Me and my smartphone. Motivations for using it among young Chileans. A study over time

Mi smartphone y yo. Las motivaciones para usarlo entre jóvenes chilenos. Un estudio a través del tiempo

Leiva Soto, R. A., Benavides Almarza, C. F. & Riveros Martínez, A.

Ricardo Alberto Leiva Soto. Universidad de los Andes (Chile)
Phd in Communication from the University of Navarra, Master in Professional Journalism from the Complutense University of Madrid. Professor and researcher at the Faculty of Communication of the Universidad de los Andes. Director of the Corporate Communication Diploma and Director of Continuing Education of the Faculty of Communication.
https://orcid.org/0000-0003-1388-9120, rleiva@uandes.cl

Cristóbal Fernando Benavides Almarza. Universidad de los Andes (Chile)
Phd in Communication from the University of Navarra. Associate Professor and Dean of the Faculty of Communication at the Universidad de los Andes. He is a member of the Editorial Board of the International Journal of Hispanic Media and the International Journal of Media Management. Since 2021 he is a Member of the Scientific Committee of the International Media Management Academy Association (IMMA). His research focuses on Media Management, Innovation, Engagement and Leadership.
https://orcid.org/0000-0001-5573-6785, cbenavides@uandes.cl

Alejandra Riveros Martínez. Universidad Central de Chile (Chile)
Master in University Teaching and Doctoral Student in Communication. Director of the Advertising degree at the Universidad Central de Chile. Guide professor for both undergraduate and graduate degree projects. Her research focuses on communication and gender issues. She is the manager and executor of projects linking with the environment in terms of communications, with emphasis on young people, women and the elderly.
https://orcid.org/0000-0001-6853-3223, ariverosm@ucentral.cl

Received: 05-09-2023 – Accepted: 21-12-2023
https://doi.org/10.26441/RC23.1-2024-3334

ABSTRACT: The objective of our research is to measure how uses and motivations to use smartphones by young Chilean populations have changed through time and how these motivations to engage with smartphones affect the time spent texting on these portable devices. We replicated a face-to-face survey between Chilean *millennials* and *centennials*, firstly conducted in 2009 (n= 1,320), repeated in 2015 (n= 744), and conducted again in 2021 (*n*= 846). This last wave was conducted between July and November to subjects aged 18-25 living in Chile. The questionnaire included 44 questions based on scales previously validated in studies relating the Uses and Gratifications Theory with mobile phones, attitudes towards technology, and evaluations of users about mobile phones' attributes defined by Albarran (2009). There were also variables related to demographic data (i.e., area of residence) and gender, which respondents declared. Most motivations to use smartphones measured in our survey of 2021 were the same as we measured in 2015 and 2009, but others are new. To measure how the appeal of motivations changed over time, we conducted a comparison of means. We also ran an exploratory factor analysis to aggregate motivations and regression analyses to quantify how motivations affected youths' texting time.

Keywords: centennials; millennials; smartphones; social media; Uses & Gratifications theory.

RESUMEN: El objetivo de nuestra investigación es medir cómo los usos y motivaciones para usar teléfonos inteligentes por parte de la joven población chilena han cambiado a través del tiempo y cómo estas motivaciones para comprometerse con los teléfonos inteligentes afectan el tiempo dedicado a

enviar mensajes de texto en estos dispositivos portátiles. Replicamos una encuesta cara a cara entre *millennials* y *centennials* chilenos, realizada por primera vez en 2009 (*n*= 1.320), repetida en 2015 (*n*= 744) y realizada nuevamente en 2021 (*n*= 846). Esta última ola se realizó entre julio y noviembre a sujetos de entre 18 y 25 años residentes en Chile. El cuestionario incluyó 44 preguntas basadas en escalas previamente validadas en estudios que relacionan la Teoría de Usos y Gratificaciones con los teléfonos móviles, actitudes hacia la tecnología y evaluaciones de los usuarios sobre los atributos de los teléfonos móviles definidas por Albarran (2009). También se incluyeron variables relacionadas con datos demográficos (por ejemplo, zona de residencia) y de género, que los encuestados declararon. La mayoría de las motivaciones para utilizar teléfonos inteligentes medidas en nuestra encuesta de 2021 fueron las mismas que medimos en 2015 y 2009, pero otras son nuevas. Para medir cómo ha cambiado el atractivo de las motivaciones a lo largo del tiempo, realizamos una comparación de medias. También realizamos un análisis factorial exploratorio para agregar motivaciones y análisis de regresión para cuantificar cómo las motivaciones afectaban el tiempo que los jóvenes dedicaban a enviar mensajes de texto.

Palabras clave: centennials; millennials; smartphones; redes sociales; teoría de Usos y Gratificaciones.

1. Introduction

The primary objective of this research is to measure how uses and motivations to use smartphones by young Chilean generations have changed through time. To comply with this goal, in 2021, we replicated a survey of Chilean millennials and centennials conducted in 2009 and repeated in 2015. According to the Pew Research Center, anyone born between 1981 and 1996 is considered a millennial, and anyone born after 1996 is a centennial (Dimock, 2019).

Smartphones are the high-end portable devices, a mix of computers and mobile phones (Amez & Baert, 2020), that can be considered "the most radiative domestic appliance ever invented" (Y.-F. Chen & Katz, 2009, p. 179). They have become the younger generation's favorite device (Deloitte, 2016).

Many global reports have demonstrated that, for younger populations, the mobile phone has become the almost exclusive way to interact, communicate and connect with the outside environment, as they are abandoning other less convenient digital tools, such as desktop computers (Vega, 2022). For instance, smartphone ownership has doubled among high-school adolescents in the United States in the last six years, becoming an almost universal digital partner to this age segment (Rideout & Robb, 2018).

Mobile phones have changed how young people live, communicate, shop, date, study, learn, get news and information, listen to music, share photos, and watch videos. All these social, commercial and educational uses and reasons to use mobile phones lead young people to constantly touch and see these devices repeatedly, several times every day (Rideout & Robb, 2018). Mobile phones will also be the only way to pay for everything, as more and more consumers want to pay always through them (Enberg, 2019).

The young preference for mobile phones at the time of interconnecting with others is especially challenging to older cohorts as generational gaps arise. For the younger age groups, face-to-face interpersonal communication loses its lustre with texting, video-chatting, and social media like Instagram and Snapchat (Rideout & Saphir, 2018). For younger generations, social media and mobile phones are the preferred (and almost exclusive) way to stay updated on news and current events. Millennials and centennials highly trust social media when consuming news: the reliance on social networks for information among centennials fluctuates between 30% for Instagram and 49% for YouTube; in the case of millennials, it ranks between 24% for Instagram and 37% for YouTube. They are moderate/high levels of trust and show a crucial gap between generations when connecting, observing, and interpreting the outside environment (Liveclicker, 2022). For older ages, the traditional media, such as network and cable TV news, are still the preferred way to be updated (Deloitte, 2021).

