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The Impact of Cellphone Usage on Generation Z: A Friend or Foe Perspective

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ABSTRACT

Cellphones have become an essential part of everyday life, particularly among Generation Z students. The purpose of this study was to analyze the impact of cellphone use on adolescents, examining both its educational benefits and potential drawbacks. A mixed-methods descriptive approach was employed, combining quantitative and qualitative data. The study was conducted in junior high schools located in the states of Puebla and Mexico during June 2026. A total of 1,191 students participated by completing a 12-item questionnaire administered through Google Forms. The findings revealed a high level of smartphone ownership, with 91.6% of participants reporting having their own cellphone. Academic activities, including homework and research, were identified as the most common uses of smartphones, followed by entertainment and communication. Although students recognized the educational value of these devices, many also reported difficulties disconnecting from their phones when studying or sleeping. Additionally, a considerable proportion acknowledged that cellphone use may affect concentration and academic performance. Qualitative responses showed that students were aware of both the benefits and risks associated with smartphone use and emphasized the importance of moderation, self-discipline, and responsible digital habits. The results suggest that smartphones can function as both valuable educational tools and potential sources of distraction. Their impact depends largely on usage patterns, self-regulation, and educational guidance.

***Keywords*:** generation z, smartphone use, academic performance, digital habits, educational technology.

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RESUMEN

Los teléfonos celulares se han convertido en una parte esencial de la vida cotidiana, especialmente entre los estudiantes de la Generación Z. El propósito de este estudio fue analizar el impacto del uso de teléfonos celulares en adolescentes, examinando tanto sus beneficios educativos como sus posibles desventajas. Se empleó un enfoque descriptivo de métodos mixtos, combinando datos cuantitativos y cualitativos. El estudio se llevó a cabo en escuelas secundarias ubicadas en los estados de Puebla y México durante junio de 2026. Un total de 1,191 estudiantes participaron completando un cuestionario de 12 preguntas administrado a través de Google Forms. Los hallazgos revelaron un alto nivel de posesión de teléfonos inteligentes, con un 91.6% de los participantes reportando tener su propio celular. Las actividades académicas, incluyendo tareas y investigación, se identificaron como los usos más comunes de los teléfonos inteligentes, seguidos del entretenimiento y la comunicación. Si bien los estudiantes reconocieron el valor educativo de estos dispositivos, muchos también reportaron dificultades para desconectarse de sus teléfonos al estudiar o dormir. Además, una proporción considerable reconoció que el uso del teléfono celular puede afectar la concentración y el rendimiento académico. Las respuestas cualitativas mostraron que los estudiantes eran conscientes tanto de los beneficios como de los riesgos asociados al uso de los teléfonos inteligentes y enfatizaron la importancia de la moderación, la autodisciplina y los hábitos digitales responsables. Los resultados sugieren que los teléfonos inteligentes pueden funcionar como valiosas herramientas educativas y, a la vez, como posibles fuentes de distracción. Su impacto depende en gran medida de los patrones de uso, la autorregulación y la orientación educativa.

***Palabras clave*:** generation z, smartphone use, academic performance, digital habits, educational technology.

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INTRODUCTION

In the 2000s, cellphones became widely adopted worldwide, leading to a significant increase in the number of users. Although the development of mobile phone technology began in the United States, its rapid expansion reached many countries (International Telecommunication Union [ITU], 2026). For example, Japan had already achieved extensive mobile network coverage by the 1980s, which contributed to the early growth of cellphone usage (Galazzo, 2020). This global expansion laid the foundation for the widespread use of smartphones among younger generations, particularly Generation Z, who are now considered digital natives due to their constant interaction with mobile technology (Rosenberg et al., 2025).

Nowadays, a vast majority of people worldwide own a cellphone and can connect themselves to the internet. To be clear, there are more than 5.7 billion people who possess and uses smartphones globally, representing around 70% of the world's population (Kumar, 2026). Furthermore, studies show that approximately 82% of individuals worldwide own a mobile phone, highlighting the global spread of this technology (International Telecommunication Union [ITU], 2025).

Mexico is not an exception to this trend; there are millions of cellphone users, most of whom are young people belonging to generations such as Millennials, Generation Z, and Generation Alpha. In fact, mobile phone usage in Mexico has grown significantly in recent years, with a large proportion of the population relying on smartphones for communication, education, and entertainment (Statista Research Department, 2025).

Clearly, cellphones have been present for several decades worldwide and have become an essential part of daily life. Furthermore, they have been increasingly incorporated into educational settings, particularly in classrooms, where their use represents a double-edged sword with both advantages and disadvantages. On the one hand, smartphones can support learning by providing access to information and educational resources; on the other hand, they may cause distractions and negatively affect students' academic performance. Numerous studies suggest that cellphones have become an extension of human behavior, playing a role similar to essential tools throughout history. (Buzzetto-Hollywood & Quinn, 2024; Wacks & Weinstein, 2021). Cellphones have become an extension of human beings, as Ice Age shoes were to them, as they are now deeply integrated into everyday activities.

The purpose of this study was to analyze the impact that cellphones have on students' daily lives. More specifically, it focused on Generation Z, a cohort that has grown up surrounded by digital technology, including smartphones and stable internet access in their homes. This generation has witnessed and actively engaged with the rapid development of digital tools and artificial intelligence applications such as Siri, Alexa, and Gemini, which have become integrated into their everyday routines. As a result, their interaction with technology is more constant and immersive than that of previous generations, making them a particularly relevant group for examining the effects of cellphone usage.

The present study took place in the state of Mexico and in the state of Puebla, in junior high schools. It involved a sample of ___ students, with an average age of ___ years. The study followed a mixed-methods paradigm (Hernández et al., 2016) and adopted a phenomenological approach (Álvarez-Gayou, 2012) to better understand students' experiences with cellphone usage. Data collection took place during June 2026. The instrument used to collect the data was a questionnaire developed in Google Forms, which was selected due to its accessibility and effectiveness in facilitating asynchronous data collection. Online questionnaires have been widely used in educational and social research because they allow researchers to gather data efficiently, reach a large number of participants, and provide flexibility in terms of time and location (Creswell & Creswell, 2018).

