

Journal of Peace, Development and Communication



Volume 05, Issue 2, April-June 2021
 pISSN: 2663-7898, eISSN: 2663-7901
 Article DOI: <https://doi.org/10.36968/JPDC-V05-I02-09>
 Homepage: <https://pdfpk.net/pdf/>
 Email: se.jpdc@pdfpk.net

Article:	Social Media Addiction: The Rising Concepts and Issues
Author(s):	Adiba Akhtar Ph.D. Scholar in Media and Communication Studies, International Islamic University (IIU), Islamabad / Lecturer, Department of Mass Communication, NUML University, Islamabad.
	Amrat Haq Assistant Professor, Department of Media and Communication Studies, International Islamic University (IIU), Islamabad
Published:	30 th June 2021
Publisher Information:	Journal of Peace, Development and Communication (JPDC)
To Cite this Article:	Akhtar, A., & Haq, A. (2021). Social Media Addiction: The Rising Concepts and Issues. <i>Journal of Peace, Development and Communication</i> , 05(02), 100–110. https://doi.org/https://doi.org/10.36968/JPDC-V05-I02-09
Author(s) Note:	Adiba Akhtar is a Ph.D. Scholar in Media and Communication Studies, International Islamic University (IIU), Islamabad / Lecturer, Department of Mass Communication, NUML University, Islamabad. Email: abakhtar@numl.edu.pk
	Amrat Haq is serving as Assistant Professor at Department of Media and Communication Studies, International Islamic University (IIU), Islamabad

Abstract

Social media has become immensely popular during the last one decade. The social media activities have occupied a sizable space in the daily lives of individuals. The virtual and vibrant social media platforms provide an easy access to its users which may lead to over use and consequently may result into social media addiction. This qualitative study is aimed at giving brief overview of some of the rising concepts and issues that have emerged in empirical studies during the last one decade regarding social media usage and its potential for addiction as it is important to establish consensual themes, concepts and issues so that researchers and clinical practitioners may combine their efforts to establish a communication system for a reliable assessments of social media addiction and behaviours associated with it.

Keywords: Social media, social networking sites, addiction, personality traits, technology, smartphone, fear of missing out, alone together.

Introduction

In past few years, with the advent of digital media and information technology the ways of interpersonal communication has changed drastically. Particularly prevailing Internet-related applications like social media including social networking sites (Facebook, Twitter, or Instagram etc) have played vital role in this regard (Stone & Wang, 2018). Social media, defined as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0 and that allow the creation and exchange of user-generated content” (Kaplan & Haenlein, 2010, p. 61). An easy accessibility and twenty four hours availability of the various social media platforms makes individual more vulnerable to fall victim to social media addiction and problematic internet use. The use can prevail to the extent that it starts interfering with various other aspects of day to day routine. (Griffiths, 2000, 2012). According to Andreassen and Pallen (2014) social media addiction means spending excessive time on social media activities due to an uncontrollable and compulsive urge which leads to negative outcomes in an individual’s day to day life. Social media addiction is associated with a number of relationships, emotional issues, health and performance problems (Kuss & Griffith, 2017; Marino et al., 2017). Thus, understanding the reasons, consequences and possible cures of social media addiction has got tremendous importance.

This article gives brief overview of some of the rising concepts and issues related to social media addiction that has emerged in recent empirical literature . The study is based on five points which have been raised on the basis of insights extracted from empirical studies during the last one decade. These points include: (i) Personality traits as a predictor of social media addiction.(ii) Alone together (iii) Fear of Missing Out(iv) The excessive use of Smartphone leads to social media addiction (v) Technological Addiction.

