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Communication Preferences and Factors Predicting Smartphone Addiction Among Four Generations of Australians: Gender and Generational Differences

Ivanka Belic[1] · Heather Winskel[2,3] · Kachina Allen[4] · Mitchell Grant Longstaff[2]

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Abstract

Smartphones are commonly used for socializing, entertainment, and information-seeking. However, excessive and problematic usage may lead to smartphone addiction, which is linked to cognitive and attentional deficits and mental health issues globally. Historically, age and gender have been found to influence smartphone usage. Furthermore, the relationship between communication preferences (via mobile-technology versus in-person) and usage, and addictive tendencies is understudied. Past research has seldom explored older age groups. This study investigates generational ("Gen-Z," "Gen-X," "Gen-Y," and Baby-Boomers) and gender differences in smartphone usage, communication preferences, and factors predicting smartphone addiction scores (SAS). The study surveyed 894 adults aged 18–80 years to examine interpersonal communication preferences, daily hours of smartphone usage, and SAS. Participants were recruited via snowball sampling through digital and printed media. Daily hours of usage and SAS were closely related and shown to reduce after the age of 40 years. Generations "Z" and "Y" reported the highest daily use and scored higher in SAS than the older generations. Women scored higher in SAS than men in all generations except "Gen-X." Age, hours of usage, and preference for mobile communication predicted SAS, but gender did not. Overall, people prefer to communicate with others in-person more than via mobile-technology. The findings identify significant generational and gender differences in daily usage, addiction scores, and communication preferences. Preference to communicate more via mobile-technology than in-person predicted SAS. Future research needs to investigate smartphone usage among all age groups and genders to clarify the risks and protective factors associated with smartphone addiction.

Keywords Smartphone addiction · Smartphone Addiction Scale – Short Version (SAS-SV) · Communication · Gender differences · Age groups

Introduction

Worldwide, smartphones have been integrated into people's daily lives and have increasingly become essential for communication and functioning in a digitally oriented society. While smartphone ownership has reached 68% of the global population (Laricchia, 29), in Australia, more than 95% of the adult population own a smartphone (Hughes, 19). A total of 90.7% of Internet users log on daily via smartphones and spend 2.5 h on social-media (Kemp, 20). Besides social connectedness, smartphones have a myriad of uses including entertainment, gaming, information seeking, studying, or conducting business and commerce. Despite numerous benefits, the ubiquitous use of smartphones also has a downside, including involvement in traffic accidents, cheating in exams, and ignoring

✉ Ivanka Belic
i.belic.10@student.scu.edu.au

[1] School of Health and Human Science, Southern Cross University, Hogbin Drive, Coffs Harbour, NSW 2450, Australia

[2] Psychology Department, Southern Cross University, Coffs Harbour, NSW, Australia

[3] Psychology Department, James Cook University, Singapore, Singapore

[4] Psychology Department, Southern Cross University, Gold Coast, QLD, Australia

other people (Garrido et al., 15). Excessive smartphone usage has been linked to cognitive and attentional deficits, including reduced academic performance (Fabio et al., 12; Winskel et al., 48), mental health issues including anxiety and depression (Elhai et al., 11), and development of addictive tendencies (Gokçearslan et al., 16; Kushlev et al., 23). Addiction is broadly classified as a drive, desire, and craving to repeat the behavior regardless of the negative consequences the behaviors may pose (Young et al., 49) as, for example, calling or texting while driving (Kita & Luria, 22). Given the global prevalence of smartphone use, it is imperative to understand the factors that contribute to smartphone addiction.

Smartphone addiction is regarded as a substance-independent dependency where the user struggles to control the usage, and the level of use has negative consequences for the user in their everyday life. Around 50% of smartphone users in industrialized countries think their usage is too high (Zuckerman, 52). Researchers and clinicians worldwide recognize that addiction to smartphone usage poses social and mental health issues (APS, 4; Lin et al., 32).