2. Theoretical Background

2.1. Youths' Uses of Smartphones

Young people have always shown a closer link to the Internet and mobile technologies. For instance, text messaging by mobile phones became very popular at the onset of the new millennium (Haste, 2005). A little later, in the first 2010s, manufacturers began to incorporate front and rear cameras in their mobiles to satisfy the demand for video recording and photos, including selfies. Thus, cellphones transmuted from being devices to comply with security and business functions to meet social and aesthetic needs, especially among the younger users (Ramirez-Correa et al., 2020).

Already in 2010, Kohut et al. (2010) found that millennials outperformed previous generations in virtually all uses of the Internet and mobile phones. According to these authors, young people prefer functions and applications to catch and interchange images, photographs, and audiovisual content through mass social interactions (Thulin, 2018). Canavilhas et al. (2020) recorded more than 300,000 social interactions and concluded that users mostly use smartphones to check on social network apps, as cell phones are no longer used to talk but to text, play and watch. The former mentioned is consistent with the study conducted by Bury (2017), which showed that many young people consume TV on their smartphones.

Not all younger users feel the same intensive connection with their smartphones and use them for the same reasons. According to Bettina & Hedvig (2019), there are significant differences in socioeconomic segments, age and gender. A recent Gallup survey confirmed this. The percentage of young Americans who say they use their smartphones "too much" has sharply risen in recent years, with women showing slightly more concern: 81% of Americans ages 18-29 years say they use their phones too long, being the generation with the most intensive use of smartphones in America. Older generations seem less concerned: 47% of the US population between 50 and 64 believe they use their smartphones too much. Only 30% of people over 65 share this belief (Saad, 2022).

Scholars have researched the influence of smartphones on a broad set of social, mental, emotional and health factors. For instance, they have analyzed the association of smartphones with academic performance (Amez & Baert, 2020; Baert et al., 2019; Glass & Kang, 2019), and have related academic stress with smartphone addiction (Shen et al., 2021; Xu et al., 2019), finding that "depression played a significant role in the relationship between academic stress and smartphone addiction" (Shen et al., 2021, p. 733). Some scholars have also established that the higher the use of smartphones for news and information, the more the levels of political participation. However, this relation is moderated by individual's level of education (Kim et al., 2016). They have also tried to measure or relate the use of smartphones with sleep alterations (Carter et al., 2016); anxiety, loneliness, depression (Boumosleh & Jaalouk, 2017); satisfaction with life (Samaha & Hawi, 2016); social relationships (Chen & Peng, 2008); substance addictions (Ho et al., 2014); and attention deficit and hyperactivity disorder (Ho et al., 2014).

Smartphones can engage people through the applications people download and use, and the exposure to content people get through the Internet, social media, WhatsApp, etc. This engagement/use can be productive or unproductive, positive or negative to themselves. For instance, quality content can enhance social and language skills, whilst inappropriate content can have the opposite effect, as learning with mobile phones can be positive or negative (Ponti et al., 2017). According to Griffith et al. (2020), educational apps can have a productive learning effect on young children, whilst other scholars have established a negative association between smartphones and academic performance (Amez & Baert, 2020; R. S. Chen & Ji, 2015; Lepp et al., 2014; Li et al., 2015; Olufadi, 2015; Wentworth & Middleton, 2014).

A negative effect on mental health is another problem commonly mentioned (Veissière & Stendel, 2018). King & Dong (2017) concluded that excessive use of mobile phones could be related to psychological, behavioural and performance problems, having a substantial impact on addiction to them.

Among the most quoted risks when studying smartphones' impact on youths are cyberbullying, risky contact with strangers, sexual messaging (sexting) and pornography (Livingstone & Smith, 2014). These are periodically the subject of considerable public concern among parents, educators, and clinicians.

Children and teenagers can also be affected by smartphones as these devices monopolize children's time displacing other positive activities they need to do to reach a healthy social and emotional balance, such as quality face-to-face interactions with parents (Ponti et al., 2017). Stevic et. al (2021) found conflicting outcomes in this regard, as the face-to-face communication could be strengthened or deteriorated by the specific smartphone' use. "Given that smartphones can be used anytime and anywhere, such a displacing effect of interpersonal communication with close ties could even amplify" (Stevic et al., 2021, p. 793). According to Pedersen et al. (2022), limiting screen time could have a positive effect on health and physical activity.

Another problem commonly associated with digital media and smartphones is the increased odds of suffering attention-deficit/hyperactivity disorder (ADHD). Frequent distractions could disrupt the normative development of sustained attention and organization skills. Ra et al. (2018) concluded that smartphones and other digital media devices had an incomparable potential to engage users excessively due to their higher operating speed, high level of stimulation, and potential for high-frequency exposure: "Modern media devices immediately notify users when new text messages, social media postings, or videogame play invitations arrive. Exposure to such notifications may draw attention away from focal tasks. Additionally, modern media platforms provide instantaneous access to highly stimulating experiences and rapid feedback in response to user input" (Ra et al., 2018, p. 261).

Some authors have highlighted the association of smartphones with youth's mental disorders, saying that since the irruption of these portable devices, different social, emotional, and health problems among the younger populations have exploded (Twenge, Joiner, et al., 2018). Depressive symptoms, suiciderelated outcomes, and suicide deaths among adolescents have consistently risen since smartphones flooded global markets in the 2010s (Twenge, Joiner, et al., 2018; Twenge, Martin, et al., 2018).

The Covid-19 pandemic appeared accentuating all these problems, as rates of anxiety and depression between children and adolescents have doubled during the pandemic: depression affected 1 out of 4 children and youth, and problematic anxiety to 1 in 5. "A comparison of these findings to pre-pandemic estimates (12.9% for depression and 11.6% for anxiety) suggests that youth mental health difficulties during the COVID-19 pandemic has likely doubled", wrote Racine et. al (2021, p. 1148). They added: "The COVID-19 pandemic, and its associated restrictions and consequences, appear to have taken a considerable toll on youth and their psychological well-being. Loss of peer interactions, social isolation, and reduced contact with buffering supports (e.g., teachers, coaches) may have precipitated these increases" (p. 1148).

Depression and, less commonly, anxiety can lead to suicidal symptoms: In 2019, almost 25% of girls and more than 10% of boys seriously considered suicide (Gleason & Thompson, 2022). Based on this data, some authors and institutions have remarked that American children and tweens face mental-health crises (Tingley, 2022).

Some authors say smartphones and social media are unfairly blamed for negatively affecting people when individuals with distinctive characteristics tend to use digital devices properly or unproperly. For instance, it could be unfair to say that smartphones displace face-to-face

communication with friends and relatives. For Valkenburg et al. (2021), it is incorrect to blame social media for leading people to negative feelings. They confirmed that social media can lead to positive, negative, or no effects among individuals, depending on various dispositional, developmental, social, and situational antecedents, mediators, and moderators. Consequently, it would rely more on the specific person and not on the kind of device or app, what feeling is produced by the exposure to interactive content. Some authors say that "engaging in various forms of social media is a routine activity that research has shown to benefit children and adolescents by enhancing communication, social connection, and even technical skills" (O'Keeffe et al., 2011, p. 800).

2.2. Uses and Gratifications Theory

What motivates young people to access multimedia services through their smartphones? The uses and gratifications theory (UGT) developed by Katz and Blumler (1973) can help us address this question. UGT focuses on identifying audiences' needs and the relationship between a person's selection of a specific medium and the gratification she obtains in engaging its content.