Personality traits, the predictor of social media addiction

Personality is one of the important factor which determines why and how people use information technologies specifically internet and related applications. The studies about the relationship between personality and technology use is decisive as characteristics of personality are the significant factors that determine users’ behaviour towards using communication and information technologies (Amichai-Hamburger et al., 2002). A number of researchers have applied particular conceptual frameworks to study the relationship between internet use by individuals and their personality traits. The one prominent example is the Big Five Factor Model of personality traits (Montag et al., 2010). Goldberg (1993) suggested that it was possible to generalize the various traits of personality with the five basic factors which include neuroticism, extraversion, openness to experience, conscientiousness and agreeableness. Allik and McCrae (2004) describes Openness to experience as compassionate and active search for having new experiences in life, extraversion means expressing the connection of individuals with their environment and surroundings, neurotics as individuals who gets upset easily and finds life as turbulent. Agreeable people act as polite, ready to cooperate with others, have better understanding of other individuals and situations, Conscientious people are reasonable, stable, determined, ambitious and systematic in achieving their objectives and goals. The previous research has highlighted a strong association between Internet addiction and personality trait(Landers & Lounsbury, 2006; Chang & Law, 2008; Rice & Markey, 2009; Correa et al. , 2010). The prevailing excessive use of Internet has activated a debate among researchers on analysing that how various personality traits influence the usage and application of communication technologies, particularly the Internet, social media and other online activities like games etc. Social media usage and its various related sub forms like social networking sites use have evolved at a faster rate during the last decade.(Carr & Hayes, 2015 ;Kuss & Griffith, 2017). The previous literature reveals that some specific personality traits are

associated with social media addiction. Many researchers particularly worked on the preferences of social media usage and their association with personality traits like in few studies neuroticism, openness to experience and extraversion are positively related to excessive and over use of social media (Huges et al., 2012 ; Wang et al., 2012). There was an association found among neuroticism, low conscientiousness and extraversion and addictive usage of Facebook (Caers et al., 2013; Wang et al., 2015). Biolcati et al., (2018) found that conscientiousness, extraversion neuroticism and loneliness are the strong predictor of Facebook addiction. The relationship between Facebook usage and neuroticism was highlighted in a study conducted in Australia on the Internet users (Ryan, 2011). In another study, with the sample of US students the association between big five personality traits and self presentations on Facebook revealed that higher expression of self presentation on Facebook is associated with neuroticism, agreeableness and conscientiousness (Seidman, 2013)

Alone together

On the usage of social media term "Along Together" was used by Sherry Turkle (2011) in the context of technological advancements in the field of communication. The main idea behind the phrase was that individuals are willingly allowing technology to take them to places that they don't necessarily want to go. People are letting the smallest of devices to control them and their lives, the new technology is so powerful that it can change who we actually are. In present era people are usually found engrossed with their technological devices like cellular phones. It is a common observation that individuals remain busy with their phones even in class rooms, during their presentations, in board meetings, even people have been found using cell phone during funeral sessions. Turkle (2011) expressed that a common trend in today's life is that individuals desire to be with each other and in other places as well at the same time, she analysed that people like to have a lot of people around them but virtually and at bay and simultaneously they have the desire to control it. She revealed that the reason why people expect more from latest technology and less from each other is because technology is available there even when people find themselves at their most vulnerable stages. This fact raises three points: First one is that people seek attention when ever they want, second it makes us feel that we can always be heard by others and the third point creates belief within individuals that they are never alone. (Turkle,2011).

Modern and sophisticated digital technologies enable social media sites remain available to the users almost 24 hours a day. Although a person might not be able to communicate a specific person in his virtual community as per his own desire. But, if a person's social networking is broad and diverse enough, at least one person from any of their social networking platforms can be available at any time, be it a day or night (Chayko 2008). The quality of always "on" and all the time "open" social media sites provide its users with a certain sense of association and connectedness, while remain aloof from the real people in their surrounding (Baron, 2010).

Social media sites have not only changed the human value of friendship and interaction but have also made people more disconnected and distant than ever before. It is a common scene to observe that people at family gathering, leisure activities or friends' meet-ups or even at dinner table found so absorbed in their mobile phones whether it is to share an update, new status ,selfie upload or just to 'connect,' while they are physically surrounded by a gathering. They would do anything to avoid interaction with the individual sitting right in front of them. Sherry Turkle (2011), the author of the book "Alone Together" denoted that human relationships are demanding and messy, so individuals turn to social media sites that offer the illusion of companionship without any demands of real friendships. These easy access, facilitation and comfort zones compel them to use social media again and again which may consequently result in social media addiction.