Smartphone addiction and problematic smartphone usage have been shown to positively relate to high daily hours of smartphone usage (Gokçearslan et al., 16; Horwood et al., 18; Kushlev et al., 23). However, high daily use alone may not be problematic. For instance, people may experience positive effects from several long conversations with loved ones or for educational or work-related purposes (Milošević et al., 35). However, if people spend more time on their smartphones pursuing pleasure, internet surfing, or social-networking, the high daily hours of smartphone use correlates with smartphone addiction. Some people may experience negative effects from short time of use while, for example, they are studying or trying to sleep (Sohn et al., 44). Furthermore, perceived social support gained from texting and engaging on social-media-sites relates to smartphone addiction and was found to alleviate loneliness and boredom (Kim, 21). Therefore, developing addictiveness to smartphones is contingent on the nature of daily smartphone usage.

Past research indicates that people aged below 35 years, especially students, seem most prone to smartphone addiction and report high daily hours of smartphone usage (Horwood et al., 18; Kushlev et al., 23; Van Deursen et al., 47), and associated risky and problematic behavior (Schwartz et al., 43). "Gen-Y," aged between 21 and 40 years at the time this study was conducted, were the first on mass adopters of mobile-phones as teenagers or young adults, and have paved the path of the current smartphone usage patterns. On the other hand, "Gen-Z," aged under 20 years, have always had mobile technology around them and do not know life without mobile-phones. Hence, smartphone usage patterns differ between the two generations with "Gen-Y" reporting higher addictive tendency to smartphone use than "Gen-X" (Gao, 14).

There is limited prior research on older adults. Older people generally show greater resilience to life stressors, anxiety, and depression than do younger people (Abelson, 1; Butterworth et al., 6). However, in mid or later life during major life-changing events (e.g., divorce, job loss, illness), people may experience late-life depression (Laird et al., 28). In Australia, people over 60 years feel significantly less lonely and experience anxiety and affective disorders less frequently than younger generations (Abelson, 1; Butterworth et al., 6). The protective mechanism of this age group appears to be supported by meaningful social connections (Leigh & Terrell, 30).

Past research also denotes gender differences in smartphone addictiveness and usage (Su et al., 45). Women's predominant use of smartphones seems to be community and socially orientated. Studies have found that young adult women rely on smartphones to connect with family (Lenhart et al., 31; Lopez-Fernandez et al., 34). In contrast, men primarily use mobiles and the Internet for non-social purposes (Lenhart et al., 31), or for playing games and gambling (Chen et al., 8; Kuss et al., 24). Men's usage seems mainly for information and entertainment (Lenhart et al., 31; Lopez-Fernandez et al., 34). Despite the general consensus that women of all ages report higher smartphone addiction scores than men (De-Sola Gutiérrez et al., 10; Su et al., 45), there are conflicting results that have found men to be more susceptible to developing addictive tendencies (Lachmann et al., 27). However, when replicated in a similar age group in 57 English-speaking countries, results showed that females scored higher than males (Peterka-Bonetta et al., 40).

Younger generations report that they prefer to text and to communicate via digital means (Forgays et al., 13; O'Donnell & Epstein, 37). A few studies investigating people older than 35 years found that they prefer calling and interacting face-to-face (De-Sola et al., 9; Long, 33).

Previous research has primarily investigated younger users and university students (De-Sola Gutiérrez et al., 10; Elhai et al., 11; Ratan et al., 41). Little is known about smartphone usage by people aged 40 years and older, yet the ownership gap is minimal. Hence, this study surveyed Australian adults aged between 18 and 80 years organized into generations ("Gen-Z"; "Gen-X"; "Gen-Y"; "Baby-Boomers") exploring daily hours of smartphone use, communication preferences and smartphone addiction.