There are five central assumptions undergirding the UGT: a) audiences are active rather than passive; b) the choice of using a particular medium to meet certain gratifications depends on each user's willingness to engage it; c) competing media exist; d) the audience can explain its decisions; e) and value judgments are avoided when the research is conducted (Ruggiero, 2000). Although the theory has been widely applied in the media management and economics literature (Albarran, 2006), the rapid development of the Internet and new information and communication technologies has encouraged UGT's broader application. For instance, Ruggiero (2000) asserts that the increased presence and influence of computer-mediated communication has revived UGT's significance. Similarly, Sundar and Limperos (2013) propose that as media technologies become more and more affordable, new user needs emerge, "giving rise to new and distinctive gratifications" that should be studied (p. 504).

Not surprisingly, research on social media has applied the uses and gratifications theory. For instance, Dunne, Lawlor and Rowley (2010) used UGT to explore how young people use social networking sites to manage their identities. Korhan and Ersoy (2016) investigated social networking site applications and what factors make them particularly appealing to users. For their part, Ha, Kim, Libaque-Saenz, Chang and Park (2015) concluded that the "mobile convenience variable" triggers cognitive gratifications by enabling users to gain information quickly and easily, thereby increasing interactive gratification by facilitating user communication with acquaintances. Other authors, such as Chan-Olmsted, Lee and Kim (2011), have determined that portability, convenience, and customization are the most salient gratifications *millennials* identify while using their smartphones.

Leung and Wei (2000) employed UGT to compare mobile phones with landlines and found some gender differences, as men tended to use their mobile phones more for professional purposes while women engaged in more social uses, with longer calls. Leung and Wei (2000) also confirmed that people communicated through their mobile phones in search of four significant perks: mobility, immediacy, instrumentality (instrument or a means to an end), and sociability. Ten years later, Hostut (2010) conducted a similar study, concluding that mobile users had four different primary motivations: sociability, relaxation, social status and being fashionable. "Being aware of things" was a critical drive to download applications for accessing to sources of information according to Logan (2017). In a more market-oriented study, van Weezel and Benavides (2009) explored the uses and preferences of 18-25 mobile phone users in Santiago, Chile, to yield three consumer archetypes: *traditional*, *musical*, and *heavy user*. Mobile phones allowed *traditional* youths to talk privately and escape parental control, *musical*s related to value listening to music downloaded, and *heavy users* were technology experts who required advanced phone features, such as Internet access, email accounts and various apps and functions.

A study of American *millennials* by Ezumah (2013) showed similar results. College students used the new media platforms and devices to keep in touch with friends (98.9%), share photos (81.7%), stay in touch with family (79.3%), and other spending-time reasons (70.9%). Facebook emerged as the students' preferred short message network (SMS), followed by Twitter. As predicted by UGT, motives for using Facebook were found to be important factors in relation to dependency. The UGT was also applied to Facebook's users by Ferris and Hollenbaugh (2018), who found that motivations and individual psychological characteristics played direct and indirect relationships of social media's dependency. For instance, people with lower self-esteem and social cohesion were more dependent upon Facebook.

Saeed and Hassan (2020) examined smartphone-related publications with the UGT between 2016 and 2019. After analyzing 25 papers, they found that most studies focused on two areas: those exploring the full use of the phone and its applications and concentrating on specific health, fitness or dating applications.

Su and Chen (2020) explored smartphones' gratifications considering them as multitasking medium and audiovisual consumption tools. Gentina and Rowe (2020) studied two groups of gratifications obtained from smartphone use in adolescents: the social one, which focuses on relationship building, and the one that focuses on the enjoyment of using it. In both cases, if people do not manage the time spent on the device correctly, overuse could relate to dependency. To this end, they recommended "increasing outdoor activities that divert attention away from the use of the phone while performing such actions" (p. 10).

The UGT has received some criticism in the past. According to Shade, Kornfield and Oliver (2015), one of its significant flaws is that it relies on self-reports, assuming that audiences are active rather than passive actors. However, the self-report research methodology has been broadly validated (Bourque & Fielder, 1995; Churchill Jr et al., 1985; Román & Iacobucci, 2010). Self-reporting is a very practical and convenient research method commonly applied in the social sciences (Bourque & Fielder, 1995; del Valle & Zamora, 2021). There are a lot of benefits using self-reporting in the social sciences field, being the greatest the lowest cost compared with other methods. Besides a lower cost, self-reporting presents advantages regarding sampling (extending the geographic coverage and getting larger samples), implementation (self-administered questionnaires are much easier to implement than other kinds of surveys), timing (all members of the sample can receive the questionnaire simultaneously) and dealing with sensitive topics (people can be more likely to give complete and truthful information about sensitive topics in a self-administered questionnaire). Self-report also has disadvantages: response rates are often low; and researchers must rely on the visual acuity and literacy level of potential respondents (Bourque & Fielder, 1995).

Sundar and Limperos (2013) criticized the UGT for identifying users' general motivations to use technologies, not specific ones. In this regard, we should note that this study identifies and assesses specific uses and motivations declared by Chilean *millennials* who actively use their smartphones.

3. Method

The main objective of this study is to compare how young Chileans use and how their motivations to use smartphones have changed over time. To comply with this goal, we replicated a face-to-face survey between Chilean millennials and centennials, firstly conducted in 2009 (n= 1,320), repeated in 2015 (n= 744), and ran again in 2021 (n= 846). This last wave was conducted between July and November to subjects aged 18-25 living in Chile. Although the number of subjects in the sample varied from year to year, survey's representativeness was accomplished. According to data coming from the National Institute of Statistics (2023), there are 1.8 million people between 18-24 years old living in Chile. Of these, 42% are living in Chile's capital,

Santiago, rounding 800,000. For this reason, most universities and colleges, and other tertiary educational institutions are in Santiago, as the capital receive these students coming from all the country. Thus, Santiago is the ideal location to conduct research focused on Chilean young populations. Considering a margin of error of 4% with a confidence level of 97%, the required sample size is 736, and this number was the goal reached every year of our research.

Three independent pollsters conducted the face-to-face survey. They were undergraduate and PhD students at a private university in Santiago, Chile. The authors gave precise instructions on how to run the study based on a survey protocol. Researchers trained pollsters about the protocol in two-hour sessions to guarantee unbiased responses. The survey was previously tested with 30 undergraduate students, who made some comments and suggestions to improve the questionnaire.

One possible explanation for the observed difference in the response rate between men and women could be explained by the subject matter of the study, as some authors have established that there are gender-sensitive's surveys (Wu, Zhao & Fils-Aime, 2022). More research is needed in this regard.

The sample was weighted by socioeconomic groups to represent the diverse socioeconomic reality of the Chilean population. Respondents were grouped into three major socioeconomic segments: High Group, commonly known as ABC1—10% of the Chilean population; Medium Group—adding C2 and C3, representing almost 40% of the Chilean population; and Low Group—D and E, capturing the rest of the Chilean population (Corpa, 2007; Corpa Estudios de Mercado & Asociación de Investigadores de Mercado, 2018).