The use of smart phone leads to social media addiction

Smartphones have got immense popularity globally (Lee, Chang, Lin, & Cheng, 2014). The numerous functions and sophisticated technology of smartphones have drawn attention of millions of users. Consequently, most of them have switched from regular cell phones to smartphone (Salehan & Negahban, 2013). Alongside benefits, excessive use of smartphones may also result in negative consequences (Park & Lee, 2011). Due to inordinate and excessive use of smart phone addiction-like symptoms may emerge, which may result into personal or social problems (Grau, Kleiser & Bright, 2019). Research evaluating the excessive and problematic smartphones usage has increased during the last decade (Billieux et al., 2015). Related studies have revealed that problematic smartphone use has many facets and addiction is one possible outcome (Billieux et al., 2015). The addictive pattern of smartphone usage is characterized by the use of certain applications such as text messaging, phone calls, and above all use of social media platforms. The observation reveals that smartphone as a medium itself not an addiction rather its various applications enable the activities in potentially addictive engagements and the most prevailing is social media use. (Kuss & Griffiths, 2017). Using social media is specifically most popular and significant activity on smartphones, almost 80% of social media activities are performed by using mobile technologies (Marketing Land, 2017). Approximately there are 4.08 billion active internet users worldwide who access social media via mobile phone. (statistia, 2020). So, it can be said that smartphone addiction may be the part of social media addiction. A study conducted by (Andreassen et al., 2016) on a sample of 23,000 Norwegians, supported this supposition by particularly focusing that individuals mostly engage themselves on social media via smartphones, which may lead to its addictive potential. Salehan and Negahban (2013) reported in a study that social media use is the predictive variable for smartphone addiction. Park and Lee (2012) revealed that smartphone addicted individuals prefer to use social media via their smartphones, specifically women.

Fear of Missing Out

Some latest studies (Kuss & Griffith, 2017, Elhai, 2016 and wegmann et al., 2017) revealed that excessive social media use is partially outcome of fear of missing out (FOMO). It is “a pervasive apprehension that others might be having rewarding experiences from which one is absent” (Przybylski, Gladwell, DeHaan, Murayama and Gladwell, 2013, p. 1841). The previous studies showed that people who showed high ratio of FoMO harbour negative aspects of personality like low self esteem, trait anxiety, irritability, neuroticism and inadequacy (Abel et al., 2016). Some growing empirical literature investigating on the relationship between FoMO and technology suggested that FoMO has direct association with the social media use and higher problematic use of smartphone (Douglas, 2016; Elhai et al 2016). Przybylski et al. (2013) revealed that higher level of FoMO is associated with excessive Facebook engagements. A study was conducted in England with the sample of 506 Facebook users. The result showed that fear of missing out mediates the association between low self esteem and excessive use of social media (Buglass et al. 2017). FoMO is an old concept in Psychological literature ,however with the fast growth of social media , its application has also risen exponentially (Abel et al. 2016). Blackwell et al.(2017) revealed in a study that individuals with the symptoms of fear of missing out are more prone to spend excessive time on social media because such platforms provide an ample opportunity and easy access to virtual socialization and interactions and can enhance perceived social involvement which makes these platforms an ideal place for the people interested to know what others are doing (Przybylski et al 2013). In a study Abel et al. (2016) revealed that humans are social by nature and are curious to know how other people perceive , think and act and how all that reflects in their own persona. It has been observed that digital world is increasingly becoming significant in individual’s daily life, people use social media to peep

into others life and to know what is going one (Abel et al.) 2016. Continuous accessibility to social media, enables them to observe others life and compare with them selves to know what is missing out in their own life like achievements ,functions, parties, dinner and social events etc. (Abel et al., 2016; Przybylski et al., 2013). A couple of studies recently conducted on fear of missing out analyzed that this concept has emerged as a prominent predictor of social media addiction . (Alt, 2015; Oberst et al., 2017)

