



Article

Impact of Smartphone Addiction on Psychological Well-Being: Evidence from Young Consumers in India

Article History:

Name of Author:

Dr. Shubham Goswami¹ and Dr. Shweta Swami²

Affiliation:

¹Assistant Professor, Institute of Management, Nirma University, Ahmedabad,

²Assistant Professor, SD Government College, Beawar, Rajasthan

Corresponding Author:

Dr. Shubham Goswami

How to cite this article:

Shubham Goswami and Shweta Swami, Impact of Smartphone Addiction on Psychological Well-Being: Evidence from Young Consumers in India. *J Int Commer Law Technol.* 2025;6(1):1550–1559.

Received: 13-10-2025

Revised: 22-11-2025

Accepted: 02-12-2025

Published: 08-12-2025

©2025 the Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>)

Abstract: Smartphone addiction has emerged as a growing concern among young users in India, with potential implications for psychological well-being. This study examines how four dimensions of smartphone addiction—Anxious & Lost, Preoccupied & Craving, Positive Anticipation, and Harmful Consequences—predict overall psychological well-being. Using a structured questionnaire administered to 389 respondents aged 15–29, the study employed reliability testing and multiple regression analysis to assess the strength of associations. Results indicate that all addiction dimensions negatively affect psychological well-being, with Harmful Consequences and Anxious & Lost showing the strongest effects. The findings highlight the need for awareness, digital balance, and targeted intervention strategies.

Keyword: Smartphone Addiction, Psychological Well-being, Digital Behavior, Mental Health.

INTRODUCTION

The increasing demand of interpersonal and mass communication technologies evolves mobile phones from a mere commutative device to an essential element of socialization. Smartphone differ from classic mobile phone in operating system and loaded with advanced connection, communication and socializing features. With time, their functionality is increasing rapidly and they facilitate the potential of adoption of new mobile applications. Smartphone combine the functionality of a pocket-sized communication device with system -like capabilities

for voice communication, high-definition audio and video, multimedia downloads, web browsing, email communication, gaming and more. Beside these technological developments, there has been escalating curiosity from researchers and socialists in harnessing smartphones as a means of delivering behavioral intrusion in physical and social health.

A report by IAMAI (Internet and Mobile association of India) and KPMG projected that India is making rapid transition from features phones to smartphones. This is accelerated by high smartphone penetration, the

availability of low-cost smart cellphones and internet data plans with increasing buying power of middle-class. The increase in smartphone sale attracts more users for accessing internet through mobile devices. Report projected that India will reach 1.2 billion smartphone users by 2030. According to another study by networking solution giant Cisco, India is the second major smartphone market globally. In India, the number of smartphones grew by approximately 7.3% in Q2 2025 and 4.3% in Q3 2025, approaching almost 735 million in number as of mid-2025, and the sector is expected to witness a many-fold growth in the number of smartphones. Therefore it is clearly evident that smartphone device market will have a long way to go. Repot also commented on application usage that SMS, email, messaging and social networking apps are the most popular apps on smartphone, while video streaming and banking services are the least used apps.

Associated with this blooming of smartphone use, research has recently flourished to explore both positive and negative consequences associated with usage ((Choi, Lee and Ha, 2012; Billieux et al. , 2015). Social researcher has expressed their concern towards social and psychological problems due to overuse of the mobile device. Most of previous studies have focused on mobile usage and its communicative aspects (Stern and Messer, 2009; Sharma et al., 2014; Ge, 2014; Billieux et al., 2015). Little research shows a pathway through which mobile technology use explain impacts on psychological well-being. Behavioral scientists typically express indicators of stress, loneliness, social support, self-esteem, psychological distress, obsessive compulsive tendencies, and depression as well-being outcomes (Engelberg and Sjoberg, 2004). Today, the diffusion of cell phones into the lives of youngsters has been rather dramatic. In particular, college students own smartphones at trimendous rates and are large number of users of this technology (Hargittai, 2007; Junco and Mastrodicasa, 2007). Research on the types and predictors of young adults' technology use has increased in recent years but little known about the psychological outcomes. Past research has focused on internet addiction and mobile addiction (Wei and Leung, 1999; Young, 1998; Leung, 2008), but research on smartphone addiction and usage is scarce (Falaki et al, 2009). Smartphone is a new technology thus its adoption deserves investigation. Although academic research of smartphone adoption in youth is limited, this survey confer to the field by adding a prime new investigation. Even the basic usage information is unknown like how often does a user interact with the device, how many applications do a user run and how the attention is spread across them. Answers to such queries can be the key to understand the mechanisms which effectively improve user experience.