Based on prior research, it is predicted that females and younger generations will report higher daily hours of smartphone use and higher smartphone addiction scores than males and older generations (De-Sola Gutiérrez et al., 10). Females are also expected to prefer communicating in-person and males via mobile-technology (Lenhart et al., 31;

Lopez-Fernandez et al., 34). Lastly, it is expected that daily usage, communicating with others more via mobile-technology than in-person, and participants' age but not gender will be predictive of SAS scores (Oviedo-Trespalacios et al., 39).

Method

Participants and Procedure

The study surveyed 1013 adult Australian smartphone users with 894 participants included in data analyses. Data was collected between January and March 2020. Participants were between 18 and 80 years old and comprised 618 females ($M_{age} = 36.93$, $SD = 15.23$) and 276 males ($M_{age} = 41.37$, $SD = 16.7$).

The survey was distributed using snowball sampling across Australia, and the participants were recruited through a variety of mediums to attract participation from diverse geographical locations, backgrounds, and age groups. An online questionnaire in Survey Monkey was used to collect the data. A paper-based version was also used. This research was approved by the University's Human Research Ethics Committee (Approval number: ECN 2019/574).

Generations

To examine how different age groups use smartphones, Strauss-Howe generational theory was used for the estimation of birth dates of different generations (Chaney et al., 7). The age groups were classified into 20-year age-blocks (Table 1) and are considered to represent generational cycles of shared characteristics and key values. People belonging to different generational groups are expected to differ in communication preferences, daily hours of smartphone use, and smartphone addiction.

Materials

Daily hours of smartphone usage were reported in hours and minutes of participants' average daily use.

Communication preferences were obtained by asking participants an additional question to rate on a five-point scale (1 = most preferred; 5 = least preferred) their preferred communicating method for each option: "Communicating via mobile-technology (smartphone, computer, tablet)"; "More via mobile-technology than in-person"; "Equally via mobile-technology and in-person"; "More in-person than via mobile-technology"; and "In-person." For easier interpretation, the items were reversed scored so that higher scores indicate higher preference.

Smartphone addiction scale (SAS-SV) (short version—10 items) was used to evaluate each participant's smartphone addiction tendencies (Kwon et al., 25). Smartphone Addiction Scale and the short version (SAS-SV) are the most prominent scales used across the world with over 2200 combined citations (Olson et al., 38). The items measure digital relationship, disturbance to daily life, overuse, tolerance to, withdrawal from, and expectancy from one's smartphone. Participants rated on a six-point scale whether they agreed or disagreed with each of the statements. Total scores were derived by summing individual item scores (10–60 points), with high scores indicating a high addictive tendency. SAS-SV is considered a valid and reliable measure to gauge smartphone addition, with the original study's Cronbach's alpha being 0.97 (Kwon et al., 25), and in the current study 0.85. Annoni et al. (3) consider SAS-SV as a measure of higher and lower predisposition to developing smartphone addiction tendency rather than a clinical judgement, with higher average scores indicating higher susceptibility.

Results

This study investigated generational and gender differences in daily hours of smartphone usage, participants' communication preferences (mobile-technology versus in-person), and smartphone addiction scores (SAS). Furthermore, the study examined whether any of the factors (daily hours of smartphone usage, communication preferences, age, and gender) are predictive of SAS scores.

Results were analyzed using IBM SPSS statistics (v28). Two-way between-group ANOVAs were conducted to evaluate the impact of generations and gender on daily hours of smartphone usage, communication preferences, and SAS scores. Where significant effects were found, Tukey-HSD

Table 1 Age and gender of the participants in the four generational age groups ($N = 894$)

Variable	Years of birth	Generations and age in years	Percentage %	*N*
Age groups	2000–2020	Generation-Z ages 18–20 years	14.8%	132
	1980–2000	Generation-Y ages 21–39 years	40.9%	366
	1960–1980	Generation-X ages 40–59 years	32.3%	289
	1940–1960	Baby-Boomers ages 60–80 years	12.0%	107
Gender		Female	69.1%	618
		Male	30.9%	276

post hoc analyses were used followed by simple-effect-analysis. For unequal size groups, harmonic means of the groups were used. To examine gender differences in SAS scores, independent sample *t*-tests (two-tailed) were used. For communication preferences, Mann–Whitney *U*-tests were used to define gender differences in median *(Md)* scores. Standard multiple regression analysis was utilized to assess whether SAS could be predicted by the variables.