LITERATURE REVIEW

Cellphone Usage around the globe and in Mexico

Cellphones have now become an extension of our everyday lives, appearing in streets, schools, and almost every imaginable space. Most people use them for communication, entertainment, and academic purposes. Worldwide, there are more than 5.7 billion smartphone users, representing approximately 70% of the global population (Kumar, 2026) . Additionally, global data indicate that around 82% of individuals own a mobile phone, highlighting the widespread adoption of this technology across different societies (International Telecommunication Union [ITU], 2025) .

The countries with the highest number of cellphone users include China, India, and the United States, as they have the largest populations and high mobile penetration rates. For instance, China leads the world with hundreds of millions of smartphone users, followed by India and the United States, reflecting

the global dominance of mobile technology in both developed and developing regions (BacktoFrontShow, 2026).

In Mexico, there has been a rapid adoption of cellphones, particularly among younger generations. Mexican citizens use these devices for a wide range of purposes, including communication, entertainment, education, and social interaction. In fact, there are approximately 98.6 million cellphone users in Mexico, representing around 81.7% of the population (INEGI, 2024). Moreover, mobile connectivity is so widespread that there are 127 million mobile connections, equivalent to 96.5% of the total population (DataReportal, 2025).

The majority of those who use cellphones belong to younger generations, especially adolescents and young adults, who are the most active users of digital technologies. Only a small percentage of the population does not possess a cellphone, which reflects the near-universal adoption of this technology in the country. In educational contexts, the use of smartphones begins at an early age.

Studies indicate that a significant number of Mexican children start using mobile devices from around 6 years old, and approximately 7 out of 10 children between 6 and 11 years old already use smartphones or tablets regularly (INEGI, 2025). Furthermore, internet usage among adolescents (12–17 years old) reaches over 95%, demonstrating how deeply integrated mobile technology is in their daily and academic lives (REDIM, 2026).

Social media and using patterns of Cellphones for Gen Z

A Gallup poll of 1,500 young Americans revealed that 51% spend at least four hours a day using social media apps like Instagram or tiktok in their cellphones, with an average usage of 4.8 hours per American teenager (Rothwell, 2024b).

Among the main habits of cellphones usage, social media is the most widely used means of communication among teenagers, young adults, and some adults today. Through it, young people get to know each other, reconnect with old friends, and exchange all kinds of experiences, thoughts, messages, and materials that communicate what each of them needs to express. It is quite interesting to witness how social media reflects the emotional, social, psychological, and communicative needs of its users through the different types of messages they transmit, whether through emoticons, videos, photographs, texts, audio, and audiovisual materials of all kinds. (Aulia & Putri, 2024)

On the other hand, Arab and Díaz (2015) conclude that excessive social media use is linked to depression, attention deficit hyperactivity disorder (ADHD), insomnia, decreased total sleep time, poor academic performance, failing grades, and school dropout. It is also associated with reduced study time, decreased concentration, increased distractions, and a decline in the quality of schoolwork.

The Benefits and Drawbacks of Cellphones for Generation Z

Some of the most common uses that Generation Z gives to cell phones are the following:

Communication and socialization, to stay in touch with friends and family and maintain immediate communication with anyone from any time and place. Professionally and academically, it is very easy to locate anyone through a cell phone (García, 2021). Furthermore, entertainment, through the consumption of video content, music, animations, movies, short films, television programs, series, video games, and sports programs. Information search, through internet browsing, reading all kinds of online materials, and consulting through Artificial Intelligence such as ChaGPT and Gemini, among the most common (SPRINforma, 2026). Moreover, building social networks, such as Facebook, Instagram, TikTok, etc. Through these, young people maintain contact with their peers and stay up-to-date on daily activities, achievements, customs, and preferences. Content consumption on social media is particularly noteworthy, as younger generations rarely look at new content for more than one or two seconds before moving on to the next, until they find something of interest, which they may then engage with for no more than 30 seconds. The speed of consumption is surprisingly higher among younger generations (Ricoy, Martínez & Martínez, 2022). Additionally, organization and development of digital skills, cell phones also foster certain digital abilities and competencies, such as time management and organization, independent content searching, information management, and the creation of specific content like videos, manipulated images, and animations. Furthermore, they develop skills such as fast typing, visual perception and motor skills, instant brain processing, language learning, mathematical skills, spatial awareness, and hand-eye coordination (Martínez, 2023).

On the other hand, there are some drawbacks that cannot be ignored and pointed out.

According to Díaz-López et al. (2021), students acknowledge that their grades are declining due to cellphone use and social media participation; however, they claim to be able to improve their academic performance on their own.

A recent study by López et al. (2023) indicates that cellphone usage negatively impact the academic performance of adolescents. Factors such as the daily time spent on social media, the lack of parental supervision, and easy access to these platforms are closely related to the decrease in this performance as young people dedicate more and more hours a day to them, replacing other activities and interests, such as schoolwork or sports.

METHODOLOGY

This study employed a mixed-methods descriptive approach combining quantitative and qualitative data to examine cellphone use among junior high school students. The quantitative component focused on identifying patterns of smartphone ownership, frequency of use, academic applications, and perceived effects on learning, whereas the qualitative component explored students' opinions, emotions, and recommendations regarding cellphone use.

The study was conducted during June 2026 in junior high schools located in the states of Puebla and Mexico. Data collection was supported by the Undersecretariat of Basic Education of the State of Mexico, represented by one of the study's co-authors, which facilitated the distribution of the questionnaire to secondary schools within the educational system. This broad dissemination strategy allowed access to a large number of students from the target population. A total of 1,191 students voluntarily participated in the study. All participants belonged to Generation Z and were enrolled in junior high school at the time of data collection.

Data were collected using a questionnaire specifically designed for this study and administered through Google Forms. The instrument consisted of 12 questions, including both closed-ended and open-ended items. The questionnaire explored cellphone ownership, daily usage patterns, classroom use, academic purposes, perceived effects on academic performance and concentration, difficulties disconnecting from cellphone use, emotional responses associated with cellphone deprivation, frequently used applications, and recommendations for responsible smartphone use. Quantitative data were analyzed using descriptive statistics, including frequencies and percentages. Results were organized and presented through figures to facilitate interpretation and comparison of response patterns. Qualitative responses were analyzed through thematic analysis. Open-ended responses were reviewed, coded, and grouped into categories according to recurring themes and common patterns identified among participants.