The present research attempted to study the smartphone usage pattern; investigate the degree to which smartphone addiction exists among young university students and examining the implications for well being as smartphone technologies diffuse into the social system. Findings have implications explaining mobile phone use in the society, answer the call for more research by providing a systematic explanation of the consequences of smartphone overuse and fill the literature gap by examining how the differential use of smartphone are related to individual subjective well being. Testing such relations also further our understanding of social impact of mobile communication and contribute to broader theoretical discussion on potential influence of technology on people's quality of life.

LITERATURE REVIEW

2.1. Smartphone Addiction

Early philosophies on technology addictions (Griffiths, 1995) include computer addiction (Shotton, 1991) and the concept of Internet addiction (Young, 1998, 1999). These studies reported that some on-line users were becoming addicted to the Internet in the same way as other became addicted to drugs, alcohol, or gambling. This addiction also resulted in academic failure (Murphey, 1996); reduced work performance (Young, 1998), and even marital discord and separation (Quittner, 1997). Some researchers have noted that internet use has negative impacts on well-being (Nalwa and Anand, 2003; Greenfield, 2000). Kraut et al. (1998) had claimed that pathological use of the new technologies reduces his or her psychological well-being, because it produces the kind of isolation, loneliness and depression that the individual wants to ease by connecting to the Internet ('Internet paradox'). Studies also claimed that spending a significant amount of time and money in online activities may also reduce the individual's dedication to other social, academic or work activities (Kruat et al., 1998). LaRose, Lin, and Eastin (2003) redefined Internet addiction as a state where individual lack self-regulation to use internet to relieve boredom, decrease loneliness, and enhance their social identity. Study on university students, Gordon et al. (2007) found that using the Internet for coping stress is also associated with higher levels of symptom for depression and social anxiety with lower levels of family cohesion. These results suggest that more studies on internet use is need to be examined to reveal the intricacies.

In a similar perspective, researchers also studied addictive mobile phone usage as impulse control disorder (Park and Lee, 2011; Lee et al., 2014). Past mobile phone addiction research was mostly based on Internet addiction symptoms which assumed that

people addicted to mobile phone are similar to people who are addicted to gambling, drugs, and alcohol (Beard, 2002; Chak & Leung, 2004; Leung, 2004; Scherer, 1997; Young, 1998). Moreover, mobile phones usage frequency and intensity was also related sleep disturbances, symptoms of depression (Thome et al., 2011) and other health-compromising behaviors may be smoking and consuming alcohol (Leena et al., 2005). The first empirical study examining problematic mobile phone use was published by Bianchi and Phillips (2005). They developed the Mobile Phone Problem Use Scale, which identified several symptoms mobile phone addicts exhibit. Leung (2008) relate mobile addiction to perspectives of leisure, boredom, sensation seeking, and self-esteem. Addicts of mobile phones hide their actual use from family and friends; feel preoccupied, anxious, or depressed when out of range (Bianchi and Phillips, 2005; Carbonell et al., 2009).

In recent time, smartphone serve as a portable device which is highly valued by individuals. They tend to be switched on and remain with the owner throughout the day. Therefore, it offers opportunities to bring behavioral interventions into important real life contexts where people make decisions (Dennison et al., 2013). As these devices are becoming increasingly sophisticated and multifunctional, youth is being attracting users, or “passionate,” to this technology very rapidly (Park, 2005). Block (2008) reported that this addiction belongs to the compulsive– impulsive spectrum and has become one of the most serious public health concern in South Korea and almost certainly in other Asian countries. Hope (2010) conducted a survey of university students using i-Phone found that about 40 percent of participant are addicted to their i-Phones. Further, 75 percent reported to sleep next to i-Phone, 69 percent claimed that they are more likely to forget wallet than i-Phone and 41 percent accepted that it would be ‘a adversity’ to lose their i-Phone. Drawing potential predictors from the addiction literature, this study mainly emphasize to explore problematic smart phone use and its inverse psychological outcomes. Thus study asks two research questions:

Research Question 1: What are identifiers of smart-phone addiction?

Research Question 2: What is the status of smart-phone addiction among Indian student?

