

Smartphone Addiction, Loneliness, and Social Support: Interconnections among College Students in Khyber Pakhtunkhwa, Pakistan

Jalwa Hussain

BS Student, Department of Psychology, AWKUM.
Email: binobeen192@gmail.com

Ahmad Khan

Lecturer, Department of Psychology, AWKUM. Email: aamadpsy@gmail.com

Noora Samar

MPhil Scholar, Department of Psychology, Islamia College University Peshawar. Email: shonasammar1996@gmail.com

Vol. 1, No. 1 (2023)

Pages: 17 – 25

Key Words

Smartphones Addiction,
Loneliness, Perceived Support.

Corresponding Author:

Jalwa Hussain

Email: binobeen192@gmail.com

Abstract: *The primary objective of this investigation was to explore the interrelations among smartphone addiction, loneliness, and perceived social support within the context of collegiate populations. Employing a cross-sectional methodology, the study sampled first- and second-year students from a variety of educational institutions in Khyber Pakhtunkhwa (KP), Pakistan. A cohort of 199 college students, encompassing both genders and hailing from diverse academic establishments in KP, Pakistan, constituted the study's participants. Measurement of the research constructs was achieved through the administration of the UCLA Loneliness Scale, the Smartphone Addiction Scale-Short Version, and the Multidimensional Scale of Perceived Social Support (MSPSS). Analytical procedures included descriptive statistical analysis, Pearson Product Moment Correlation, and the utilization of SPSS version 25 for data analysis. Additionally, the exploration of gender-based differences in loneliness was conducted via an independent sample t-test. The outcomes indicated a significant positive correlation between loneliness and smartphone addiction, while a negative correlation was observed between smartphone addiction and perceived social support. Furthermore, the findings unveiled significant gender differences in the loneliness measure, with female participants exhibiting higher scores compared to their male counterparts.*

Introduction

In the twenty-first century, the proliferation of invention has affected many elements of a person's existence. The smartphone and its many apps, which provide instant access to the internet and social media via applications like Facebook, WhatsApp, and Twitter, are an example of this mechanical advancement. Information technology has revolutionized how individuals utilize innovation and live their lives. The ability to create innovative products is made possible by information technology's distinctiveness. Because of people's obsession with smart gadgets, they now interact with technology more than they do with one another. Smartphone technology has improved to the point that they are now a necessary part of everyday life. Social networking, gaming, communication, entertainment, and productivity are just a few of the uses for smartphones (Kwon et al., 2013). Traditional mobile phones, as well as PCs and many other comparable devices, have been superseded by smartphones. Many people nowadays think they couldn't live without their cellphones. The phenomenon of "smartphone slavery," characterized by excessive use and rapid proliferation of smartphones, has been identified as a significant concern by researchers who are actively seeking solutions.

The term "addiction" originates from the Latin word meaning "bound to," signifying a genuine, persistent dependence on a substance or activity. Glanze et al. (1998) define addiction as an uncontrollable dependency on a substance, habit, or practice to such an extent that cessation results in severe emotional, psychological, or physiological repercussions. Various theories of addiction have been proposed by scholars. Peele (1985) characterized addiction as an unmanageable or excessive compulsion. Akers (1991) identified the hallmarks of addiction as tolerance, withdrawal symptoms, and dependence. The concept now extends to the repetitive behaviors of individuals suffering from addiction, illustrating the psychological necessity. The addicted person seeks to alleviate distress, anxiety, and fulfill other behavioral needs such as enhanced power, comfort, control, and self-esteem. Doorn (2011) emphasized that comprehending the depth of addiction is vital for understanding the nuances of human behavior in contemporary society.

One of the diseases that include using a smartphone excessively and checking it often is smartphone addiction. People who are hooked to smartphones are unable to go without them. There is a difference between smartphone addiction and addiction to cell phones. The criteria for diagnosing smartphone addiction are derived from the device's multifaceted functionalities, as outlined by Kwon, et al. (2013). Research conducted by Aljomaa, et al. (2016) on the prevalence of smartphone addiction among undergraduate students uncovered a notably high addiction rate of 48%. Excessive usage of smartphones significantly affects an individual's daily activities, professional responsibilities, and interpersonal relationships. Furthermore, a synthesis of research findings suggests that females exhibit a higher propensity for smartphone addiction compared to males.