The integration of quantitative and qualitative data provided a comprehensive understanding of smartphone use among adolescents. While the quantitative findings allowed the identification of general trends and usage patterns, the qualitative component offered additional insight into students' perceptions, experiences, emotions, and attitudes toward cellphone use in academic and everyday contexts.

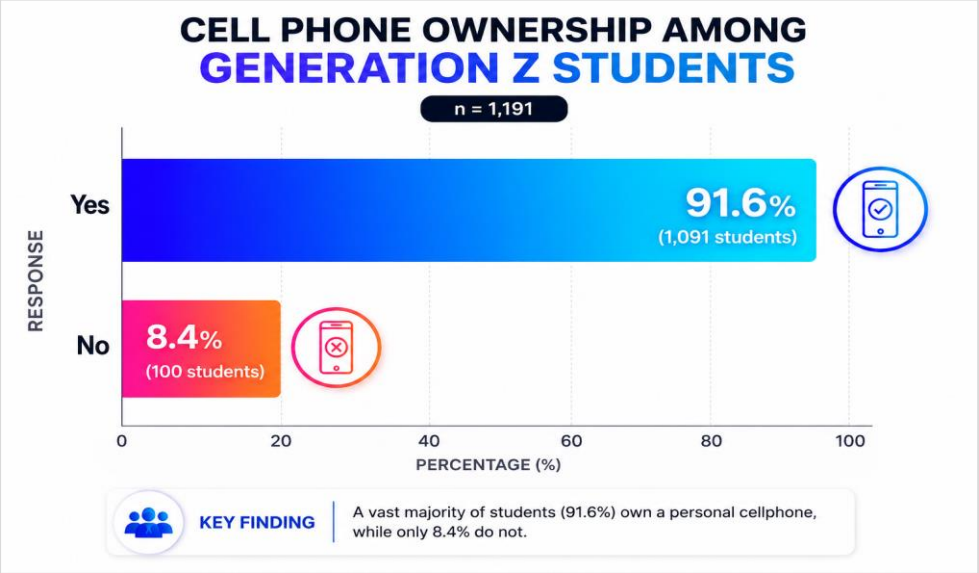
RESULTS AND DISCUSSION

Question 1. Do you own a cellphone?

Cellphone ownership is a key indicator for understanding the level of technological access among Generation Z students. Given the central role that smartphones play in communication, entertainment, education, and social interaction, participants were first asked whether they owned a personal cellphone. As shown in Figure 1, of the 1,191 students surveyed, 1,091 (91.6%) reported owning a personal cellphone, whereas only 100 students (8.4%) indicated that they did not have one. These findings reveal a remarkably high level of mobile technology penetration among the participants, confirming that smartphones are an integral component of daily life for the vast majority of Generation Z students.

The results also suggest that mobile devices constitute a highly accessible technological resource within this population, making them a relevant factor in both educational and social contexts.

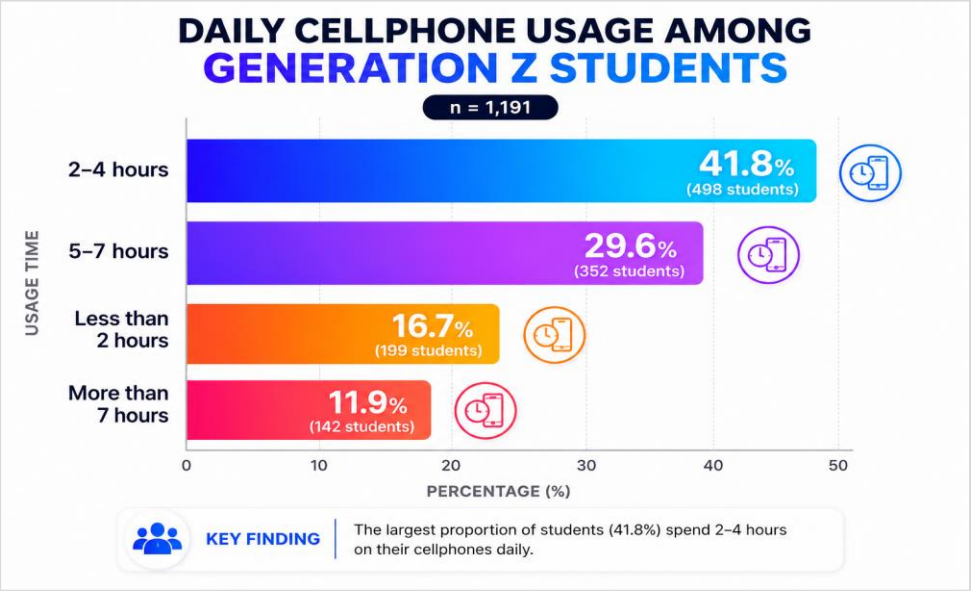
Figure 1. Cellphone ownership among surveyed Generation Z students (n = 1,191).



Question 2. How many hours per day do you use your cellphone?

To better understand the level of exposure to mobile technology among Generation Z students, participants were asked to estimate the average number of hours they spend using their cellphones each day.

Figure 2. Daily Cellphone Usage Among Generation Z Students (n = 1,191).



As shown in Figure 2, the largest proportion of students reported using their cellphones between 2 and 4 hours per day (n = 498), followed by those who indicated using them between 5 and 7 hours daily (n = 352). Additionally, 199 students reported using their devices for less than 2 hours per day, whereas 142 students indicated spending more than 7 hours per day on their cellphones.