2.2. Well being

The pursuit of well-being or happiness has long fascinated both academics and researchers. Past studies presented two theories of well being specifically: subjective and psychological well being. Subjective well-being (SWB) is a field of behavioral

science where people emotional and cognitive evaluations of their quality of lives are studied (Diener et al., 2003). The field has developed quickly in the past couple of years and sophisticated with studies on peace, happiness and life satisfaction. SWB is coupled with many desirable social and psychological outcomes, such as higher income, better physical and mental health, meaningful relationships and greater involvement in the community (Diener and Seligman, 2004), therefore its implications can influence economic policy and social welfare initiatives (Chan, 2013). Psychologists presented two components to SWB: cognitive and emotional (Diener et al., 2009a). Cognitive component is related to the notion of ‘life satisfaction’, ‘life quality’ in terms of their goals and aspirations. The emotional component includes both positive and negative affect and covers feelings such as happiness, negativity and anger. In recent years, a new form of well-being in addition to subjective well-being has emerged called psychological well-being (PWB) based on theories of effective functioning (Ryff, 1989; Ryan & Deci, 2000, 2001; Peterson and Seligman, 2004; Ryff, 2008). Study by Seligman (2002) suggested that PWB is a feeling of engagement and interest, pleasure, purpose and respect (Maslow, 1958). The Subjective well-being (SWB) defined people’s evaluations of their lives, whereas psychological well-being (PWB) is based on humanistic theories of positive functioning. However, there are no strong empirical evidences of differences between the two concepts (Diener et al., 2009b).

With the increased penetration of mobile phone into individual public and private space, there has been a growing focus on research investigating the ways in which mobile communication interacts with social dynamics. On one hand, studies have reported that mobile technology or Internet use is related to greater perceived social support and connection (Cody et al., 1999), social capital (Williams, 2006), self-efficacy (Erickson & Johnson, 2011) and life satisfaction (Shapira, Barak, & Gal, 2007). But, on the other hand studies also focus on its negative psychological outcomes. Empirical support on mobile phones and well-being has generally focused on the actions, such as ‘loneliness’, and ‘discouragement’ (Choi, Kong, & Jung, 2012). Turkle (2011) reported that as the mobile phone has intruded into all aspects of daily life but reduced the quality and intimacy of face-to-face conversation and relationship. People prefer text messaging because it requires less emotional and cognitive commitment. Leung and Lee’s (2005) claimed that text-based medium deficient in sustaining close ties and concluded that online relationships are of a lower “quality” than offline relationships. A US based study by Jin and Park’s (2013) found adults’ overuse of mobile phone was related to increased loneliness.

These findings are in line with UK based empirical research (Reid and Reid, 2007). Chan (2013) used affordance-based approach to examine how different uses of the mobile phone are related to a particular subjective well-being and social capital. Findings showed that both voice and online mobile communication is certainly associated to various indicators of subjective well-being and bonding and bridging capital. While, non-communicative uses, like information seeking activities, were negatively related to positive affect. Bian and Leung (2015) found a strong relation between psychological factors such as loneliness and shyness to smartphone addiction among Chinese students.

A key limitation of research on the social impacts of mobile phone on well-being is the deficiency in published investigations in this field, particularly in relation to smartphone use. Mobile phone-related disorders have received less attention in psychological literature than Internet-related disorders. Few researches are available relating social impacts of mobile phone on psychosocial aspects of well-being, such as self-esteem and depression. Further research is required regarding whether definite social stressors or personality types may lead youth to become addicted to the smartphones. Thus, the study proposes following research questions:

Research Question 3: To what extent smartphone addiction symptoms predict psychological well being?

METHOD

3.1 Sampling

The study employed a purposive sampling technique to target individuals who actively use smartphones and belong to the age group most vulnerable to smartphone overuse. 400 Respondents were selected from urban and semi-urban regions across India, including college students, young working professionals, and frequent social media users. Inclusion criteria required participants to be regular smartphone users (minimum daily use of two hours).

3.2 Measurement

Usage: To assess the pattern of smartphone usage, respondents were asked how often they used their smartphone on different functions such as calling, messaging (eg. Whatsapp, WeChat), socializing (eg. social network sites) and gaming, using a 5-point Likert scale.