Measures

The questionnaire included 44 questions based on scales previously validated in studies relating the UGT with mobile phones and attitudes towards technology, including items such as mobile services access, ways to pay for mobile services, patterns of communication with friends and family, uses of multimedia technology with mobile phones, the importance of mobile phones in daily life, and users' perceptions of mobile phones' attributes (Albarran, 2009).

We asked young people what their most appealing drivers were to keep themselves engaged with their smartphones, using a 4-point Likert type scale ranging from "very important" (1) to "very unimportant" (4). There were also control variables related to demographic data.

Independent variables

An exploratory factor analysis was conducted to aggregate motivations to use and uses of smartphone between youths. Following validated criteria recommended by Hair, Bush, & Ortinau (2000), five principal components were extracted. We labelled the first factor "binge-watching" for motivations primarily associated with checking on YouTube and other popular streaming services such as Netflix, Apple+, Amazon Prime Video, etc. The second factor was coined as "clubby", for friendly and pleasant activities. This factor reduced variables regarding smartphone use to check on Instagram or Tik-Tok, share videos and photos, and spend leisure time. The third condensed group was called "organized", summarizing variables such as using the smartphone to plan, check the personal schedule, and achieve safer financial issues. The fourth factor was named "connected", grouping activities linked to checking email regularly, surfing the Internet browser, and keeping in touch with family and friends. The last group of variables was coined "musical" for activities like listening to music and getting Spotify access.

Those 5 groups of motivations were the independent variables of the first regression model.

Control variables

For the second regression model, we introduced the five summarized dimensions as independent variables, plus three control variables, i.e. age, gender and socioeconomic level. Respondents were grouped into three major socioeconomic segments: High Group, commonly known as ABC1—10% of the Chilean population; Medium Group—adding C2 and C3, representing almost 40% of the Chilean population; and Low Group—D and E, capturing the rest of the Chilean population (Corpa, 2007; Corpa Estudios de Mercado & Asociación de Investigadores de Mercado, 2018).

Dependent variable

The time spent texting (measured by daily minutes declared by participants texting on the smartphones) was the dependent variable following criteria validated by some scholars (Leiva et al., 2017).

As additional analysis, we conducted a comparison of means to measure how the importance of these motivations changed over time. Firstly, we averaged the responses given by respondents in 2009 and 2021 at the time of evaluating the importance they gave to the use of different apps and functions incorporated into their smartphones—being 1= very important, 2= important, 3= unimportant, and 4= highly unimportant.

4. Results

4.1. Descriptive Data

We can observe the evolution of different apps used by young Chilean mobile owners in table 1. These applications are commonly downloaded on portable devices and regularly used until some of them reach a technological natural death. As we can observe, the popularity of most digital applications fluctuates significantly, as some disappear over time. For instance, Facebook was not a popular app in 2009 but was very cool in 2015 (92% of young Chilean respondents had this digital outlet then). Nowadays, Facebook has lost some appeal—only 58% of subjects downloaded this app in 2021—as Facebook has been partly replaced by other emergent and cooler digital killing-times, such as WhatsApp (full penetration in the young Chilean group), Instagram (98% of penetration), Spotify (86%), Tik-Tok (67%) and streaming channels, as Netflix (62%). It is interesting to note how the habit of listening music with portable devices has quickly changed over time. Some years ago, people used to "store" and "download" music into their phones, and, for this reason, young people used to associate smartphones with Ipods and CD players. However, with streaming apps as IMusic or Spotify, youths do not need to gather songs into their devices but rather listening online music through cloud computing service providers. Also, with the irruption of teleworking and online education, Zoom has also taken a significant place on the mobile phones of young people: 50% of subjects have downloaded this application. Another surprising finding is the reduction of digital gaming. This decrease could be based on that people spending a significant amount of time on this activity do it now with consoles as Nintendo or Xbox, but more research is needed to try to explain the causes of this significant change.

Table 1. Applications Downloaded and Saved in Mobile Phones

Percentage of young Chilean respondents saying they have these apps in their mobile phones			
Feature / App	**2009**	**2015**	**2021**
SMS/Instant message	99%	97%	28%
Photo	69%	99%	93%
Video	59%	97%	100%
Internet	71%	99%	94%
MP3	60%	88%	
Calendar	94%	97%	71%
Clock	99%	99%	94%
Games	90%	79%	43%
Email	40%	97%	91%
Notes	75%	89%	70%
GPS	17%	95%	
Facebook		92%	58%
Twitter		54%	46%
YouTube		88%	86%
WhatsApp			99%
Instagram			98%
Spotify			86%
TikTok			67%
Netflix			62%
Disney+			27%
Amazon Prime			23%
HBO			14%
Zoom			50%
Telegram			19%
LinkedIn			21%

Source: own elaboration.

Table 2 details how young Chileans have been significantly talking less on the phone over the years. In 2009, half of those surveyed acknowledged talking on the phone for more than 1 hour. In 2021, only 11% of respondents spoke on the phone for more than 1 hour. A dramatic change can be observed in this regard: young people now use their mobile phones more frequently to communicate with others through instant texting and voice messages, sharing messages on social media, and sending and receiving photos, videos, reels, memes, gifs, and emojis.

In 2015, male users reported talking on their smartphones for an average of 12 minutes daily, while female users averaged 15 minutes daily. In 2021, male users talked by smartphone for 26 minutes per day, and female users, for 21 minutes. We can assume that this moderate increase can be attributed partly to Covid-19, as people needed to communicate more with others than before because of continuous quarantines, curfews, and restrictions to travel and mobilization.

Table 2. Reported amount of time talking on the phone

Amount of time	2009	2015	2021
Less than 1 hour	50.2%	97.6%	89%
Between 1 and 2 hours	22.7%	2.4%	5.4%
Between 2 and 3 hours	13.3%	0%	3.1%
Between 3 and 4 hours	5.6%	0%	1.2%
More than 4 hours	8.2%	0%	1.3%
All the differences among 2009 and 2015 are significant: p<0.05			

Source: own elaboration.

Table 3 reports how much time young Chileans text and some significant differences by gender arise: while young male Chileans text daily for a couple of hours, maintaining this average over time, female participants exhibited a slight decrease between 2021 and 2015, probably because of the Covid-19 changed habits (Sañudo et al., 2020). Some reports have shown that the time checking on social media decreased during the pandemic years. For instance, the Statista Digital Economy Compass report (Statista, 2021) concluded that the global average time spent on social media by internet users decreased in 2021 to 142 minutes per day, from 145 minutes per day reported in 2020 and 2019. It was the first time-decrease since 2012, when people used to spend 90 minutes per day checking on social media. The time-decrease observed in our survey in this regard seems to be coherent with those measures.

Anyway, young people spend a considerable amount of time texting on the phone, which is commonly shared with other activities, such as watching TV, driving, commuting, studying, eating, and different varied ways of multitasking: men spend around 2 hours texting on the phone daily according to our survey, and women almost 3. It is a highly significant gap between both genders—the t-test assuming equal variances has a p=.00. However, the gap of means of the amount of time spent by men and women is reduced to less than an hour compared to the previous study. This can partly be explained by the increase in voice messaging among young people today.

