of non-material addiction causes adverse physiological and psychological consequences to

individuals, manifested as a strong craving for mobile phones, loss of control, psychological dependence, and impaired life functions (Loleska and Pop-Jordanova, 2021; Yu et al., 2023). College students have poor self-discipline, strong curiosity, and are easily influenced by external factors. In addition, they have much time flexibility and are prone to transferring their study time and energy to browsing their phones to waste the time. Compared to other populations, college students are more likely to develop smart phone addiction (Zhang, 2016; Yu et al., 2023). The proportion of college students using mobile phones for chatting and entertainment during classes is also high in other universities, and some students abuse their phones for a long time during each class (e.g. Zhang, 2016; Yu et al., 2023), which was similar to our survey results (Table 1). These students often have unclear learning goals and lack learning motivation.

The survey showed that students' lack of interest in class content, or course content that was too difficult or too simple, were also important reasons for students to abuse their mobile phones in class (Table 2). With the increasing pressure of social competition, students no longer control themselves as they felt no hope for the future. They would deal with learning in a negative way, as long as they were joyful in the present, they would unconsciously use surfing the internet to make up for their sense of emptiness (Hong et al., 2021; Yu et al., 2023).

For different courses, the frequency of students abusing mobile phones varied (Table 1), and previous scholars had also found similar trends (e.g. Zhang, 2016; Yu et al., 2023), indicating that the importance of different courses varied in students' perceptions.

Methods to curb the misuse of mobile phones in class

According to our survey, in order to curb the abuse of mobile phones in class, we summarize the following 5 methods for coping.

(1) Enhance the teaching level of teachers and increase the attractiveness of the curriculum. Due to a lack of interest in the course content or the difficulty of the course content, aversion to learning increased the likelihood of misuse of mobile phones (Table 2). If students can understand the profound course content they wanted to learn and relieved learning pressure, their tendency to become addicted to mobile phones would be reduced (Wu et al., 2023).

(2) Monitoring from desk mate. This may be a useful and novel suppression mode. Because desk mate is easy to know if you are abusing your phone and they can track and manage you at any time. This may be more effective than teachers controlling the abuse of mobile phones in class. Through conversations with some teachers, it was found that sometimes teachers did not have time to take into account the situation of each student, and it was difficult for teachers to make judgments whether students were using their phones to complete class tasks or for other purposes in class. This indicated that many teachers may not be aware of what their students were doing when they ignored their misuse of mobile phones during class.

(3) The school prohibits bringing mobile phones into the classroom. Although this method can effectively prevent students from abusing their mobile phones in class, it also cuts off the medium for students to use their phones to complete class tasks.

(4) Set up relevant lectures to raise students' awareness of the dangers of mobile phones. Similar to other researches (e.g. Zhang, 2016; Yu et al., 2023), our survey showed that students knew that the harm of abusing mobile phones outweighed the benefits (Table 3), but many students abused their phones in class because they cannot control themselves (Table 2). This requires external intervention and assistance to help students break free from their dependence on mobile phones (Yu et al., 2023).

(5) Help students develop plans and establish learning goals. In the survey, it was found that if students have their own plans, such as preparing for postgraduate entrance exams, striving for teaching positions, or inspiring

them to pass the English proficiency test in the near future, regardless of whether their goals were short-term or long-term, their self-control ability was stronger and their time of abusing mobile phones would be reduced. Goals provide students with motivation to learn.

The factors contributing to college students' addiction to mobile phones may come from society, family, school, oneself, external temptations, etc. To reduce the addiction of college students to mobile phones, it is necessary for all sectors of society and college students themselves to work together to create a good environment for the normative use of mobile phones by college students. For students addicted to mobile phones, it is necessary to analyze the specific problems, find the reasons for their addiction to mobile phones, and analyze and solve the problems in a targeted manner (Li et al., 2020; Yu et al. 2023).

Acknowledgment

We are grateful for financial support of National Nature Science Foundation of China (Grant No. 31960231), Teaching Content and Curriculum System Reform Project of Kaili University (Grant No. JG202015), and Innovative Talent Team Program from Education Department of Guizhou Province ([2013]26).

References

- [1] Chen, J., Fang, X. H., Zhang K. (2023). Effect of attachment anxiety on nomophobia in college students: chain mediating effect. *China Journal of Health Psychology*, 31(11): 1747-1752.
- [2] Hong, Y. P., Yeom, Y. O., Lim, M. H. (2021). Relationships between smartphone addiction and smartphone usage types, depression, ADHD, stress, interpersonal problems, and parenting attitude with middle school students. *Journal of Korean Medical Science*, 36 (19): 1-13.
- [3] Li, Y., Cheng, G. (2023). Relationship between smartphone addiction and cyberbullying among university students: the mediating role of fear of missing out. *Journal of Campus Life & Mental Health*, 21(6): 432-435.
- [4] Li, Y., Li, G., Liu, L., Wu, H. (2020). Correlations between mobile phone addiction and anxiety, depression, impulsivity, and poor sleep quality among college students: A systematic review and meta-analysis. *Journal of Behavioral Addictions*, 9 (3): 551-571.
- [5] Liu, R., Xu, S. J. (2023). The impact of stress perception on smartphone addiction in college students: the mediating role of psychological resilience. *Journal of Shenyang Medical College*, 25(6): 588-592.
- [6] Loleska, S., Pop-Jordanova, N. (2021). Is smartphone addiction in the younger population a public health problem? *Prilozi*, 42 (3): 29-36.
- [7] Tsan, C. K., Yuan, H. F. (2017). Study on relationship among university students' life stress, smart mobile phone addiction, and life satisfaction. *Journal of Adult Development*, 24 (2): 109-118.
- [8] Wu, Z., Chen, L. H., Xu, Z. Q. (2023). Positive reinforcement of improper use of mobile phones by college students. *Journal of Xidian University (Social Science Edition)*, 33(3): 128-136.
- [9] Xu, Z. Q., Li, Y. L., Yang, J. (2023). Analysis on current situation of mobile phone addiction among medical college students by thematic group interview and personal in- depth interview. *Chinese Journal of Health Education*, 39 (11): 1006-1010+1022.
- [10] Yu, L., Xia, J. M., Yi, G. Z. (2023). Research on comprehensive intervention of aerobics on mobile phone addiction of female college students. *Sichuan Sports Science*, 42 (6): 70-73.
- [11] Zhang, X. P. (2016). Investigation and analysis of the current situation of mobile phone use in college students' classrooms. *China Adult Education*, 21: 66-69.