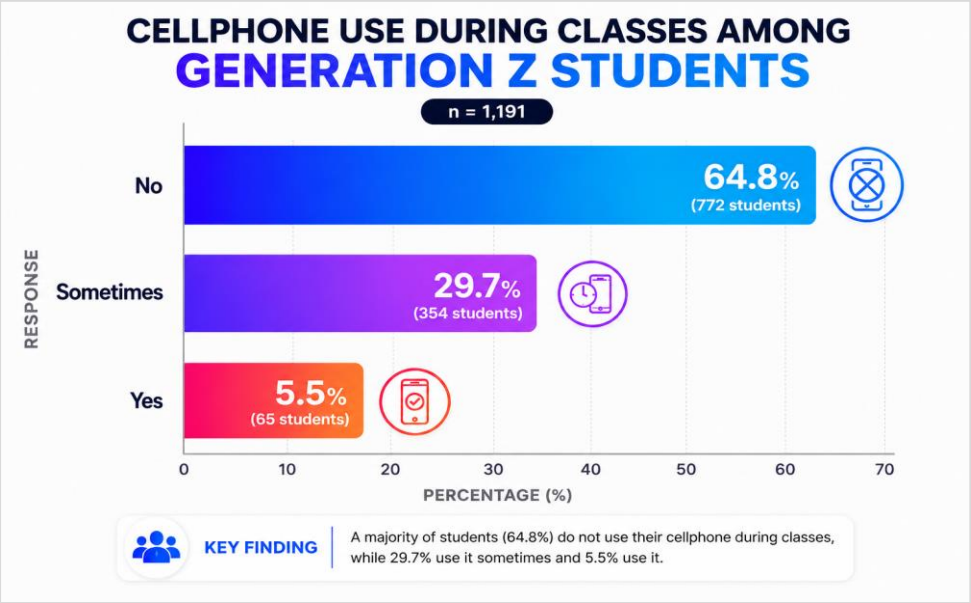
Overall, the findings suggest that cellphone use is deeply integrated into students' daily routines, with the majority reporting between two and seven hours of daily use. The presence of a substantial group of students who use their devices for more than seven hours per day may indicate intensive patterns of smartphone engagement that could potentially influence academic, social, and personal activities.

Question 3. Do you use your cellphone during classes?

Cellphone use during instructional time has become a growing concern in educational settings due to its potential impact on students' attention and academic performance. Therefore, participants were asked whether they use their cellphones during class sessions.

As shown in Figure 3, most students reported that they do not use their cellphones during class time (n = 772, 64.8%). However, a considerable proportion indicated that they sometimes use their devices during lessons (n = 354, 29.7%). Only 65 students (5.5%) acknowledged regularly using their cellphones during classes.

Figure 3. Cellphone Use During Classes Among Generation Z Students (n = 1,191).



These findings suggest that although most students appear to follow classroom norms regarding cellphone use, a substantial number still engage with their devices occasionally during instructional activities. This pattern may indicate that cellphone use remains present in the classroom environment and could represent a potential source of distraction for some students.

Question 4. Do you use your cellphone for homework or school-related activities?

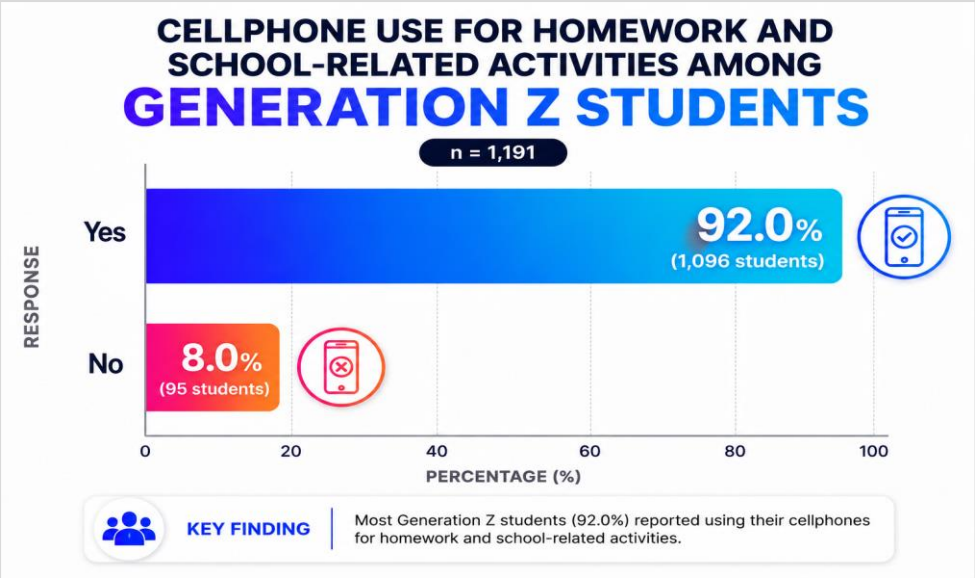
In addition to communication and entertainment purposes, mobile devices have increasingly become tools that support learning and academic tasks. To explore the educational use of smartphones among Generation Z students, participants were asked whether they use their cellphones for homework or other school-related activities.

As shown in Figure 4, the vast majority of participants reported using their cellphones for homework and academic activities (n = 1,096, 92.0%), whereas only 95 students (8.0%) indicated that they do not use their devices for educational purposes.

These findings suggest that smartphones play an important role in students' academic lives and are widely used as learning tools.

The results indicate that, beyond their social and entertainment functions, mobile devices have become valuable resources for accessing information, completing assignments, communicating with classmates, and supporting educational activities.