Technological addiction

Most of the publications on technological addiction appeared either as a theoretical papers or clinical case studies (Young,1996 ; Griffith,1996) are generally based on the assumption that excessive and inordinate use of digital technology must be taken as a “non chemical” or “behavioural” addiction (Marks,1990). Technological addiction involves exorbitant human-machine interaction. It can be of two types passive interaction and active interaction. For example television viewing is a passive interaction while online chatting or playing games on computer are the example of active interaction .It is usually comprised of reinforcing and convincing characteristics that may facilitate the tendencies of addiction (Griffith, 1996) .There are number of terms used in literature to explain pathological use of digital technology like “Internet addiction” (Young 1998) “Compulsive Internet use” or “problematic Internet use” (Greenfield, 1999). The term Internet addiction as a disorder (IAD) was first proposed by Ivan Goldberg in 1995 and it has been derived from the substance-dependence criteria of the Diagnostic and Statistical Manual of Mental Disorders (4th Ed. DSM-IV American Psychiatric Association, 1994). Social media addiction is considered the sub type of internet addiction due to their common characteristics with substance-related addictions. According to Griffith (2005) six components have been identified as behavioural addiction, which are salience, mood modification, tolerance , withdrawal, conflict, and relapse (Griffiths, 2005).

According to Kuss & Griffith (2017) for many individuals social media engagements become their most preferred activity , heading towards a preoccupation with social media usage (salience). The engagements on social media are used for the change of mood or improvement of mood, like having pleasure feelings or numbness effect (mood modification). In order to achieve the feeling of satisfaction again and again they increase amount of time as well as energy for social media activities (tolerance). In case social media use is disconnected due to any reasons addicted people will feel negative Physiological symptoms in some cases while Psychological symptoms on most of the cases.(withdrawal), this eventually ends up on reinforcement of their social media engagements (relapse).Consequently, the excessive use of social media starts interfering with their daily life, relations, job etc. (conflict). Various studies have been conducted with the sample of American residents who were the regular user of Internet and results were compared with the data obtained from different countries. The result showed that excessive use of Internet differs across various countries (Cheng & Li, 2014). Moreover, the use of internet and Facebook prevailing ratio were also found to be different. The study showed 88.5% and 62% in the US respectively while Turkey showed 58% and 52.8% in Poland outcome showed 72.4% and 36.3% and in Ukraine the result was 44.1% and 12.7%. The sample selected for the study were taken from various background. Banyei et al. (2017) analysis on Hungarian adolescents showed that 4.5% adolescents were found to be at risk level of social media addiction. Another cross cultural study was conducted on 10,930 adolescence. The sample were taken from six European countries which include the Netherlands, Iceland, Romania, Poland and Greece. Result of the study revealed that being active on social media for two or more than two hours per day was associated with problematic Internet behaviour and poor academic performance among students (Tsitsika et al., 2014). A study conducted on 920 Chinese secondary school students showed that extraversion and neuroticism predicted social

media addiction, the result clearly identified individuals who faced Psychological problem due to their inordinate and excessive use of social media from the people who were active in online gaming or excessively use Internet generally. (Wang et al. ,2015)

Conclusion

The advent of social media has changed our lives, ways of communication, interaction relationships and businesses within and across communities tremendously. This has led to an increase in academic research and studies on social media, its uses and influences like social media addiction. This paper has outlined some of emerging concepts and issues from recent empirical studies and research work on social media addiction. It is imperative to establish consensual themes, concepts and issues in fast growing research field of social media addiction, so that researchers as well as clinicians can combine their efforts to work together for establishing a productive communication system among concerned bodies. The process would enable a valid and reliable evaluation of social media addiction and behaviours connected with it. The present paper reveals that since the emergence of social media a number of researchers have focused their attention on the relation ship between social media usage and personality traits. Among others ,the Five Factor Model is commonly preferred model among the researchers due to its five factor structure. These five factors cover most of the personality traits. The studies also revealed that technological addiction is considered to be a part of behavioural addiction. The users having symptoms that are traditionally associated with substance related addiction may also be addicted to social media. Moreover, extensive use of smart phones may contribute to social media addiction. Easy access to social media applications on smartphones makes people more vulnerable to addiction. The recent research work also showed that fear of missing out may also be a predictor of social media addiction because people who are concerned about being unable to connect to their social media platforms are at risk to develop impulsive habit of checking their social media account that eventually may develop into addiction. Another emerging concept is being alone to gather. It means that people remain aloof in crowd. Though physically they are with the people around them but they actually remain engaged in their virtual world interacting with people online. Over all the contribution of this study is significant, comprehensive and qualitative.