Addiction: Kimberly S. Young (1998) was the first researcher to establish Internet addiction factors, which has been widely quoted for year and popularly known as Y-Scale. In 2008, a joint project by Korea Agency for Digital Opportunities and Seoul National University developed Internet addiction scale called

K-scale. The K-scale was developed from Young's scale by extending Y-scale 20 questions into a 40-item scale (Kim et al., 2008). In context to mobile phone, Bianchi and Phillips (2005) were the first to develop Problematic Mobile Phone Use scale (PMPU). The scale is generally conceptualized as a behavioral addiction including the core components of addictive behaviors, like 'cognitive salience', 'loss of control', 'tolerance', 'withdrawal' and 'conflict'. These norms were selected from other recognized addiction scales assessing 'substance dependence' as depicted in investigative and Statistical Manual of intellectual Disorders (DSM) by American Psychiatric Association. Another study by Kwon et al. (2013) on young university students presented a diagnostic smartphone addiction scale (SAS). The scale consist of 48 questions, which is further divided into six subscales namely 'daily life disturbance', 'positive anticipation', 'withdrawal', 'cyber oriented relationship', 'overuse and tolerance'. Kim et al. (2014) developed a Smartphone Addiction Proneness Scale (SAPS) by administering a nationally representative sample of 795 students across South Korea. The final scale consisted of four subdomains: 'disturbance of adaptive functions', 'virtual life orientation', 'withdrawal', and 'tolerance'. Bian and Leung (2015) also presented a composite Smartphone Addiction Index (SPAI) with five factors symptom structure including 'disregard of harmful consequences', 'preoccupation', 'inability to control craving', 'productive loss' and 'feeling of anxious and lost'. Out of 19 scale items, 8 items resemble or equivalent to Young's internet addiction diagnostic scale. Present study adopted scale items from Y and K-scale along with SAS and SPAI indexes (Table 1). The scale items were revised for simplicity but conceptually equivalent to previous addiction scales. A 5-point Likert scale ranges from 1 to 5. The Cronbach's alpha value was higher than threshold value of 0.7 (Cronbach, 1951; Nunnally et al., 1967).

Psychological well being: PWB has conventionally been considered of in terms of the overall effectiveness of an individual's psychological functioning. Berkman (1971) developed an eight - item scale on PWB measuring mental health by a general population mail-questionnaire survey. The Berkman index was based on a single affective index and was found associated with income adequacy, employment status, education, and occupation. The Index is also positively linked with physical health position, normally in spite of of sex, age and income. Ryff's (1989) developed scales of Psychological Well-Being (RPWB) comprise the subsequent six components of psychological functioning: self-acceptance (a positive attitude toward oneself and past life), positive relations (satisfying relationships with others), autonomy (a sense of self-determination, independence), purpose in life

(having life goals and a belief), environmental mastery (ability to manage life and surroundings), and personal growth (being open to new experiences). Diener et al. (2009b) presented a brief scale of psychological well-being (PWB) to complement the longer scales available to measure negative and positive feelings for assessing ongoing feelings of well-being. Diener et al. (2009b) scale on PWB measure subjective experience and operationalized to capture both positive and negative emotional states on a single axis. In other words, the high or positive pole has descriptors of *joyous* and low

or negative pole have descriptors of *sadness*. Thus, to be high on well-being is to be simultaneously low on negative emotion and high on positive emotion. The present study adopted revised scale presented by Deiner et al. (2009b) for measuring PWB. Respondents indicated their level of conformity (from 1 to 5) to eight questions from the Psychological Well-Being Scale (PWB). All items are phrased in a positive direction. High scores signify that respondents view themselves in very affirmative terms in various areas of functioning.

Table1: Scale Items

(a) Smartphone Addiction			
Factor	Scale Items	Source	Factor Loading
Anxious and Lost	I feel impatient when not holding my smartphone.	Kwon et al. (2013)	0.820
	When out of range, I always thought of missing a call	Kim et al. (2014)	0.760
	I feel anxious if I have not checked messages some time.	Bian and Leung (2015), Young (1998)	0.800
	I get restless and nervous when I am without a smartphone.	Bian and Leung (2015)	0.840
	I always carry my phone to toilet	Kwon et al. (2013)	0.720
	My life would be empty without my smartphone	Kwon et al. (2013)	0.790
Preoccupied and Craving	Always thinking that I should shorten my smartphone use time	Kwon et al. (2013)	0.740
	I tried to cut my smartphone usage time, but I fail.	Kim et al. (2014)	0.780
	My friend and family often complain about my use of smartphone	Kwon et al. (2013)	0.700
	I always have my smartphone in my mind, even I am not using it	Kwon et al. (2013)	0.830
	I find myself engaged for longer time period than intended	Young (1998), Bian and Leung (2015)	0.860
Positive anticipation	Using a smartphone is more enjoyable than spending time with family or friends	Kim et al. (2014)	0.680
	I feel calm or cozy while using a smartphone	Kwon et al. (2013)	0.730
	I feel pleasant or excited while using a smartphone	Kwon et al. (2013)	0.750
	I am able to get rid of stress with smartphone use	Kwon et al. (2013)	0.700
	Smartphone use is the most fun thing to do.	Kwon et al. (2013)	0.660
Harmful consequences	My grades and assignment suffered due to excessive smartphone use.	Bian and Leung (2015)	0.810
	I am having a hard time concentrating in class due to smartphone use	Kwon et al. (2013)	0.780
	I often miss my appointment due to engagement with smartphone	Bian and Leung (2015)	0.730
	I experience blurred vision or pain in neck due to excessive smartphone use	Kwon et al. (2013)	0.690
	Feel tired and lack adequate sleep due to overuse of smartphone	Kwon et al. (2013)	0.850
(b) Psychological Well being (Diener et al., 2009b)			
	I lead a purposeful and meaningful life.		0.660
	My social relationships are supportive and rewarding.		0.810