Demographic information and scores for daily hours of smartphone usage and Smartphone Addiction Scale (SAS) scores are organized by age group and gender in Table 2.

Daily Hours of Smartphone Usage

The impact of age and gender on daily hours of smartphone usage revealed a significant main effect for generations, F (3, 883) = 25.41, $p < 0.001$, $\eta_p^2 = 0.079$, but not gender, F (1, 883) = 3.31, $p = 0.07$, $\eta_p^2 = 0.004$, while the interaction effect was not significant, F (3, 883) = 0.14, $p = 0.93$, $\eta_p^2 = 0.000$. According to Tukey-HSD, mean daily hours of smartphone use (genders combined) significantly differed between under 40 years aged participants ("Gen-Z" and "Gen-Y") with over 40 years aged participants ("Gen-X" and "Baby-Boomers") ($p < 0.001$) but not between each other. Once people reach the age of 40 years, daily usage decreases with age.

Communication Preferences

Descriptive statistics for communication preferences organized by generations and gender are presented in Table 3.

Communication preference "Via mobile-technology" revealed an interaction effect between generations and gender, F (3, 699) = 5.75, $p < 0.001$, $\eta_p^2 = 0.026$, and a main effect for generations, F (3, 699) = 4.78, $p = 0.003$, $\eta_p^2 = 0.021$, but not gender, F (1, 699) = 2.56, $p = 0.11$, $\eta_p^2 = 0.004$. "Gen-X" preferred to communicate via mobile-technology more than "Gen-Z" ($M_{diff} = 0.52$, $p = 0.026$). While males from the Baby-Boomers generation reported the lowest preference for communicating via mobile-technology, followed by "Gen-Z" males, "Gen-X" males reported higher preference for communicating via mobile-technology than other age groups. According to Mann–Whitney *U*-test, gender differences in median scores of females ($Md = 3$, $n = 34$) and males ($Md = 1$, $n = 36$), $U = 373$, $z = -3.056$, $p = 0.002$, $r = 0.37$, were found among Baby-Boomers with females showing a higher preference for communicating via mobile-technology than males.

Communication preference "More via mobile-technology than in-person" showed an interaction effect for generations and gender, F (3, 628) = 4.28, $p = 0.005$, $\eta_p^2 = 0.020$, and no main effect (all p's > 0.05). Generational groups did not differ in mean scores, but male participants did, F (3, 200) = 3.33, $p = 0.02$, $\eta_p^2 = 0.049$. While Baby-Boomers males least preferred communicating more via mobile-technology than in-person, "Gen-X" males reported higher preference for communicating more via mobile-technology than in-person than the other groups. According to the Mann–Whitney *U*-test, "Gen-X" females ($Md = 2$, $n = 121$) and males ($Md = 3$, $n = 74$, $U = 3082$, $z = -3.866$, $p < 0.001$, $r = 0.28$) also significantly differed in median scores with males showing a higher preference for communicating more via mobile-technology than in-person than the females.

"Equal preference for communicating via mobile-technology and in-person" showed no interaction, F (3, 712) = 0.24, $p = 0.87$, $\eta_p^2 = 0.001$, nor a significant main effect for generations or gender (all p's > 0.05). Also, there were no gender differences in median scores.

Communication preference "More in-person than via mobile-technology" revealed a significant interaction effect, F (3, 639) = 2.78, $p = 0.04$, $\eta_p^2 = 0.013$, with a medium effect size, and no main effect (all p's > 0.05). Significant differences were found for males, F (3, 202) = 3.17, $p = 0.025$, $\eta_p^2 = 0.049$, but not females or generations. Baby-Boomer males most preferred communicating more in-person than via mobile-technology ($M = 4$) and "Gen-X" males ($M = 3.33$) least preferred communicating more in-person than via mobile-technology when compared to other groups. Median scores did not differ between genders.