Reference

- Abel, J. P., Buff, C. L., & Burr, S. A. (2016). Social Media and the Fear of Missing Out: Scale Development and Assessment. *Journal of Business & Economics Research (JBER)*, 14(1), 33–44. <https://doi.org/10.19030/jber.v14i1.9554>
- Allik, J., & McCrae, R. R. (2004). Toward a Geography of Personality Traits. *Journal of Cross-Cultural Psychology*, 35(1), 13–28. <https://doi.org/10.1177/0022022103260382>
- Alt, D. (2015). College students' academic motivation, media engagement and fear of missing out. *Computers in Human Behavior*, 49, 111–119. <https://doi.org/10.1016/j.chb.2015.02.057>
- Amichai-Hamburger, Y., Wainapel, G., & Fox, S. (2002). “On the Internet No One Knows I’m an Introvert”: Extroversion, Neuroticism, and Internet Interaction. *CyberPsychology & Behavior*, 5(2), 125–128. <https://doi.org/10.1089/109493102753770507>
- Andreassen, C., & Pallesen, S. (2014). Social Network Site Addiction - An Overview. *Current Pharmaceutical Design*, 20(25), 4053–4061. <https://doi.org/10.2174/13816128113199990616>
- Andreassen, C. S., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni, E., & Pallesen, S. (2016). The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychology of Addictive Behaviors*, 30(2), 252–262. <https://doi.org/10.1037/adb0000160>
- Bányai, F., Zsila, G., Király, O., Maraz, A., Elekes, Z., Griffiths, M. D., Andreassen, C. S., & Demetrovics, Z. (2017). Problematic Social Media Use: Results from a Large-Scale Nationally Representative Adolescent Sample. *PLOS ONE*, 12(1), e0169839. <https://doi.org/10.1371/journal.pone.0169839>
- Baron, N. (2010b). *Always On: Language in an Online and Mobile World* (Illustrated ed.). Oxford University Press.
- 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. <https://doi.org/10.1007/s40429-015-0054-y>
- Biolcati, R., Mancini, G., & Trombini, E. (2017). Proneness to Boredom and Risk Behaviors During Adolescents' Free Time. *Psychological Reports*, 121(2), 303–323. <https://doi.org/10.1177/0033294117724447>
- Błachnio, A., Przepiorka, A., Senol-Durak, E., Durak, M., & Sherstyuk, L. (2017). The role of personality traits in Facebook and Internet addictions: A study on Polish, Turkish, and Ukrainian samples. *Computers in Human Behavior*, 68, 269–275. <https://doi.org/10.1016/j.chb.2016.11.037>
- Blackwell, D., Leaman, C., Tramposch, R., Osborne, C., & Liss, M. (2017). Extraversion, neuroticism, attachment style and fear of missing out as predictors of social media use and addiction. *Personality and Individual Differences*, 116, 69–72. <https://doi.org/10.1016/j.paid.2017.04.039>
- Buglass, S. L., Binder, J. F., Betts, L. R., & Underwood, J. D. (2017). Motivators of online vulnerability: The impact of social network site use and FOMO. *Computers in Human Behavior*, 66, 248–255. <https://doi.org/10.1016/j.chb.2016.09.055>
- Caers, R., De Feyter, T., De Couck, M., Stough, T., Vigna, C., & Du Bois, C. (2013). Facebook: A literature review. *New Media & Society*, 15(6), 982–1002. <https://doi.org/10.1177/1461444813488061>