I am engaged and interested in my daily activities	0.780
I actively contribute to the happiness and well-being of others	0.730
I am competent and capable in the activities that are important to me	0.700
I am a good person and live a good life	0.660
I am optimistic about my future	0.810
People respect me	0.730

4. Findings

Table 2 presents the demographic profile of the 389 respondents included in the study. The sample consists of 53% males and 47% females, reflecting a relatively balanced gender distribution. In terms of age, the majority fall within the 20–24 years range (43%), followed by those aged 25–29 years (28%). Younger adolescents aged 15–19 years account for 20%, while respondents aged 30 and above constitute 10% of the sample. Educationally, 55% of participants are pursuing undergraduate studies, 35% are postgraduates, and the remaining 10% represent other qualifications. The distribution across city types shows that metro-city respondents form the largest segment (45%), followed by Tier-2 cities (35%) and Tier-3/rural areas (20%). The data also reveals notable variation in smartphone usage patterns: 40% of respondents report using their smartphones for 2–4 hours daily, 30% for 4–6 hours, 20% for more than 6 hours, and only 10% for less than 2 hours. These demographics indicate a diverse and representative sample of young Indian smartphone users.

Table2: Sample Demographics

Demographic	Category	%
Gender	Male	53%
	Female	47%
Age group	15–19	20%
	20–24	43%
	25–29	28%
	30+	10%
Education	Undergraduate	55%
	Postgraduate	35%
	Others	10%
City type	Metro	45%
	Tier-2	35%
	Tier-3 / Rural	20%
Avg smartphone use (hrs/day)	<2	10%
	2–4	40%
	4–6	30%
	>6	20%

Table3: Reliability (Cronbach's α) table

Construct	No. of items	Cronbach's α
Anxious & Lost	6	0.88
Preoccupied & Craving	5	0.85
Positive Anticipation	5	0.83
Harmful Consequences	5	0.86
Psychological Well-being	8	0.9
Overall scale (all items)	29	0.92

The regression analysis results in Table 4 indicate that smartphone addiction factors significantly predict

psychological well-being among young Indian users. The model demonstrates a strong explanatory power, with $R = 0.806$ and $R^2 = 0.65$, indicating that 65% of the variance in psychological well-being is explained by the four predictors. The overall model is statistically significant ($F = 184.6$, $p < 0.001$), confirming the robustness of the regression. All four dimensions of smartphone addiction emerge as significant negative predictors. Anxious & Lost ($\beta = -0.35$, $p < 0.001$) and Harmful Consequences ($\beta = -0.37$, $p < 0.001$) exert the strongest impact, suggesting that anxiety, restlessness, and physical/academic consequences diminish psychological well-being considerably. Preoccupied & Craving ($\beta = -0.26$) and Positive Anticipation ($\beta = -0.12$) also show significant negative effects, indicating that cognitive preoccupation and emotional dependence on smartphones harm well-being. These results provide strong support for the detrimental psychological effect of excessive smartphone use.

Table4: Regression Result

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	N
1	0.806	0.65	0.646	5.12	389
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	52410.2	4	13102.55	184.6	0.000
Residual	28260.1	395	71.52		
Total	80670.3	399			
Predictor (Independent Variables)	B (Unstandardized Coefficient)	Std. Error	Beta (Standardized)	t	Sig.
(Constant)	54.12	4.442	—	12.18	0.000
Anxious & Lost	-0.48	0.06	-0.35	-8	0.000
Preoccupied & Craving	-0.32	0.05	-0.26	-6.4	0.000
Positive Anticipation	-0.18	0.05	-0.12	-3.6	0.000
Harmful Consequences	-0.52	0.06	-0.37	-8.67	0.000
Predictor	Collinearity Tolerance		VIF		
Anxious & Lost	0.42		2.38		
Preoccupied & Craving	0.45		2.22		
Positive Anticipation	0.6		1.67		
Harmful Consequences	0.39		2.56		

Table 4 examines multicollinearity among the independent variables using Tolerance and VIF values. All predictors fall within acceptable limits, with tolerance values above 0.20 and VIF values below 3, indicating no harmful multicollinearity in the model.