Table 2 Mean hours of daily smartphone usage and smartphone addiction scores (SAS) for gender and four generations of Australian smartphone users

Daily Hrs of SP usage					Smartphone addiction scores (SAS)		
Age × 20y	Gender	Mean	Std. Dev	*N*	Mean	Std. Dev	*N*
18–20 "Gen-Z"	Female	4.49	2.19	102	2.81	.89	75
	Male	4.00	2.46	30	2.50	.73	22
21–39 "Gen-Y"	Female	4.55	2.79	265	2.81	.87	212
	Male	4.26	3.45	98	2.48	.09	66
40–59 "Gen-X"	Female	3.22	2.71	190	2.06	.82	160
	Male	2.68	1.64	99	2.25	.94	84
60–80 "Baby-Boomers"	Female	2.43	1.80	59	1.82	.93	52
	Male	2.17	2.06	48	1.51	.99	44

Table 3 Descriptive statistics for communication preferences and the mean scores are organized by generations/age groups ("Gen-Z"; "Gen-Y"; "Gen-X"; and Baby-Boomers) and gender

Communication preference	Age	Generation	Female				Male			
			N	Mean	S/D	Median	*N*	Mean	S/D	Median
"Via mobile-technology"	18–20	Gen Z	81	2.35	1.43	2	28	1.93	1.38	1
	21–39	Gen Y	200	2.55	1.62	2	77	2.73	1.61	3
	40–59	Gen X	132	2.58	1.59	2	75	3.08	1.72	3
	60–80	Baby Boomers	34	2.88	1.70	3	36	1.67	1.12	1
	Total		447	2.55	1.58	2	216	2.57	1.63	2
"More via mobile technology than in person"	18–20	Gen Z	76	2.28	1.08	2	26	2.62	1.30	2
	21–39	Gen Y	194	2.55	1.21	2	65	2.40	1.21	2
	40–59	Gen X	121	2.30	1.21	2	74	2.92	1.16	3
	60–80	Baby Boomers	37	2.54	1.32	2	35	2.29	.98	2
	Total		428	2.43	1.20	2	200	2.60	1.18	2
"More in person than via mobile technology"	18–20	Gen Z	75	3.72	1.06	4	25	3.60	.95	4
	21–39	Gen Y	198	3.42	1.14	4	68	3.61	1.13	4
	40–59	Gen X	127	3.67	1.06	4	73	3.33	1.22	4
	60–80	Baby Boomers	37	3.62	1.25	4	36	4.00	.63	4
	Total		437	3.56	1.12	4	202	3.58	1.09	4
"In person"	18–20	Gen Z	88	3.82	1.43	4	26	3.77	1.61	5
	21–39	Gen Y	214	3.65	1.54	4	79	3.58	1.51	4
	40–59	Gen X	143	3.87	1.39	4	70	3.46	1.64	4
	60–80	Baby Boomers	41	3.80	1.31	4	38	4.55	1.06	5
	Total		486	3.76	1.46	4	213	3.74	1.54	4

Higher scores denote higher preference

Communication preference "In-person" showed an interaction effect between generations and gender, F (3, 699) = 2.89, $p = 0.04$, $\eta_p^2 = 0.012$. The main effect was significant for generations, F (3, 699) = 3.04, $p = 0.03$, $\eta_p^2 = 0.013$, but not for gender, F (1, 699) = 0.15, $p = 0.70$, $\eta_p^2 = 0.000$. Baby-Boomers most preferred communicating "In-person" and significantly differed from "Gen-Y" ($M_{\text{diff}} = 0.053$, $p = 0.025$). Significant differences were also found among males, F (3, 213) = 4.48, $p = 0.003$, $\eta_p^2 = 0.065$. Baby-Boomers males had the strongest preference for communicating in-person ($M = 4.16$) and "Gen-X" males the lowest ($M = 3.45$). Also, according to the Mann–Whitney U-test, Baby-Boomers median scores significantly differed between females ($Md = 4$, $n = 41$) and males ($Md = 5$, $n = 38$), $U = 500.5$, $z = -3.113$, $p = 0.002$, $r = 0.35$, with males reporting higher preference for communicating in-person than females.