- Carr, C. T., & Hayes, R. A. (2015). Social Media: Defining, Developing, and Divining. *Atlantic Journal of Communication*, 23(1), 46–65. <https://doi.org/10.1080/15456870.2015.972282>
- Chang, M. K., & Man Law, S. P. (2008). Factor structure for Young's Internet Addiction Test: A confirmatory study. *Computers in Human Behavior*, 24(6), 2597–2619. <https://doi.org/10.1016/j.chb.2008.03.001>
- Chayko, M. (2008). *Portable Communities: The Social Dynamics of Online and Mobile Connectedness*: State University of New York Press.
- Cheng, C., & Li, A. Y. L. (2014). Internet Addiction Prevalence and Quality of (Real) Life: A Meta-Analysis of 31 Nations Across Seven World Regions. *Cyberpsychology, Behavior, and Social Networking*, 17(12), 755–760. <https://doi.org/10.1089/cyber.2014.0317>
- Correa, T., Hinsley, A. W., & de Zúñiga, H. G. (2010). Who interacts on the Web?: The intersection of users' personality and social media use. *Computers in Human Behavior*, 26(2), 247–253. <https://doi.org/10.1016/j.chb.2009.09.003>
- Elhai, J. D., Levine, J. C., Dvorak, R. D., & Hall, B. J. (2016). Fear of missing out, need for touch, anxiety and depression are related to problematic smartphone use. *Computers in Human Behavior*, 63, 509–516. <https://doi.org/10.1016/j.chb.2016.05.079>
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, 48(1), 26–34. <https://doi.org/10.1037/0003-066x.48.1.26>
- Grau, S., Kleiser, S., & Bright, L. (2019). Exploring social media addiction among student Millennials. *Qualitative Market Research: An International Journal*, 22(2), 200–216. <https://doi.org/10.1108/qmr-02-2017-0058>
- GREENFIELD, D. N. (1999). Psychological Characteristics of Compulsive Internet Use: A Preliminary Analysis. *CyberPsychology & Behavior*, 2(5), 403–412. <https://doi.org/10.1089/cpb.1999.2.403>
- Griffiths, M. (1996). Gambling on the internet: A brief note. *Journal of Gambling Studies*, 12(4), 471–473. <https://doi.org/10.1007/bf01539190>
- Griffiths, M. (2000). Internet Addiction - Time to be Taken Seriously? *Addiction Research*, 8(5), 413–418. <https://doi.org/10.3109/16066350009005587>
- Griffiths, M. (2005). A 'components' model of addiction within a biopsychosocial framework. *Journal of Substance Use*, 10(4), 191–197. <https://doi.org/10.1080/14659890500114359>
- Griffiths, M. D. (2012). Facebook Addiction: Concerns, Criticism, and Recommendations—A Response to Andreassen and Colleagues. *Psychological Reports*, 110(2), 518–520. <https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.statista.com/topics/2478/m>
- Hughes, K. D., Jennings, J. E., Brush, C., Carter, S., & Welter, F. (2012). Extending Women's Entrepreneurship Research in New Directions. *Entrepreneurship Theory and Practice*, 36(3), 429–442. <https://doi.org/10.1111/j.1540-6520.2012.00504.x>
- Jang, S. M., Lee, H., & Park, Y. J. (2014). The More Friends, the Less Political Talk? Predictors of Facebook Discussions Among College Students. *Cyberpsychology, Behavior, and Social Networking*, 17(5), 271–275. <https://doi.org/10.1089/cyber.2013.0477>
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53(1), 59–68. <https://doi.org/10.1016/j.bushor.2009.09.003>
- Kuss, D. J., & Griffiths, M. D. (2011). Online Social Networking and Addiction—A Review of the Psychological Literature. *International Journal of Environmental Research and Public Health*, 8(9), 3528–3552. <https://doi.org/10.3390/ijerph8093528>