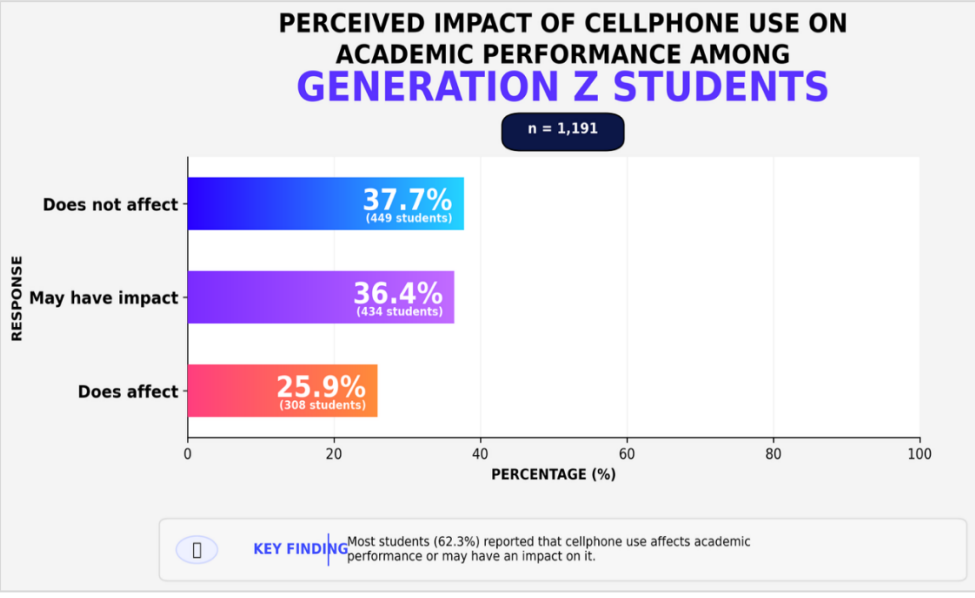
Figure 4.
Cellphone Use for Homework and School-Related Activities Among Generation Z Students (n = 1,191).



Question 5. Do you believe cellphone use affects your grades?

Participants were asked whether they believe cellphone use has an impact on their academic performance. This question sought to explore students' perceptions regarding the relationship between smartphone use and school achievement.

Figure 5.
Perceived Impact of Cellphone Use on Academic Performance Among Generation Z Students (n = 1,191).



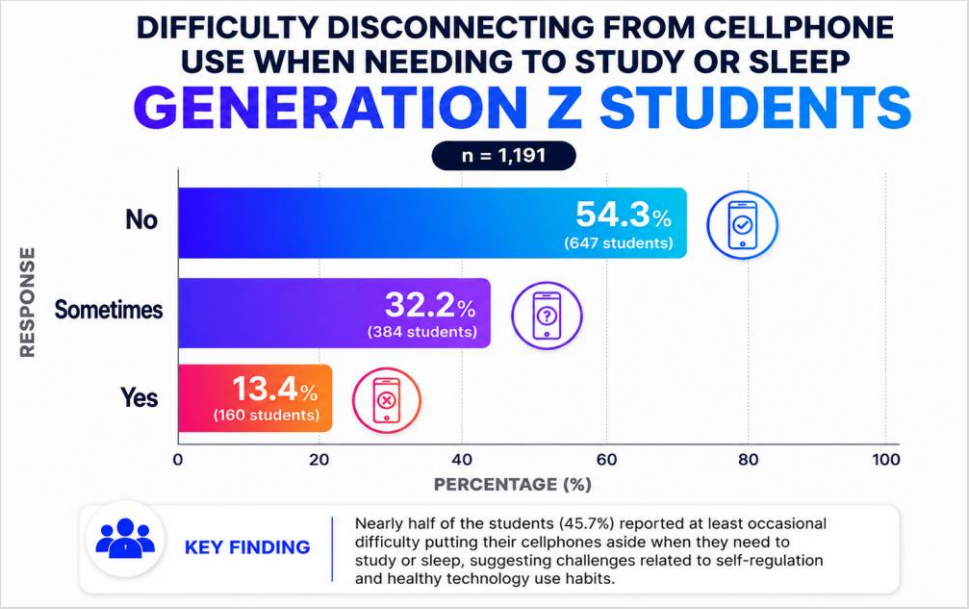
As shown in Figure 5, 449 students (37.7%) reported that cellphone use does not affect their grades, while 434 students (36.4%) indicated that it may have an impact. Additionally, 308 students (25.9%) believed that cellphone use does affect their academic performance.

These findings suggest that students hold diverse perceptions regarding the academic consequences of cellphone use. Although the largest group reported that smartphones do not affect their grades, a combined 62.3% either believed that cellphone use affects academic performance or acknowledged the possibility that it may do so. This result indicates a widespread awareness among students of the potential influence that mobile devices can have on their educational outcomes.

Question 6. Do you find it difficult to stop using your cellphone when you need to study or sleep?

The ability to regulate cellphone use is an important aspect of self-control and healthy technology habits. Therefore, students were asked whether they find it difficult to stop using their cellphones when they need to study or go to sleep.

Figure 6. Difficulty Disconnecting from Cellphone Use Among Generation Z Students



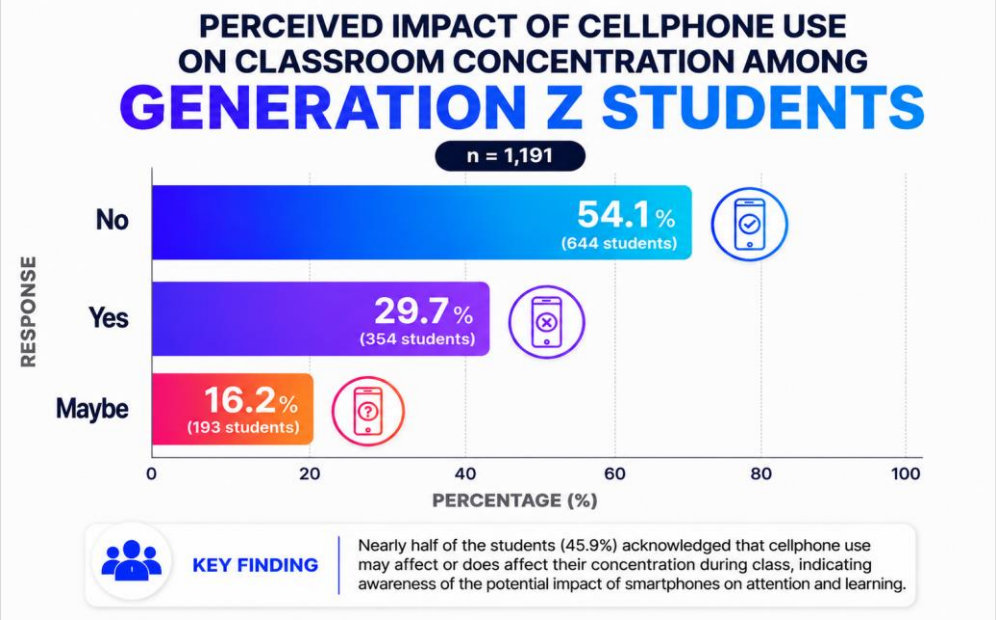
As shown in Figure 6, most participants reported that they do not have difficulty putting their cellphones aside when they need to study or sleep (n = 647, 54.3%). However, 384 students (32.2%) indicated that they sometimes experience difficulty doing so, while 160 students (13.4%) reported that they regularly struggle to stop using their devices in these situations.