Smartphone Addiction Scores

Analyzing impact of age and gender on SAS shows an interaction effect, F (3, 714) = 3.8, $p = 0.02$, $\eta_p^2 = 0.02$, and a significant main effect for generations, F (3, 714) = 33.08, $p < 0.001$, $\eta_p^2 = 0.12$, and gender, F (1, 714) = 5.54, $p = 0.02$, $\eta_p^2 = 0.008$. According to Tukey-HSD, "Gen-Z" and "Gen-Y" did not differ significantly but differed from "Gen-X" and Baby-Boomers ($p < 0.001$), who also differed between each other ($p < 0.001$). Baby-Boomers scored the lowest, and "Gen-Z" and "Gen-Y" the highest in SAS. Gender differences in SAS ($M_{\text{diff}} = 2.73$, $\eta^2 = 0.017$) were found for males ($M = 21.96$, $SD = 9.97$) and females ($M = 24.69$, $SD = 9.32$, t (713) = 3.51, $p < 0.001$, with females recording higher SAS scores than males in all generations except for "Gen-X" where males scored higher than females.

Factors Predicting Smartphone Addiction

Standard multiple regressions were used to assess whether smartphone addiction scores could be predicted by age, gender, hours of daily usage, and communication preferences. Gender and four communication preferences were removed due to insignificant unique contributions and the model was updated retaining age, daily usage, and communication preference "More via mobile-technology than in-person." The updated model showed improved fit, F (3, 523) = 80.37, $p < 0.001$, with three variables explaining 31.7% of the variance in SAS scores (refer to Table 4).

Table 4 Standard multiple regression showing factors affecting smartphone addiction scores (SAS)

Variable	B	*SE*	*β*	*t*	*p*	VIF
(Constant)	34.94	1.66		21.02	< .001	
Age	− .20	.02	− .33	− 8.54	< .001	1.11
Daily hrs SP usage	.98	.14	.28	7.17	< .001	1.13
CP2	− 2.03	.29	− .25	− 6.92	< .001	1.02

[a]Dependant variable – smartphone addiction scores (SAS)

[b]P2 = preference for communicating "More via mobile technology than in person"

Discussion

This study examined cross-generational and gender differences in daily hours of smartphone usage, participants' communication preferences, and smartphone addiction scores in the Australian adult population. In particular, it examined whether age, gender, daily usage hours, and five communication preferences could predict smartphone addiction.

Results for daily hours of smartphone usage showed that smartphone daily usage was the highest for people under the age of 40 years ("Gen-Z" and "Gen-Y") and reduced in people 40 years or older ("Gen-X" and Baby-Boomers"), a finding that corroborates past research findings (Kwon et al., 26; van Deursen et al., 47). Australian adults had a similar usage pattern, as noted in Horwood et al. (18). Gender differences for daily hours of usage did not reach significance although usage was on a parallel trajectory with females scouring higher than males across generations. Also, daily usage has been shown to positively correlate with smartphone addiction (Gokçearslan et al., 16), which was observed in the current findings with people under 40 years of age ("Gen-Z" and "Gen-Y") reporting higher daily smartphone use and higher SAS scores than people over the age of 40 years ("Gen-X" and Baby-Boomers).