Table 3. Reported amount of time texting on the phone

		2015				2021			
Country	Gender	N	Mean	Std. Deviation	Std. Error Mean	N	Mean	Std. Deviation	Std. Error Mean
Chile	Male	332	121,34	126,24	6,93	272	122,97	124,86	7,57
	Female	412	183,87	198,73	9,79	550	168,11	269,67	11,49

Source: own elaboration.

Table 4 illustrates young people's different motivations for using their smartphones. Motivations such as checking on Instagram, keeping in touch with family and friends, and sharing videos and photos were relevant for almost 100% of the young Chileans. Other drivers such as listening to music and getting Spotify access were "critical" at the time of using their smartphones for 94% of young Chileans. And getting Internet access, catching up with the news, and checking on new emails were fundamental for near 90% of young Chileans.

Table 4. Functions and motivations to use smartphones by young Chileans in 2021 (% of respondents)

Motivation	Very unimportant	Unimportant	Important	Very Important
For checking Instagram	0.5	0.1	2.7	96.7
For keeping in touch with family and friends	0.0	0.0	3.5	96.5
For sharing my videos and photos	0.0	1.0	4.4	94.5
For listening to music	0.1	0.5	5.5	94.0
To get Spotify access	1.3	1.2	3.6	93.8
For getting Internet access	0.0	0.2	8.2	91.5
For getting news and information	0.6	1.7	13.0	84.8
For checking new emails	0.2	1.2	13.9	84.6
For checking Tik-Tok	8.2	2.8	5.0	83.9
For watching YouTube	3.1	4.1	16.2	76.5
For spending leisure time	0.2	3.1	22.8	73.8
For checking Twitter	11.9	7.4	11.7	69.0
For checking Facebook	11.9	9.2	15.7	63.3
For planning and organizing my schedule	3.5	12.5	27.2	56.7
To achieve safer financial and personal issues	2.8	10.9	35.9	50.3
For watching Netflix, HBO, Disney+, etc.	9.2	13.0	29.3	48.4
To get more private communication	4.6	15.7	33.9	45.9
For achieving higher status	21.7	27.1	29.3	21.9

Source: own elaboration.

Most motivations to use smartphones measured in our survey of 2021 were the same as measured in 2009, but others were new. For instance, Tik-Tok did not exist in 2009 (designed in 2016) but was a very appealing app in 2021. The same happened with streaming services such as Disney+ or HBO MAX. Apart from these emergent functions, most motivations to use smartphones were the same in 2009 and 2021. This also seems to demonstrate how audiovisual content is consumed today and how it has changed over time (Dasgupta & Grover, 2019). A film or a TV series can be watched at home at night or on the way to university or work. This explains why OTT applications become relevant for young people.

We conducted a comparison of means to measure how the importance of these motivations changed over time. Firstly, we averaged the responses given by respondents in 2009 and 2021 at the time of evaluating the importance they gave to the use of different apps and functions incorporated into their smartphones—being 1= very important, 2= important, 3= unimportant, and 4= highly unimportant. Means from 2009 and 2021 were compared with a *t-test*, and some significant differences arose. For instance, for spending leisure time, the smartphone was significantly more critical in 2021 than in 2009. The same can be observed for motivations such as "sharing videos and photos", "listening to music", "watching YouTube", "checking on Facebook", and "getting news and information". The importance of all these motivations increased significantly between 2021 and 2009, indicating that the smartphone is today an inseparable accessory for almost all young people.

"Keeping in touch with family and friends" has been the most vital motivation to use the mobile phone (average in 2021 = 1.04 vs average in 2009 = 1.1). Still, this social function now competes with other musical or entertainment roles, such as listening to music (average in 2021 = 1.07 vs average in 2009 = 2.61), as the smartphone has replaced former devices specifically oriented to reproduce CDs, MP3 and old cassettes.

Table 5. Comparing Means: How important is the smartphone…

Means	Years	Media	Standard Deviation	Comparing Means (Equal variances assumed)		
				t	Degrees of Freedom	Sign.
For keeping in touch with family and friends	2009	1,10	0,36	3,58	1023,00	0,00
	2021	1,04	0,18			
For spending leisure time	2009	2,49	1,09	22,23	1022,00	0,00
	2021	1,30	0,54			
For sharing my videos and photos	2009	2,74	1,08	39,30	1023,00	0,00
	2021	1,07	0,29			
For listening to music	2009	2,61	1,26	31,92	1023,00	0,00
	2021	1,07	0,28			
For getting Internet access	2009	3,29	1,01	53,83	1023,00	0,00
	2021	1,09	0,29			
For checking new emails	2009	3,38	1,00	48,05	1023,00	0,00
	2021	1,17	0,43			
For checking on Facebook	2009	3,59	0,80	23,73	1014,00	0,00
	2021	1,70	1,05			
To get more private communication	2009	1,85	0,99	0,77	1021,00	0,44
	2021	1,79	0,87			
For watching YouTube	2009	3,66	0,74	41,28	1023,00	0,00
	2021	1,34	0,70			
To achieve safer financial and personal issues	2009	1,89	1,03	3,46	1021,00	0,00
	2021	1,66	0,78			
For achieving higher status	2009	3,27	1,04	9,41	1023,00	0,00
	2021	2,49	1,06			
For getting news and information	2009	3,26	1,07	41,69	1022,00	0,00
	2021	1,18	0,47			
For planning and organizing my schedule	2009	2,21	1,19	8,00	1022,00	0,00
	2021	1,63	0,83			

Source: own elaboration.

4.2. Factor Analysis and Regression

An exploratory factor analysis was conducted to determine the profile of smartphone users. Factor analysis is a valuable and suitable statistic technique to look for structure among a set of variables and summarize the information contained in those many variables, reducing them into a smaller group of new, composite factors (Hair et al., 2000, 2006; Mazzocchi, 2008). In this case, with the uses and motivations detailed in Table 4, we got a parsimonious set of reasons to use smartphones, and a new group of condensed interests.

Before the factor analysis, we successfully conducted two tests recommended by Hair, Bush, & Ortinau (2006)—the Bartlett test of sphericity and the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO-MSA). The first one is a statistical test for the presence of correlations among variables, and our sample showed a highly significant correlation (p= .00). The second one is an index ranging from 0 to 1, reaching 1 when each variable is perfectly predicted without error by other variables. The KMO-MSA of our sample was .780.

Following validated criteria recommended by Hair, Bush, & Ortinau (2000), five principal components were extracted using the Varimax rotation method, which explained 52% of the variance. All of them were considered significant, reaching *eigenvalues* greater than 1. They all showed factor loadings greater than .30, considered appropriate for our sample size (n= 846).

We labelled the first factor "binge-watching" for motivations primarily associated with checking on YouTube and other popular streaming services such as Netflix, Apple+, Amazon Prime Video, etc. "Binge-watching" is the practice of viewing entertainment or informational content for a prolonged time. The second factor was coined as "clubby", for friendly and pleasant activities. This factor reduced variables regarding smartphone use to check on Instagram or Tik-Tok, share videos and photos, and spend leisure time. The third condensed group was called "organized", summarizing variables such as using the smartphone to plan, check the personal schedule, and achieve safer financial issues. The fourth factor was named "connected", grouping activities linked to checking email regularly, surfing the Internet browser, and keeping in touch with family and friends. The last group of variables was coined "musical" for activities like listening to music and getting Spotify access.