These findings suggest that although more than half of the students perceive themselves as capable of regulating their cellphone use, a considerable proportion experience at least occasional difficulties disconnecting from their devices. The results may reflect the growing integration of smartphones into students' daily routines and highlight potential challenges related to self-regulation, study habits, and sleep hygiene.

Question 7. Do you believe cellphone use affects your concentration in class?

Classroom concentration is an essential factor for effective learning and academic success. To explore students' perceptions regarding the potential influence of smartphone use on attention during lessons, participants were asked whether they believe cellphone use affects their concentration in class.

Figure 7.
Perceived Impact of Cellphone Use on Classroom Concentration Among Generation Z Students



As shown in Figure 7, most students reported that cellphone use does not affect their concentration in class (n = 644, 54.1%). However, 354 students (29.7%) indicated that cellphone use does affect their concentration, while 193 students (16.2%) reported that it may have an impact.

These findings suggest that although a slight majority of students do not perceive smartphones as a factor affecting their attention during class, nearly half of the participants (45.9%) acknowledged that cellphone use may influence or directly affect their concentration. This result highlights the ongoing debate regarding the role of mobile devices in educational settings and suggests that many students recognize the potential for distraction associated with smartphone use during learning activities.

Question 8. What strategies would help students use their cellphones more responsibly in educational settings?

Open-ended responses were analyzed and grouped into thematic categories. Several recurring strategies emerged regarding how students could use their cellphones more responsibly in educational settings.

The most frequently mentioned recommendation involved increasing awareness of the negative consequences of excessive cellphone use, particularly in relation to distraction, academic performance, and time management. Participants emphasized the importance of self-discipline and personal responsibility when using mobile devices.

Another common theme was the implementation of classroom policies designed to limit cellphone use during instructional activities. Several students suggested restricting access to devices during lessons while still allowing their use for academic purposes when necessary.

Participants also highlighted the importance of promoting educational uses of smartphones, including research activities, access to learning resources, and communication related to schoolwork.

Additionally, some respondents recommended parental supervision, teacher guidance, and the development of healthy digital habits to encourage a better balance between technology use and daily responsibilities.

Overall, the responses indicate that students recognize both the benefits and potential drawbacks of smartphone use and believe that responsible cellphone use depends on a combination of self-regulation, educational guidance, and appropriate institutional policies.

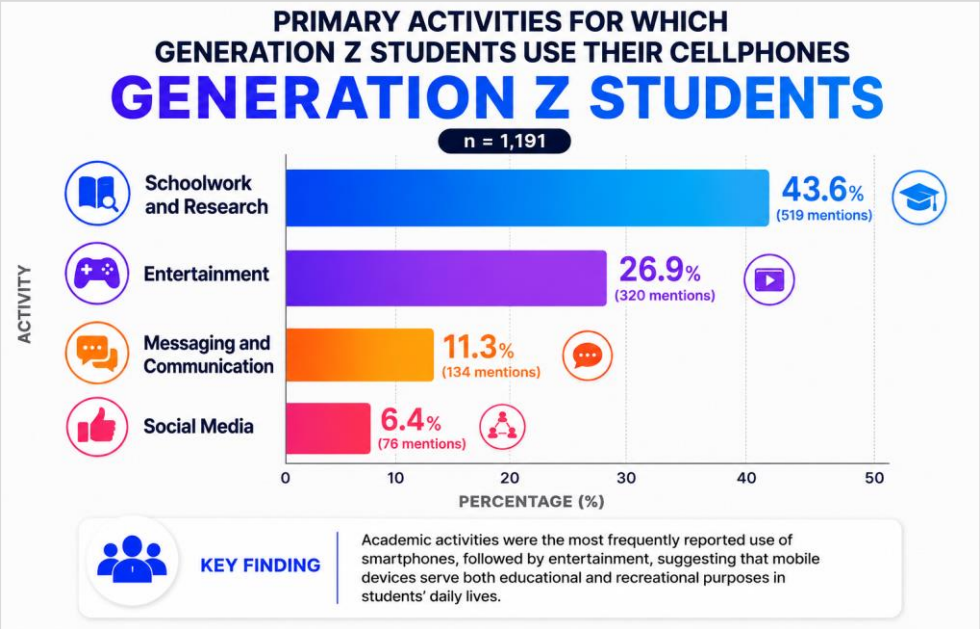
Table 1. Main Strategies Suggested for Responsible Cellphone Use in Educational Settings

Category	**Representative Idea**
Self-regulation and discipline	Use cellphones only when necessary and avoid distractions.
Awareness and education	Increase awareness of the consequences of excessive cellphone use.
Classroom policies	Limit cellphone use during instructional activities.
Educational purposes	Encourage the use of smartphones as learning tools.
Guidance and supervision	Promote support from teachers and parents.
Healthy digital habits	Foster balanced technology use and effective time management.

Question 9. What activities do you use your cellphone for most during the day?

Participants were asked to describe the activities for which they most frequently use their cellphones throughout the day. Responses were analyzed and grouped into thematic categories based on their primary purpose.

Figure 8. Primary Activities for Which Generation Z Students Use Their Cellphones



As shown in Figure 8, schoolwork and research were the most frequently reported activities (n = 519, 43.6%), followed by entertainment (n = 320, 26.9%). Messaging and communication represented 134 mentions (11.3%), while social media accounted for 76 mentions (6.4%).

These findings suggest that Generation Z students use their cellphones for a variety of purposes that extend beyond entertainment. Although recreational use remains relevant, the predominance of schoolwork and research indicates that smartphones also function as important tools for learning, information access, and academic productivity.