- Kuss, D., & Griffiths, M. (2017). Social Networking Sites and Addiction: Ten Lessons Learned. *International Journal of Environmental Research and Public Health*, 14(3), 311. <https://doi.org/10.3390/ijerph14030311>
- Landers, R. N., & Lounsbury, J. W. (2006). An investigation of Big Five and narrow personality traits in relation to Internet usage. *Computers in Human Behavior*, 22(2), 283–293. <https://doi.org/10.1016/j.chb.2004.06.001>
- Marino, C., Finos, L., Vieno, A., Lenzi, M., & Spada, M. M. (2017). Objective Facebook behaviour: Differences between problematic and non-problematic users. *Computers in Human Behavior*, 73, 541–546. <https://doi.org/10.1016/j.chb.2017.04.015>
- Marks, I. (1990). Behavioural (non-chemical) addictions. *Addiction*, 85(11), 1389–1394. <https://doi.org/10.1111/j.1360-0443.1990.tb01618.x>
- McCrae, R. R., Costa, P. T., Del Pilar, G. H., Rolland, J. P., & Parker, W. D. (1998). Cross-Cultural Assessment of the Five-Factor Model. *Journal of Cross-Cultural Psychology*, 29(1), 171–188. <https://doi.org/10.1177/0022022198291009>
- Montag, C., Jurkiewicz, M., & Reuter, M. (2010). Low self-directedness is a better predictor for problematic internet use than high neuroticism. *Computers in Human Behavior*, 26(6), 1531–1535. <https://doi.org/10.1016/j.chb.2010.05.021>
- Oberst, U., Wegmann, E., Stodt, B., Brand, M., & Chamarro, A. (2017). Negative consequences from heavy social networking in adolescents: The mediating role of fear of missing out. *Journal of Adolescence*, 55, 51–60. <https://doi.org/10.1016/j.adolescence.2016.12.008>
- Park, J. H., Kim, K. W., Kim, M. H., Kim, M. D., Kim, B. J., Kim, S. K., . . . Cho, M. J. (2012). A nationwide survey on the prevalence and risk factors of late life depression in South Korea. *Journal of Affective Disorders*, 138(1–2), 34–40. <https://doi.org/10.1016/j.jad.2011.12.038>
- Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, 29(4), 1841–1848. <https://doi.org/10.1016/j.chb.2013.02.014>
- Rice, L., & Markey, P. M. (2009). The role of extraversion and neuroticism in influencing anxiety following computer-mediated interactions. *Personality and Individual Differences*, 46(1), 35–39. <https://doi.org/10.1016/j.paid.2008.08.022>
- Ryan, T., & Xenos, S. (2011). Who uses Facebook? An investigation into the relationship between the Big Five, shyness, narcissism, loneliness, and Facebook usage. *Computers in Human Behavior*, 27(5), 1658–1664. <https://doi.org/10.1016/j.chb.2011.02.004>
- Salehan, M., & Negahban, A. (2013). Social networking on smartphones: When mobile phones become addictive. *Computers in Human Behavior*, 29(6), 2632–2639. <https://doi.org/10.1016/j.chb.2013.07.003>
- Seidman, G. (2013). Self-presentation and belonging on Facebook: How personality influences social media use and motivations. *Personality and Individual Differences*, 54(3), 402–407. <https://doi.org/10.1016/j.paid.2012.10.009>
- Stone, C. B., & Wang, Q. (2018). From Conversations to Digital Communication: The Mnemonic Consequences of Consuming and Producing Information via Social Media. *Topics in Cognitive Science*, 11(4), 774–793. <https://doi.org/10.1111/tops.12369>
- Tsitsika, A., Janikian, M., Schoenmakers, T. M., Tzavela, E. C., Ólafsson, K., Wójcik, S., . . . Richardson, C. (2014). Internet Addictive Behavior in Adolescence: A Cross-Sectional Study in Seven European Countries. *Cyberpsychology, Behavior, and Social Networking*, 17(8), 528–535. <https://doi.org/10.1089/cyber.2013.0382>
- Turkle, S. (2011). *Alone Together: Why We Expect More from Technology and Less from Each Other* (1st ed.). New York, USA: Basic Books.

- Young, K. S. (1996). Psychology of Computer Use: XL. Addictive Use of the Internet: A Case That Breaks the Stereotype. *Psychological Reports*, 79(3), 899–902. <https://doi.org/10.2466/pr0.1996.79.3.899>
- YOUNG, K. S. (1998). Internet Addiction: The Emergence of a New Clinical Disorder. *CyberPsychology & Behavior*, 1(3), 237–244. <https://doi.org/10.1089/cpb.1998.1.237>
- Wang, C. W., Ho, R. T., Chan, C. L., & Tse, S. (2015). Exploring personality characteristics of Chinese adolescents with internet-related addictive behaviors: Trait differences for gaming addiction and social networking addiction. *Addictive Behaviors*, 42, 32–35. <https://doi.org/10.1016/j.addbeh.2014.10.039>