The global smartphone user base was recorded at 1.85 billion in 2014, with projections indicating a rise to 2.32 billion by 2017, and further increasing to 2.87 billion by 2020, as reported by Cha, (2018). According to some studies, the widespread usage of smartphones has led to a scenario that is slowly harming people's mental health and contributing to addiction issues. We become "Smartphone Addicts" because we are too reliant on our smartphones. Similar to internet addiction, smartphone addiction exhibits some of the same symptoms, including loss of control, repeated pleasure-seeking behavior, disruption of daily routines, tolerance to stimuli, cravings for those stimuli, and withdrawal when those stimuli are satisfied. Although they make our lives simpler, smartphones also bind us. The effects of smartphone addiction are extensive. Excessive smartphone usage has negative effects on people's physical, psychological, and academic health. Loss of sleep, anxiety, tension, lethargy, and depression—all of which are connected to using the internet inappropriately—have also been linked to smartphone use. According to Alavi, et al. (2012), an activity escalates into an addiction when it shifts from being a voluntary behavior to a compulsive necessity. Research by Aljomaa, et al. (2016) revealed that approximately 40% of adults and teenagers engage in smartphone usage, specifically calls and messaging, for over four hours daily. Individuals exceeding this four-hour daily usage threshold exhibit significantly greater difficulties across psychological, health, and technical aspects compared to those who use their smartphones for fewer than four hours. Moreover, studies by Nishad and Rana, (2016) indicate that there is no definitive correlation between smartphone usage patterns and gender.

When 409 respondents participated in a research online, it was shown that excessive smartphone usage might have negative physiological and psychological effects on users (Parasuraman, et al., 2017). The Mobile Marketing Association (2016) estimates that the typical person uses their smartphone for three hours per day, with the remaining time being spent watching television and utilizing other media. Many millennials claimed they never switch off their smartphones. The phenomenon of being "always on" has emerged as a normative behavior among teenagers and young adults, characterized by the use of smartphones even during sleep and frequent checking throughout the day, as highlighted by Kuss & Griffiths, (2017). In an effort to explore the psychological benefits associated with smartphone use and the presence of smartphone addiction among young adults, Walsh et al. (2008) engaged in focus group discussions with 32 individuals aged between 16 and 24 years. Thematic analysis of these discussions indicated a high dependency on smartphones among the majority of young adults, with signs of behavioral addiction and several perceived benefits being identified. The study concluded that smartphones play an

integral role in the lives of most young people. Further, research has identified a correlation between feelings of loneliness and an increased risk of smartphone addiction.

Loneliness is a feeling that people experience throughout their lives. Identity conflicts that teens experience during adolescence are the cause of this mental condition. Being alone entails being apart from other people. If someone is feeling lonely, they may choose to sit alone. Although loneliness is most common throughout adolescence, it is not a disease in and of itself. Teenagers these days spend most of their time on their cellphones, which keeps them away from their friends and families, causes a decline in the number of friends they have, and makes them feel lonely. These are the unpleasant experiences that individuals are having as a result of the loss in the quantity and quality of social connections. Smartphones, which have become a necessary part of our lives, might be used by teenagers to overcome this loneliness. Even when there are many people around them, those who rely heavily on their cellphones always feel lonely. Loneliness is conceptualized as an individual's subjective assessment of the sufficiency and quality of their social interactions, as delineated by Russell, et al. (1979). This condition arises when there is a discrepancy between the desired and actual social connections, characterized by a network that is either quantitatively inadequate or qualitatively unsatisfying as per the individual's aspirations (Peplau, et al., 1979). The literature, including studies by Spitzberg & Canary, (1985), has consistently demonstrated a significant correlation between loneliness and challenges in social interaction, particularly in verbal communication. Furthermore, research by Bian & Leung, (2014) has established a profound link between loneliness and smartphone addiction, indicating that individuals with high levels of loneliness are more prone to develop a dependency on smartphones.

Loneliness, particularly noted during adolescence, is described as an intense internal emotion stemming from a clear deficiency in social connections, either in quality or quantity. This adverse emotional state is often associated with feelings of worthlessness, emptiness, loss of self-control, and personal risks (Ren, Y., & Ji, B., 2019). Previous studies suggest that loneliness not only heightens the adolescent's craving for connection and self-esteem but is also strongly linked to depression and isolation. The exploration of adolescent loneliness has become a burgeoning field of interest within psychology and education, with significant emphasis on the role of perceived social support in influencing an individual's experience of loneliness (Bian & Leung, 2014).

Perceived or subjective social support serves as a pivotal link between one's social network and their quality of life, paralleling the concept of loneliness, which embodies the cognitive recognition of a shortfall in one's social connections, accompanied by subjective experiences of sadness, yearning, and emptiness, alongside a sensation of social isolation and insufficient human interaction (Asher & Paquette, 2003). Perceived social support is articulated as individuals' satisfaction with the respect, understanding, and support discerned within their living environment (Zhou et al., 2017). For adolescents, primary social support sources typically encompass parents or the familial unit, yet as individuals mature and undergo shifts in priorities, peer relationships ascend in significance as a source of social support. Social support is deemed essential for adolescents' social adaptation and holds the potential to mitigate mental health conditions such as loneliness. The socio-cognitive perspective posits that social support fosters self-esteem, subsequently engendering enhanced mental health outcomes (Ioannou, Kassianos & Symeou, 2019). Certain theories suggest that one's perception of social support is intertwined with feelings of self-worth, thereby exerting both direct and indirect influences on mental health.