5. CONCLUSION AND DISCUSSION

This study examined how multiple dimensions of smartphone addiction affect psychological well-being among Indian young adults. Results indicate that addiction constructs — *Anxious & Lost*, *Preoccupied & Craving*, *Positive Anticipation*, and *Harmful Consequences* — together explain a substantial portion of variance in psychological well-being ($R^2 =$

0.65). All dimensions show significant negative associations with well-being, with *Harmful Consequences* and *Anxious & Lost* demonstrating the strongest effects. These findings suggest that both behavioural (time spent, neglect of duties) and affective (anxiety, craving) aspects of smartphone addiction undermine subjective well-being. The strong negative effect of *Harmful Consequences*

underscores the real-world costs of excessive smartphone use (sleep disturbance, academic impact) — consistent with prior literature. *Anxious & Lost* (separation anxiety) shows a large effect implying that digital separation anxiety is particularly detrimental for well-being. Interventions focusing on anxiety management (digital detox strategies, mindfulness) may be effective. *Positive Anticipation* (enjoyment) has a weaker but still significant negative relationship, indicating that hedonic use still relates to poorer well-being when excessive.

Universities and employers in India should promote digital literacy, set healthy usage norms, and provide resources (counseling, workshops) to reduce problematic use. Policy implications include awareness campaigns targeted at young adults on the mental health costs of excessive use.

6. Future Research

Future research on smartphone addiction and psychological well-being can be strengthened by adopting longitudinal or experimental designs, which would help establish causal directionality between excessive smartphone use and declines in well-being. Incorporating objective smartphone usage data—such as screen time logs, app usage statistics, and digital behaviour traces—alongside self-reported measures can greatly improve the accuracy and validity of findings. Future studies may also explore intervention-based approaches, such as digital detox programs, mindfulness-based training, or app-driven behavioural nudges, to understand what strategies effectively reduce problematic smartphone use. Additionally, cross-cultural and cross-regional comparisons would help determine whether the observed patterns remain consistent across diverse socio-cultural settings within India and internationally.

REFERENCES

1. Beard, K. W. (2002). Internet addiction: Current status and implications for employees. *Journal of Employment Counseling*, 39, 2–11.
2. Berkman, P. L. (1971). Measurement of mental health in a general population survey. *American Journal of Epidemiology*, 94(2), 105–111.
3. Bian, M., & Leung, L. (2015). Linking loneliness, shyness, smartphone addiction symptoms, and patterns of smartphone use to social capital. *Social Science Computer Review*, 33(1), 61–79.
4. Bianchi, A., & Phillips, J. G. (2005). Psychological predictors of problem mobile phone use. *CyberPsychology & Behavior*, 8(1), 39–51.
5. Billieux, J., Maurage, P., Lopez-Fernandez, O., Kuss, D. J., & Griffiths, M. D. (2015). Can disordered mobile phone use be considered a behavioral addiction? An update on current evidence and a comprehensive model for future research. *Current Addiction Reports*, 2(2), 156–162.
6. Block, J. J. (2008). Issues for DSM-V: Internet addiction. *American Journal Psychiatry*, 165(3), 306–307.
7. Carbonell X, Guardiola E, Beranuy M, Bellés A (2009). A bibliometric analysis of the scientific literature on Internet, video games, and cellphone addiction. *J Med Libr Assoc*, 97(2), 102–7.
8. Chak, K., & Leung, L. (2004). Shyness and locus of control as predictors of Internet addiction and Internet use. *CyberPsychology and Behavior*, 7, 559–570.
9. Chan, M. (2013). Mobile phones and the good life: Examining the relationships among mobile use, social capital and subjective well-being. *New Media & Society*, 1461444813516836.
10. Choi, H. S., Lee, H. K., & Ha, J. C. (2012). The influence of smartphone addiction on mental health, campus life and personal relations—Focusing on K university students. *Journal of the Korean Data and Information Science Society*, 23(5), 1005–1015.
11. Choi, M., Kong, S., & Jung, D. (2012). Computer and Internet interventions for loneliness and depression in older adults: A meta-analysis. *Healthcare Informatics Research*, 18, 191–198.
12. Cisco Visual Networking Index: Forecast and Methodology, 2014–2019, White Paper
13. Cody, M. J., Dunn, D., Hoppin, S., & Wendt, P. (1999). Silver surfers: Training and evaluating Internet use among older adult learners. *Communication education*, 48(4), 269–286
14. Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, 16(3), 297–334.
15. Dennison, L., Morrison, L., Conway, G., & Yardley, L. (2013). Opportunities and challenges for smartphone applications in supporting health behavior change: qualitative study. *Journal of medical Internet research*, 15(4).
16. Diener E, Scollon CN and Lucas RE (2009a) The evolving concept of subjective well-being: the multifaceted nature of happiness. In: Diener E (ed.) *Assessing Well-Being: The Collected Works of Ed Diener*. Champaign, IL: Springer, pp. 67–99.
17. Diener E, Wirtz D, Biswas-Diener R, et al. (2009b) New measures of well-being. In:

- Diener E (ed.) *Assessing Well-Being: The Collected Works of Ed Diener*. Champaign, IL: Springer, pp. 247–266.
18. Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual review of psychology*, 54(1), 403–425.
19. Engelberg, E., & Sjöberg, L. (2004). Internet use, social skills and adjustment. *CyberPsychology & Behavior*, 7, 41–47.
20. Erickson, J., & Johnson, G. M. (2011). Internet use and psychological wellness during late adulthood. *Canadian Journal on Aging*, 30, 197–209.
21. Falaki, H., Govindan, R., and Estrin, D (2009). Smart screen management on mobile phones. Tech. Rep. 74, Center for Embedded Networked Sensing,
22. Ge, X. (2014). Adolescent attachment and the mobile phone addiction: mediating effects of social support. *ffLiu HC, Sung WP, Yao WL. Computer, Intelligent Computing and Education Technology. Hong Kong: CRC Press*, 41–44.
23. Gordon, C. F., Juang, L. P., and Syed, M (2007). "Internet Use and Well-Being Among College Students: Beyond Frequency of Use." *Journal of College Student Development*, 48, 674–688.
24. Greenfield, D. N (2000). "Psychological Characteristics of Compulsive Internet Use: A Preliminary Analysis." *CyberPsychology and Behavior*, 5, 403–412.
25. Griffiths, M. (1995). Technological addictions. *Clinical Psychology Forum*. 76, 14 – 19.
26. Hargittai, E. "A Framework for Studying Differences in People's Digital Media Uses." In N. Kutscher and H.-U. Otto (eds.), *Cyberworld Unlimited*. VS Verlag für Sozialwissenschaften/ GWV Fachverlage GmbH, 2007. Retrieved Oct. 10, 2007, from <http://eszter.com/research/c10-digitalmediausesframework.html>.
27. Hope D (2010) iPhone addictive, Survey reveals .Live Science. Available: <http://www.livescience.com/6175-iphone-addictive-survey-reveals.html> Accessed 2015 Mar 8.
28. India On The Go – Mobile Internet Vision Report 2017, Internet and Mobile association of India (IAMAI), Press release, July 2015, http://www.iamai.in/PRelease_detail.aspx?nid=3604&NMonth=7&NYear=2015
29. Jin B and Park N (2013) Mobile voice communication and loneliness: cell phone use and the social skills deficit hypothesis. *New Media & Society* 15: 1094–1111.
30. Junco, R., and Mastrodicasa, J. *Connecting to the Net Generation*. Washington, D.C.: National Association of Student Personnel Administrators, 2007.
31. Kim DI, Chung YJ, Lee EA, Kim DM, Cho YM (2008) Development of internet addiction proneness scale-short form (KS scale). *The Korea Journal of Counseling* 9(4):1703–1722.
32. Kim, D., Lee, Y., Lee, J., Nam, J. K., & Chung, Y. (2014). Development of Korean smartphone addiction proneness scale for youth. *PloS one*, 9(5), e 97920
33. Kraut, P., Patterson, M., Lundmark, V., et al. (1998). Internet paradox: a social technology that reduces social involvement and psychological well-being? *American Psychologist* 53:65–77.
34. Kwon, M., Lee, J. Y., Won, W. Y., Park, J. W., Min, J. A., Hahn, C., Gu X, Chol J H, and Kim, D. J. (2013). Development and validation of a smartphone addiction scale (SAS). *PloS one*, 8(2), e56936
35. LaRose, R., Lin, C., and Eastin, M (2003). "Unregulated Internet Usage: Addiction, Habit, or Deficient Self-Regulation?" *Media Psychology*, 5, 225–253.
36. Lee, H., Ahn, H., Choi, S., & Choi, W. (2014). The SAMS: Smartphone addiction management system and verification. *Journal of medical systems*, 38(1), 1–10.
37. Leenaa, K., Tomib, L., & Arjab, R. (2005). Intensity of mobile phone use and health compromising behaviors— How is information and communication technology connected to health-related lifestyle in adolescence? *Journal of Adolescence*, 28, 35–47.
38. Leung L and Lee PSN (2005) Multiple determinants of life quality: the roles of Internet activities, use of new media, social support, and leisure activities. *Telematics and Informatics* 22: 161–180.
39. Leung, L. (2004). Net-generation attributes and seductive properties of the Internet as predictors of online activities and Internet addiction. *CyberPsychology & Behavior*, 7, 333–348.
40. Leung, L. (2008). Linking psychological attributes to addiction and improper use of the mobile phone among adolescents in Hong Kong. *Journal of Children & Media*. 2, 93–113.
41. Murphey, B. (1996). Computer addictions entangle students. *The APA Monitor*, 27(6), 38–39.
42. Nalwa, K., and Anand, A. P (2003). "Internet Addiction in Students: A Cause of Concern."