While earlier studies found that younger generations prefer communicating via technology (Reid & Reid, 42; Zickuhr, 51), more recent research suggests that they seem to prefer communicating face-to-face (Moore et al., 36; Swanson et al., 46), including males (Akhter et al., 2). The changing trend in communication preferences is further supported by a recent report that found American Baby-Boomers prefer to text than to talk face-to-face (Asurion, 5). This body of work suggests that communication preferences are changing over time.

Female participants in this study did not report higher "In-person" communication preferences than males. However, there were significant generational differences among male participants. Communication preferences "Via mobile-technology" and "More via mobile-technology than in-person" were least preferred by Baby-Boomer males and most favored by "Gen-X" males, who also least preferred "In-person" communication. In contrast, Baby Boomer males reported higher preference than other age and gender groups for "In-person" communication. According to uses and gratification theory, people who avoid in-person interactions may turn to media technology to satisfy their emotional needs (Hiniker et al., 17).

Smartphone addiction scores indicated that people under the age of 40 years ("Gen-Z" and "Gen-Y") showed a higher tendency to develop smartphone addiction. This is well supported by past research (e.g., Kushlev et al., 23; Van Deursen et al., 47). "Gen-Z" and "Gen-Y" are commonly referred to as "Digital natives" because they grew up with advanced technology including smartphones.

Past research offers conflicting evidence on whether males or females are more likely to develop addictive tendencies to technology due to differences in usage. The general consensus has found that females are more prone to social media use and smartphone addiction, and males to using the Internet, for gaming and gambling. The current results found that females scored higher than males in SAS scores in all age groups except for "Gen-X". Potentially, the results may indicate that 40–60-year-old (Gen-X) females are less susceptible to developing addictiveness or that 40–60-year-old (Gen-X) males may be socially isolated more than people of other age/gender groups (De-Sola Gutiérrez et al., 10; Elhai et al., 11; Van Deursen et al., 47), which could lead to developing smartphone addiction. The average SAS scores of women in this study were higher than men, which is consistent with prior research (Kwon et al., 25, 26; Oviedo-Trespalacios et al., 39).

Predictive factors for smartphone addiction revealed that age and hours of daily usage predicted addictiveness. This supports past research including in the Australian population (Oviedo-Trespalacios et al., 39; Peterka-Bonetta et al., 40; Zhitomirsky-Geffet & Blau, 50). However, this is the first study to include communication preferences and to find that preferring to communicate "More via mobile-technology than in-person" is also a factor contributing to developing smartphone addiction.

The gender differences found among generations identify a need for follow-up research and to examine if all Baby-Boomers and "Gen-X" men and women conform to these findings. Subsequently, future smartphone usage studies need to consider age groups and not just gender. Another line of inquiry for potential research in the future could be

to investigate cross-cultural differences in smartphone usage and addiction among multi-generational cohorts.

In summary, women and younger people ("Gen-Z" and "Gen-Y") reported higher daily usage than men and people over the age of 40 years ("Gen-X" and "Baby-Boomers). Women scored higher in smartphone addiction scores among all generations except in "Generation-X." Baby Boomer males showed a clear preference for communicating in-person over communicating via technology compared to other age and gender groups.

Predictive factors of smartphone addiction scores include age, high daily smartphone usage, and communication preference "More via mobile-technology than in-person" but not the participants' gender. Overall, Australian men and women prefer communicating with others more in-person than via mobile-technology.

Author Contribution Belic and Winskel conceptualized and designed the study. Belic collected and interpreted the data and drafted all versions of the manuscript. Allen, Winskel, and Longstaff revised critically all versions of the manuscript for important intellectual content. All authors read and approved the final version.

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Data Availability The data that support the findings of this study are available from the corresponding author, IB, upon reasonable request.

Declarations

Ethics Approval This study was performed in line with the principles of the Declaration of Helsinki. Southern Cross University Human Research Ethics Committee approved the research (ECN 2019/574).

Consent to Participate Informed consent was obtained from all individual participants included in the study.

Competing Interests The authors declare no competing interests.

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