Factor scores are composite measures of each factor computed for each sample subject. They represent the degree to which each score is high on the group of items with high loadings on a factor (Hair et al., 2000). With the factor analysis scores, we conducted two linear regression analyses.

For the first regression model, we introduced the five summarized dimensions as independent variables ("binge-watching", "clubby", "organized", "connected", and "musical"). The independent variable was the time our young Chilean sample spent texting—minutes texting during a day. This model reached a high level of significance (p= .002) and a low size effect (R^2= .024). With this model, two factors reached an appropriate level of significance: "clubby" and "organized".

For the second regression model, we introduced the five summarized dimensions as independent variables, plus three control variables, i. e. age, gender and socioeconomic level (high, medium and low). This second model also showed a high level of significance (p= .001), with the size effect increasing (R^2= .048). Collinearity statistics confirmed that predictors were independent: tolerance and variance inflation factor of predictors exhibited acceptable levels, indicating that independent variables did not overlap. Two factors were relevant to explain the variance of the dependent variable (time spent texting): "organized" and the control variable gender. Consequently, both models set up a positive and significant relationship between being organized with the time spent texting.

Table 6. Regression Analysis

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Standard Error	Beta		
Constant	147.856	5.627		26.278	0.000
Binge-Watching	-3.324	5.584	-0.021	-0.595	0.552
Clubby	-12.862	5.588	-0.082	-2.302	0.022
Organized	-20.223	5.694	-0.127	-3.552	0.000
Informed & Connected	-4.732	5.580	-0.030	-0.848	0.397
Musical	-1.454	5.585	-0.009	-0.260	0.795
Model 2	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Standard Error**	**Beta**		
Constant	68.407	49.204		1.39	0.165
Binge-Watching	-7.847	5.700	-0.058	-1.377	0.169
Clubby	-8.335	6.805	-0.052	-1.225	0.221
Organized	-24.862	6.476	-0.159	-3.839	0.000
Informed & Connected	-2.751	6.588	-0.018	-0.417	0.676
Musical	-1.554	6.729	-0.010	-0.231	0.817
Age	1.960	1.779	0.047	1.101	0.271
Gender	31.077	13.342	0.098	2.329	0.020
Socio-Economic Group	-10.015	8.085	-0.052	-1.239	0.216

Source: own elaboration

5. Discussion

We validated the Uses and Gratifications Theory with a quantitative approach to measure the reasons for using smartphones among young Chileans. Our results reveal similarities and differences in the uses and gratifications by young Chileans based on the aggregated label of motivations, age, gender, and socioeconomic level.

The first obvious conclusion is to observe that nowadays, the young Chilean population, like other youths around the world, use their smartphones to watch videos (100%), interchange instant and shorts messages with friends and relatives through WhatsApp (99%), and connect to their friends and acquaintances through popular social media as Instagram (98%). They use their smartphones to watch, interchange experiences, and be part of a community, but they do not use them to talk much.

WhatsApp, Instagram, Spotify, Tik-Tok, and streaming channels, such as Netflix, are the preferred apps of Chilean youths. The emergence of teleworking and online education also explains why Zoom is present on 50% of smartphones. Whether Zoom will remain on smartphones after the Covid-19 pandemic remains to be seen.

Results also show that young Chileans devote more leisure time than their predecessors to being entertained and feeling secure with their smartphones. In 2021, "Keeping in touch with family and friends" emerged as the most important motivation to use smartphones, followed by

"getting news," reaching "privacy in communication," and "feeling secured." More than ever, young people today perceive smartphones as a tool to have fun rather than as a medium to study or work.

Some apparent changes in motivations can be observed between 2009 and 2021, as smartphones were much more predominant in 2021 than in 2009 for spending leisure time. The importance of motivations such as "sharing videos and photos," "listening to music," "watching YouTube," and "checking on Facebook" increased significantly between 2021 and 2009, indicating that the smartphone is today a kind of fun prop, essential for all young people.

With a factor analysis and a first regression model, we found that social inputs (coined "clubby") and organizing ones ("organized") significantly correlated with the time spent texting on smartphones. A second regression model with three aggregated control variables (age, gender, and socioeconomic groups) showed a significant relationship between been "organized" and the time spent texting.

All these results confirmed that young Chilean generations (millennials and centennials) are highly proactive at identifying what needs or functions are better satisfied by the most prevalent device invented, the technological appendix that almost all of us carry all the time, everywhere: the smartphone.

Limitations and future research

This research is productive because it is based on three cross-sectional surveys (2009, 2015, and 2021). With this timely insight, we can observe and measure how young Chilean populations have changed when relating themselves to smartphones, even during a critical period like the Covid-19 pandemic. However, it would be recommendable to expand the research to other urban areas of Chile, and ideally to other Hispanic countries and compare young populations with older ones. It would also be necessary to try to relate the higher or lower use of the smartphone with other economic and social idiosyncratic variables or every country.

Another interesting area for expanding research is the association of smartphones with gaming habits, as many developers are betting on these devices in recent times to catch more gamers. In the same vein, the use of video for leisure and commuting could provide new insights into consumption opportunities that could be interesting for content distributors struggling to capture the time of an increasingly elusive audience having an unlimited competitive offer.

References

Albarran, A. B. (2006). Handbook of Media Management and Economics. In *Handbook of media management and economics*. Routledge.

Albarran, A. B. (2009). Young Latinos Use of Mobile Phones: A Cross-Cultural Study. *Revista de Comunicación*, *8*, 95–108. https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=45615662&lang=es&site=ehost-live

Amez, S., & Baert, S. (2020). Smartphone use and academic performance: A literature review. *International Journal of Educational Research*, *103*. https://doi.org/10.1016/j.ijer.2020.101618

Baert, S., Vujić, S., Amez, S., Claeskens, M., Daman, T., Maeckelberghe, A., Omey, E., & de Marez, L. (2019). *Smartphone Use and Academic Performance: Correlation or Causal Relationship?*

Bettina, P., & Hedvig, K. (2019). Several characteristics of smartphone and the social network use based on an online survey among young people. *INFORMACIOS TARSADALOM*, *19*(1).

Bourque, L. B., & Fielder, E. P. (1995). *How To Conduct Self-Administered and Mail Surveys. The Survey Kit, Volume 3*. (Vol. 3). SAGE Publications, Inc.

Bury, R. (2017). *Television 2.0: Viewer and fan engagement with digital TV*. Peter Lang Publishing, Incorporated.

Canavilhas, J., Pellanda, E. C., Piñeiro-Naval, V., & Nunes, A. C. B. (2020). Mobile phones in young people everyday life: case study with Portuguese and Brazilian students. *Famecos*.