Question 10. Describe in three words how you feel when you cannot use your cellphone during the day.

To explore the emotional responses associated with temporary cellphone deprivation, participants were asked to describe in three words how they feel when they are unable to use their cellphones during the day. Responses were analyzed qualitatively and grouped according to recurring emotional themes.

Table 2. Main Emotional Responses Reported When Unable to Use a Cellphone

Emotional Theme	Representative Terms
Boredom	Bored, boredom
Sadness	Sad, unhappy
Anxiety and Stress	Anxious, stressed, worried
Anger and Frustration	Angry, upset, frustrated
Neutral Reactions	Normal, indifferent, nothing
Positive Feelings	Calm, relaxed, free, happy

As shown in Table 2, participants reported a wide range of emotional reactions when they were unable to use their cellphones. Many students described feelings associated with boredom, sadness, anxiety, and stress, suggesting that temporary disconnection may generate discomfort for a considerable proportion of Generation Z students. Terms such as *bored*, *sad*, *anxious*, *stressed*, and *upset* appeared frequently throughout the responses.

At the same time, a substantial number of participants described feeling normal, calm, relaxed, or even free, indicating that not all students experience negative emotions when separated from their devices. These responses suggest important individual differences in the degree of emotional attachment to mobile technology.

Overall, the findings indicate that cellphone restriction generates mixed emotional reactions among Generation Z students. While some participants associate disconnection with boredom, anxiety, or frustration, others perceive it as a neutral or even positive experience. This diversity of responses highlights the complex relationship between adolescents and mobile technology.

Question 11. What types of applications do you use most and why?

Participants were asked to identify the applications they use most frequently and explain the reasons for their use. Responses were analyzed and grouped into major categories according to the primary purpose of the applications mentioned.

Table 3. Most Frequently Used Applications and Their Main Purposes

Application Category	Examples Mentioned by Students	Primary Purpose
Social Media	Instagram, TikTok, Facebook, X	Entertainment, social interaction, content consumption
Communication	WhatsApp, Messenger, Telegram	Communication with friends and family
Educational and Information Tools	Google, ChatGPT, Google Classroom	Research, homework, academic support
Video Platforms	YouTube, Netflix	Entertainment and learning
Music Applications	Spotify	Music and relaxation

As shown in Table 3, social networking and communication applications were the most frequently mentioned by participants. Instagram, WhatsApp, and TikTok emerged as the dominant platforms, primarily because they allow students to communicate with friends and family, consume entertainment content, and remain socially connected.

Participants also reported using educational and information-related applications, including Google and ChatGPT, for activities such as completing assignments, conducting research, and obtaining academic information. In addition, video-streaming and music applications, such as YouTube and Spotify, were commonly mentioned as sources of entertainment and relaxation.

These findings suggest that Generation Z students rely on a diverse range of mobile applications that serve both academic and recreational purposes. While social interaction and entertainment remain the primary motivations for app use, educational applications also play an important role in supporting learning and information access.

Overall, the responses indicate that smartphone applications fulfill multiple functions in students' daily lives, combining communication, entertainment, and educational support within a single technological ecosystem.

Question 12. What recommendations would you give other students regarding cellphone use?

To conclude the survey, participants were asked to provide recommendations for other students regarding the responsible use of cellphones. Responses were analyzed qualitatively and grouped into thematic categories based on recurring ideas and suggestions.

Table 4. Recommendations for Responsible Cellphone Use Among Students

Recommendation Category	Representative Suggestion
Moderate Use	Limit screen time and avoid excessive cellphone use.
Educational Purposes	Use smartphones for homework, research, and learning activities.
Avoid Classroom Distractions	Refrain from using cellphones during lessons unless necessary.
Time Management	Establish schedules and balance cellphone use with other responsibilities.
Healthy Habits	Participate in outdoor activities and reduce dependency on devices.
Responsible Use	Use technology safely, responsibly, and productively.

As shown in Table 4, the most common recommendation involved promoting moderate and balanced cellphone use. Many participants emphasized the importance of limiting screen time, avoiding excessive use, and developing healthier habits when interacting with mobile devices.

Another frequently reported theme focused on using cellphones for productive and educational purposes. Students encouraged their peers to take advantage of smartphones for homework, research, and learning activities rather than relying exclusively on them for entertainment.

Participants also highlighted the importance of avoiding cellphone use during classes, improving time management, engaging in outdoor activities, and maintaining face-to-face social interactions. Several responses emphasized the need to reduce dependence on mobile devices and to prioritize academic responsibilities and personal well-being.

Overall, the recommendations suggest that Generation Z students are aware of both the benefits and potential risks associated with cellphone use. Their responses reflect a preference for balanced technology use that combines educational benefits with healthy digital habits and responsible self-regulation.

DISCUSSION

The results of this study confirm that cellphones play a central role in the daily lives of Generation Z students. The high percentage of participants who own a smartphone and use it daily for several hours reflects the extent to which mobile technology has become integrated into their academic, social, and recreational activities. These findings are consistent with Rosenberg et al. (2025), who describe Generation Z as a generation of digital natives whose daily interactions are strongly connected to mobile

technologies. Similarly, Buzzetto-Hollywood and Quinn (2024) argue that technology has become an essential component of this generation's lifestyle, influencing how they communicate, access information, and learn.

One of the most interesting findings of this study is that smartphone use was not limited to entertainment. In fact, academic activities such as homework, research, and information searching were the most frequently reported uses of cellphones among participants. This finding is particularly relevant because it challenges the common assumption that adolescents use smartphones primarily for leisure purposes. Instead, the results suggest that students recognize the educational value of these devices and regularly incorporate them into their learning activities. This observation is consistent with OECD (2024), which highlights the potential of digital technologies to support learning when used appropriately. Likewise, García (2021) and Martínez (2023) emphasize that smartphones can facilitate access to information, strengthen digital competencies, and support independent learning processes.

These findings reinforce the idea that the educational impact of smartphones depends largely on how they are used. Mobile devices can provide immediate access to information, educational resources, and communication tools that support academic work. However, their benefits are more likely to emerge when their use is connected to specific learning objectives rather than exclusively recreational purposes. In this regard, Amez and Baert (2020) concluded that the relationship between smartphone use and academic performance is not necessarily negative; instead, outcomes vary according to the frequency, purpose, and context in which these devices are used.