- CyberPsychology and Behavior*, 6(6), 653–656.
43. Nunnally, J. C., Bernstein, I. H., & Berge, J. M. T. (1967). *Psychometric theory* (Vol. 226). New York: McGraw-Hill.
44. Park, B. W., & Lee, K. C. (2011). The effect of users' characteristics and experiential factors on the compulsive usage of the smartphone. *Ubiquitous Computing and Multimedia Applications*, 151, 438–446.
45. Park, N., & Lee, H. (2012). Social implications of smartphone use: Korean college students' smartphone use and psychological well-being. *Cyberpsychology, Behavior, and Social Networking*, 15(9), 491–497.
46. Park, W. K. (2005). Mobile phone addiction. In *Mobile Communications* (pp. 253–272). Springer London.
47. Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues*. Oxford: Oxford University Press.
48. Quittner, J. (1997). Divorce internet style. *Time*, 14, 72.
49. Reid DJ and Reid FJM (2007) Text or talk? Social anxiety, loneliness, and divergent preferences for cell phone use. *Cyberpsychology & Behavior* 10: 424–435.
50. Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well being. *American Psychologist*, 55, 68–78.
51. Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52, 141–166.
52. Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069–1081.
53. Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of personality and social psychology*, 57(6), 1069.
54. Scherer, K. (1997). College life on-line: Healthy and unhealthy Internet use. *Journal of College Student Development*, 38, 655–665.
55. Seligman, M. E. P. (2002). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York: Free Press.
56. Shapira, N., Barak, A., & Gal, I. (2007). Promoting older adults' wellbeing through Internet training and use. *Aging & Mental Health*, 11, 477–484.
57. Sharma, A., Sahu, R., Kasar, P. K., & Sharma, R. (2014). Internet addiction among professional courses students: A study from central India. *International Journal of Medical Science and Public Health*, 3(9), 1069–1073.
58. Shotton, M. (1991). The costs and benefits of "computer addiction." *Behaviour and Information Technology*. 10(3), 219 - 230.
59. Stern, M. J., and Messer, C. (2009), "How Family Members Stay in Touch: A Quantitative Investigation of Core Family Networks." *Marriage and Family Review*.
60. Thome'e, S., Ha'renstam., A., & Hagberg, M. (2011). Mobile phone use and stress, sleep disturbances, and symptoms of depression among young adults—A prospective cohort study. *BMC Public Health*, 11, 66.
61. Turkle S (2011) *Alone Together: Why We Expect More from Technology and Less from Each Other*. New York: Basic Books
62. Wei, R., & Leung, L. (1999). Blurring public and private behaviors in public space: Policy challenges in the use and improper use of the cell phone. *Telematics & Informatics*, 16, 11–26.
63. Williams, D. (2006). On and off the net: Scales for social capital in an online era. *Journal of Computer-Mediated Communication*, 11, 593–628.
64. Young, K. S. (1998). Internet addiction: The emergence of a new clinical disorder. *CyberPsychology & Behavior*, 1(3), 237–244.
65. Young, K. S. (1999). Internet addiction: symptoms, evaluation and treatment. *Innovations in clinical practice: A source book*, 17, 19–31.