Carter, B., Rees, P., Hale, L., Bhattacharjee, D., & Paradkar, M. S. (2016). Association Between Portable Screen-Based Media Device Access or Use and Sleep Outcomes: A Systematic Review and Meta-analysis. *JAMA Pediatrics*, *170*(12), 1202–1208. https://doi.org/10.1001/jamapediatrics.2016.2341

Chan-Olmsted, S. M., Lee, S., & Kim, H. (2011). Competitive strategies in Korea mobile television markets: A comparative analysis of mobile operators and television broadcasters. *International Journal of Mobile Marketing*, *6*(1), 77–93. https://search.ebscohost.com/login.aspx?direct=true&db=bsu&AN=61262453&lang=es&site=ehost-live

Chen, R. S., & Ji, C. H. (2015). Investigating the relationship between thinking style and personal electronic device use and its implications for academic performance. *Computers in Human Behavior*, *52*, 177–183. https://doi.org/10.1016/j.chb.2015.05.042

Chen, Y.-F., & Katz, J. E. (2009). Extending family to school life: College students' use of the mobile phone. *International Journal of Human-Computer Studies*, *67*(2), 179–191.

Churchill Jr, G. A., Ford, N. M., Hartley, S. W., & Walker Jr, O. C. (1985). The determinants of salesperson performance: A meta-analysis. 22(2), 103-118. *Journal of Marketing Research*, *22*(2), 103–118.

Corpa. (2007). *Descripción de Grupos Socioeconómicos de Chile*.

Corpa Estudios de Mercado, & Asociación de Investigadores de Mercado. (2018). *Nueva Metodología GSE Chile*.

del Valle, M., & Zamora, E. V. (2021). El uso de las medidas de auto-informe: ventajas y limitaciones en la investigación en Psicología. *Alternativas En Psicología*, *47*.

Deloitte. (2016). *Deloitte (2016). Mobile consumers check their phones over 80 billion times a day*. https://www2.deloitte.com/qa/en/pages/about-deloitte/articles/Mobile-consumers-check-their-phones-over-80-billion-times-a-day.html

Deloitte. (2021). *Digital media trends: Courting the consumer in a world of choice*.

Dimock, M. (2019). *Defining generations: Where Millennials end and Generation Z begins*. https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/

Dunne, Á., Lawlor, M., & Rowley, J. (2010). Young people's use of online social networking sites – a uses and gratifications perspective. *Journal of Research in Interactive Marketing*, *4*(1), 46–58. https://doi.org/10.1108/17505931011033551

Enberg, J. (2019). *EMarketer: Global Digital Ad Spending 2019*. https://www.insiderintelligence.com/content/global-digital-ad-spending-2019

Ezumah, B., Hamdi, S., Ha Njiiri, M., & Ezumah, B. A. (2013). College Students' Use of Social Media: Site Preferences, Uses and Gratifications Theory Revisited. In *International Journal of Business and Social Science* (Vol. 4, Issue 5). www.ijbssnet.com

Ferris, A. L., & Hollenbaugh, E. E. (2018). A Uses and Gratifications Approach to Exploring Antecedents to Facebook Dependency. *Journal of Broadcasting & Electronic Media*, *62*(1), 51–70. https://doi.org/10.1080/08838151.2017.1375501

Gentina, E., & Rowe, F. (2020). Effects of materialism on problematic smartphone dependency among adolescents: The role of gender and gratifications. *International Journal of Information Management*, *54*, 102–134.

Glass, A. L., & Kang, M. (2019). Dividing attention in the classroom reduces exam performance. *Educational Psychology*, *39*(3), 395–408. https://doi.org/10.1080/01443410.2018.1489046

Gleason, M. M., & Thompson, L. A. (2022). Depression and Anxiety Disorder in Children and Adolescents. *JAMA Pediatrics*, *176*(5), 532. https://doi.org/10.1001/jamapediatrics.2022.0052

Ha, Y. W., Kim, J., Libaque-Saenz, C. F., Chang, Y., & Park, M.-C. (2015). Use and gratifications of mobile SNSs: Facebook and KakaoTalk in Korea. *Telematics and Informatics*, *32*(3), 425–438. https://doi.org/10.1016/j.tele.2014.10.006

Hair, J. F., Anderson, R. E., Tatham, R. L., & William, C. (2006). *Multivariate Data Analysis*.

Hair, J. F., Bush, R. P., & Ortinau, D. J. (2000). *Marketing research: A practical approach for the new millennium*. Irwin/McGraw-Hill.

Haste, H. (2005). Joined-up texting: mobile phones and young people. *Young Consumers*, *6*(3), 56–67. https://doi.org/10.1108/17473610510701214

Hoştut, S. (2010). Uses and Gratifications of Mobile Phone Use Among Students in Turkey. *Global Media Journal: Mediterranean Edition*, *5*(1/2), 10–17. http://search.ebscohost.com/login.aspx?direct=true&db=cms&AN=71847750&site=ehost-live

Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and Gratifications Research. *The Public Opinion Quarterly*, *37*(4), 509–523. http://www.jstor.org/stable/2747854

Kim, Y., Chen, H.-T., & Wang, Y. (2016). Living in the Smartphone Age: Examining the Conditional Indirect Effects of Mobile Phone Use on Political Participation. *Journal of Broadcasting & Electronic Media*, *60*(4), 694–713. https://doi.org/10.1080/08838151.2016.1203318

King, R. C., & Dong, S. (2017). The impact of smartphone on young adults. *The Business & Management Review*, *8*(4), 342.

Kohut, A., Taylor, P., Keeter, S., Parker, K., Morin, R., Cohn, D. v., & Clement, S. (2010). *Millennials: A portrait of generation next: Confident. Connected. Open to change*. https://doi.org/10.1080/0144929X.2020.1795259

Korhan, O., & Ersoy, M. (2016). Usability and functionality factors of the social network site application users from the perspective of uses and gratification theory. *Quality & Quantity*, *50*(4), 1799–1816. https://doi.org/10.1007/s11135-015-0236-7

Leiva, R., Benavides, C., & Wilkinson, K. (2017). Young Hispanics' Motivations to Use Smartphones: A Three-Country Comparative Study. *Communication and Society*, *30*(4), 13–26.

Lepp, A., Barkley, J. E., & Karpinski, A. C. (2014). The relationship between cell phone use, academic performance, anxiety, and Satisfaction with Life in college students. *Computers in Human Behavior*, *31*(1), 343–350. https://doi.org/10.1016/j.chb.2013.10.049

Leung, L., & Wei, R. (2000). More Than Just Talk on the Move: Uses and Gratifications of the Cellular Phone. *Journalism & Mass Communication Quarterly*, *77*(2), 308–320. https://doi.org/10.1177/107769900007700206

Li, J., Lepp, A., & Barkley, J. E. (2015). Locus of control and cell phone use: Implications for sleep quality, academic performance, and subjective well-being. *Computers in Human Behavior*, *52*, 450–457. https://doi.org/10.1016/j.chb.2015.06.021

Liveclicker. (2022). *Marketing to Gen Z A Fresh Approach to Reach a New Generation of Consumers*.

Livingstone, S., & Smith, P. K. (2014). Annual Research Review: Harms experienced by child users of online and mobile technologies: the nature, prevalence and management of sexual and aggressive risks in the digital age. *Journal of Child Psychology and Psychiatry*, *55*(6), 635–654. https://doi.org/10.1111/jcpp.12197

Logan, K. (2017). Attitudes towards in-app advertising: a uses and gratifications perspective. *International Journal of Mobile Communications*, *15*(1), 26. https://doi.org/10.1504/IJMC.2017.080575

Mazzocchi, M. (2008). *Statistics for marketing and consumer research*. Sage.