At the same time, the results reveal challenges that should not be overlooked. Although most participants reported that they do not use their cellphones continuously during class, a considerable proportion acknowledged doing so occasionally. Furthermore, nearly half of the students indicated that they experience some degree of difficulty putting their phones aside when they need to study or sleep. These findings suggest that, despite recognizing the benefits of mobile technology, many students struggle with self-regulation. Similar concerns have been reported by Giansanti (2025), who identified problematic smartphone use as a growing issue among adolescents and young adults. Likewise, Wacks and Weinstein (2021) found that excessive smartphone use may be associated with behavioral difficulties and reduced well-being.

The results related to concentration and academic performance also deserve attention. Although many students reported that smartphone use does not affect their academic performance, a substantial proportion acknowledged that it may influence both their grades and their ability to concentrate in class. This finding suggests that students are aware of the potential consequences of excessive or inappropriate cellphone use. Tang et al. (2025) reported that intensive cellphone use can affect academic, psychological, and socio-psychological functioning, particularly when it interferes with learning activities. Similarly, López et al. (2023) found that excessive social media use may displace study time and negatively affect academic performance among adolescents.

Another relevant finding is that students themselves appear to be aware of the need for responsible technology use. The recommendations provided by participants consistently emphasized moderation, self-discipline, and the importance of establishing limits to prevent smartphones from interfering with academic responsibilities, sleep, and personal relationships. These responses suggest that students do not reject technology; rather, they recognize the importance of using it in a balanced way. This perspective is consistent with recent findings from the Pew Research Center (2025), which indicate that many adolescents acknowledge spending too much time online and actively seek strategies to better regulate their digital habits. Similarly, WHO Europe (2024) has emphasized the importance of promoting healthy digital behaviors as part of broader efforts to support adolescent well-being.

Perhaps the most important contribution of this study is that it does not support an entirely positive or entirely negative view of smartphone use. Students clearly recognized both the benefits and the drawbacks associated with these devices. Smartphones were viewed as useful tools for learning, communication, and information access, but also as potential sources of distraction, dependency, and time mismanagement. This balanced perception is consistent with recent research suggesting that young people are increasingly aware of both the opportunities and challenges associated with digital technologies (Gath et al., 2024; Buzzetto-Hollywood & Quinn, 2024).

Overall, the findings suggest that the question is not whether smartphones are inherently beneficial or harmful for Generation Z students. Rather, the key issue appears to be how these devices are used and the extent to which students are able to regulate their use. In this sense, smartphones can function as either a friend or a foe depending on the habits, purposes, and behaviors associated with their use.

Consequently, educational institutions should move beyond debates focused solely on restricting cellphone use and instead promote digital literacy, responsible technology use, and self-regulation skills that help students maximize the educational benefits of smartphones while minimizing their potential negative effects.

CONCLUSIONS

The findings of this study confirm that smartphones have become an integral part of the daily lives of Generation Z students. More than 90% of participants reported owning a cellphone and using it regularly, demonstrating the extent to which mobile technology has become embedded in their academic, social, and personal environments.

One of the most significant findings is that smartphones are not used exclusively for entertainment. Most students reported using their devices for homework, research, and other academic activities, highlighting the important role that smartphones can play as educational tools. This finding suggests that mobile devices have the potential to support learning, facilitate access to information, and promote the development of digital skills when used appropriately.

At the same time, the results reveal important challenges. A considerable proportion of students reported using their phones during class, experiencing difficulties putting them aside when studying or sleeping, or recognizing that smartphone use may affect their concentration and academic performance. These findings indicate that, despite their educational benefits, smartphones can also become sources of distraction when their use is not adequately regulated.

An important contribution of this study is that students themselves demonstrated a balanced understanding of the issue. Rather than viewing smartphones as entirely positive or negative, they recognized both the benefits and the risks associated with their use. Their recommendations consistently emphasized moderation, self-discipline, and the importance of establishing limits to prevent excessive use from interfering with academic responsibilities, sleep, and personal relationships. Contrary to common stereotypes, the participants did not demonstrate an uncritical acceptance of smartphone use. Instead, they showed a relatively sophisticated understanding of both the opportunities and challenges associated with mobile technologies.

Another noteworthy finding is that awareness alone does not appear to guarantee healthy technology use. Many participants demonstrated a clear understanding of the potential risks associated with excessive smartphone use and even recommended strategies such as moderation, self-discipline, and time limits. However, a substantial proportion also acknowledged difficulties disconnecting from their devices when studying or sleeping. This suggests that the challenge may not be a lack of knowledge about responsible technology use, but rather the development of self-regulation skills that allow students to translate that knowledge into everyday behavior. Future educational initiatives should therefore focus not only on digital awareness but also on strengthening students' capacity for self-management in increasingly connected environments.

The findings also suggest that smartphones are no longer external to the educational process. For many students, mobile devices have become part of the infrastructure through which learning, information seeking, academic communication, and school-related activities take place. This reality presents both opportunities and challenges for educational institutions, which must increasingly address smartphone use as part of the learning environment rather than as a separate issue.

Overall, the findings suggest that the debate surrounding smartphone use in education may be overly polarized. Rather than supporting exclusively positive or negative positions, students' responses indicate that the educational impact of smartphones depends on the context, purpose, and patterns of use. This reinforces the need to move beyond simplistic discussions centered on prohibition versus unrestricted access.

Therefore, the challenge for educational institutions is not limited to restricting cellphone use. Instead, schools should promote digital literacy, responsible technology use, critical decision-making, and self-regulation skills that help students take advantage of the educational benefits of smartphones while minimizing their potential negative effects. Preparing students to use technology responsibly may ultimately be more effective than simply attempting to keep technology out of the classroom. In this sense, smartphones should not be viewed simply as either a friend or a foe for Generation Z students. Rather, their role depends on how they are used and on the ability of students, families, and educational institutions to foster healthy, balanced, and purposeful digital habits.

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