O'Keeffe, G. S., Clarke-Pearson, K., Mulligan, D. A., Altmann, T. R., Brown, A., Christakis, D. A., Falik, H. L., Hill, D. L., Hogan, M. J., Levine, A. E., & Nelson, K. G. (2011). Clinical report: The impact of social media on children, adolescents, and families. In *Pediatrics* (Vol. 127, Issue 4). https://doi.org/10.1542/peds.2011-0054

Olufadi, Y. (2015). A configurational approach to the investigation of the multiple paths to success of students through mobile phone use behaviors. *Computers and Education*, *86*, 84–104. https://doi.org/10.1016/j.compedu.2015.03.005

Pedersen, J., Rasmussen, M. G. B., Sørensen, S. O., Mortensen, S. R., Olesen, L. G., Brønd, J. C., Brage, S., Kristensen, P. L., & Grøntved, A. (2022). Effects of Limiting Recreational Screen Media Use on Physical Activity and Sleep in Families With Children. *JAMA Pediatrics*, *176*(8), 741. https://doi.org/10.1001/jamapediatrics.2022.1519

Ponti, M., Bélanger, S., Grimes, R., Heard, J., Johnson, M., Moreau, E., Norris, M., Shaw, A., Stanwick, R., van Lankveld, J., & Williams, R. (2017). Screen time and young children: Promoting health and development in a digital world. In *Paediatrics and Child Health (Canada)* (Vol. 22, Issue 8). Oxford University Press. https://doi.org/10.1093/pch/pxx123

Ra, C. K., Cho, J., Stone, M. D., De La Cerda, J., Goldenson, N. I., Moroney, E., Tung, I., Lee, S. S., & Leventhal, A. M. (2018). Association of digital media use with subsequent symptoms of attention-deficit/hyperactivity disorder among adolescents. *JAMA - Journal of the American Medical Association*, *320*(3), 255–263. https://doi.org/10.1001/jama.2018.8931

Racine, N., McArthur, B. A., Cooke, J. E., Eirich, R., Zhu, J., & Madigan, S. (2021). Global Prevalence of Depressive and Anxiety Symptoms in Children and Adolescents During COVID-19. *JAMA Pediatrics*, *175*(11), 1142. https://doi.org/10.1001/jamapediatrics.2021.2482

Ramirez-Correa, P., Rondan-Cataluna, F. J., Arenas-Gaitan, J., & Mello, T. M. (2020). Is your smartphone ugly? Importance of aesthetics in young people's intention to continue using smartphones. *Behaviour & Information Technology*.

Rideout, V., & Robb, M. (2018). *Social Media, Social Life: Teens Reveal Their Experiences*.

Román, S., & Iacobucci, D. (2010). Antecedents and consequences of adaptive selling confidence and behavior: a dyadic analysis of salespeople and their customers. *Journal of the Academy of Marketing Science*, *38*(3), 363–382. https://doi.org/10.1007/s11747-009-0166-9

Ruggiero, T. E. (2000). Uses and Gratifications Theory in the 21st Century. *Mass Communication and Society*, *3*(1), 3–37. https://doi.org/10.1207/S15327825MCS0301_02

Saad, L. (2022). *Americans Have Close but Wary Bond With Their Smartphone*.

Saeed, R., & Hassan, T. U. (2020). Meta Analysis of Smartphone Usage for Gratifications Obtained . *Journal of Media Studies*, *35*(2).

Sañudo, B., Fennell, C., & Sánchez-Oliver, A. J. (2020). Objectively-Assessed Physical Activity, Sedentary Behavior, Smartphone Use, and Sleep Patterns Pre- and during-COVID-19 Quarantine in Young Adults from Spain. *Sustainability*, *12*(15), 5890. https://doi.org/10.3390/su12155890

Shade, D. D., Kornfield, S., & Oliver, M. B. (2015). The uses and gratifications of media migration: Investigating the activities, motivations, and predictors of migration behaviors originating in entertainment television. *Journal of Broadcasting & Electronic Media*, *59*(2), 318–341.

Shen, B., Wang, F., Sun, S., & Liu, Y. (2021). Chinese Adolescents' Academic Stress and Smartphone Addiction: A Moderated-Mediation Model. *Journal of Broadcasting & Electronic Media*, *65*(5), 724–740. https://doi.org/10.1080/08838151.2021.2014842

Statista. (2021). *Digital Economy Compass 2021*. https://www.statista.com/study/105653/digital-economy-compass/

Stevic, A., Schmuck, D., Leuven, K., Kathrin Karsay, B., FWO Vlaanderen, B., Jörg Matthes, B., & Karsay, K. (2021). Are Smartphones Enhancing or Displacing Face-to-Face Communication With Close Ties? A Panel Study Among Adults. In *International Journal of Communication* (Vol. 15). http://ijoc.org.

Su, L., & Chen, S. C. (2020). Exploring the typology and impacts of audience gratifications gained from TV–smartphone multitasking. *International Journal of Human–Computer Interaction*, *36*(8), 725–735.

Sundar, S. S., & Limperos, A. M. (2013). Uses and Grats 2.0: New Gratifications for New Media. *Journal of Broadcasting & Electronic Media*, *57*(4), 504–525. https://doi.org/10.1080/08838151.2013.845827

Thulin, E. (2018). *Always on my mind: How smartphones are transforming social contact among young Swedes*. *26*(5), 465–483.

Tingley, K. (2022, March 24). There's a Mental-Health Crisis Among American Children. Why? *The New York Times Magazine*.

Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in Depressive Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen Time. *Clinical Psychological Science*, *6*(1), 3–17. https://doi.org/10.1177/2167702617723376

Twenge, J. M., Martin, G. N., & Campbell, W. K. (2018). Decreases in psychological well-being among American adolescents after 2012 and links to screen time during the rise of smartphone technology. *Emotion*, *18*(6), 765–780. https://doi.org/10.1037/emo0000403

Valkenburg, P. M., Beyens, I., Loes Pouwels, J., van Driel, I. I., & Keijsers, L. (2021). Social Media Browsing and Adolescent Well-Being: Challenging the "Passive Social Media Use Hypothesis." *Jornal of Computer-Mediated Communication*, 1–19. https://academic.oup.com/jcmc/article/27/1/zmab015/6413702

van Weezel, A., & Benavides, C. (2009). Uso de teléfonos móviles por los jóvenes. *Cuadernos.Info*, *25*, 5–14. https://doi.org/10.7764/cdi.25.42

Vega, F. (2022). *Estado de Social Media 2022*.

Wentworth, D. K., & Middleton, J. H. (2014). Technology use and academic performance. *Computers and Education*, *78*, 306–311. https://doi.org/10.1016/j.compedu.2014.06.012

Xu, T.-T., Wang, H.-Z., Fonseca, W., Zimmerman, M. A., Rost, D. H., Gaskin, J., & Wang, J.-L. (2019). The relationship between academic stress and adolescents' problematic smartphone usage. *Addiction Research & Theory*, *27*(2), 162–169. https://doi.org/10.1080/16066359.2018.1488967