Social scientists have explored the impact of modifications in social communication technologies on the capacity to forge and maintain social support connections. Initial inquiries focused on home Internet access via desktops, telephones, and cable networks as mediums of communication technology (Herrero, J., et al., 2019). Subsequent investigations have delved into the utilization of smartphones and mobile devices (Herrero, J., et al., 2019). The mobile technology revolution has transformed numerous facets of daily life, including occupational practices. Various studies probe into smartphone usage with the aim of sustaining or enhancing social support levels through technological means, identifying an inclination towards increased device usage for the

construction of support networks, potentially culminating in behavioral addiction as a primary investigative focus within the field.

Cross-sectional studies consistently indicate that individuals experiencing diminished social support also exhibit elevated levels of smartphone addiction (Kwon et al., 2011). The evolution of social support, influenced by historical addiction levels, was scrutinized by Herrero et al. (2019), who sampled 416 smartphone users within the Spanish populace, revealing its impact on social support dynamics.

Hence, prior research predominantly concentrated on clinical dimensions such as depressive symptoms, the ramifications of loneliness, and intervention strategies during early adolescence, with limited exploration from the perspective of positive psychology, which considers protective factors, mediators, and predictors. Despite extensive investigation into the psychological associations, determinants, and consequences of perceived social support and loneliness on well-being, the interrelations among perceived social support, loneliness, self-efficacy, and self-esteem in adolescents have received comparatively scant attention. This research endeavors to elucidate the interconnections between smartphone addiction, loneliness, and perceived social support. The burgeoning issue of smartphone addiction, particularly pronounced among youth and adolescents, is increasingly recognized as a grave concern, with its overuse detrimentally impacting daily routines, occupational and educational engagements, as well as social interactions (Aljomaa et al., 2016). Moreover, its adverse effects on the psychological well-being of individuals have been documented. This investigation has significantly contributed to the academic discourse in psychology by elucidating the relationships between smartphone addiction, loneliness, and perceived social support among teenagers and college students, thereby enriching both the global scientific repository and the local academic community in Pakistan. It has been observed that psychological research within Pakistan has yet to fully delve into the extensive body of work on smartphone addiction available in the international social sciences literature. This study specifically focused on the interplay among smartphone addiction, loneliness, and perceived social support, identifying these factors as instrumental in fostering reliance on mobile phones due to feelings of loneliness (Bian & Leung, 2014). The concept of social support emerged as a pivotal factor potentially exacerbating smartphone addiction. Consequently, this research delineated a correlation between smartphone utilization and perceived social support, suggesting that social support plays a critical role in the early stages of smartphone addiction development.

Objectives

1. To explore the correlation between smartphone addiction and loneliness among college students
2. To study the association between smartphone addiction and the level of perceived social support among college students
3. To examine the differences in loneliness between genders.

Methodology

The current research aimed to investigate the nexus between smartphone addiction, loneliness, and the perception of social support among collegiate populations. Additionally, this study sought to explore how patterns of loneliness and smartphone addiction varied across gender lines, underscoring an essential aspect of the analysis. Purposive sampling technique is used for the study. Sample size is 98 drug abused persons, in which 49 are selected from the persons who came first time for rehabilitations. And 49 are selected from the persons who were once treated (relapse).

Instruments

The following are a few of the techniques and resources used in this inquiry.

UCLA Loneliness, Scale (version 3)

The University of California, Los Angeles (UCLA) Loneliness Scale is a 20-item instrument developed by Daniel Russell in 1996..It is assessed how often a person feels isolated from others. The possibilities for the responses vary from 1 meaning never to 4 indicating always, with 1 denoting never, 2 seldom, 3 sometimes, and 4 always. Test-retest reliability over a year is fairly good ($r=.73$), and internal consistency coefficients range from .89 to .94. UCLA students' degrees of loneliness are

graded as follows. Inverted scores for items 1, 4, 6, 9, 10, 15, 16, 19, and 20 meant that 1 was given for 4, 2 for 3, 3 for 2, and 4 was given for 1. In the end, the sum of all the scores yields a range of 20–80, with a higher number indicating more loneliness. A person may be "rarely lonely" if their score is under 40, while being "alone" is indicated by a score of 40 or above.

The Smartphone, Addiction, Scale-Short Version (SAS-SV)

The 10-item Smartphone Addiction Scale-Short Version (SAS-SV), developed by Min Kwon and colleagues in 2013, serves as a concise instrument for evaluating smartphone addiction. Utilizing a self-report methodology, the scale asks respondents to rate their agreement with statements concerning their smartphone use, employing a Likert scale ranging from 1 ("strongly disagree") to 6 ("strongly agree"). The reliability and accuracy of the SAS-SV have been established through its concurrent validity and internal consistency, with a Cronbach's alpha of 0.911, underscoring the scale's robustness in measuring the degree of smartphone addiction. This validation confirms the SAS-SV as a dependable tool for research into smartphone use patterns and their psychological implications.

Multidimensional-Scale of Perceived-Social Support-(MSPSS)

The 12-item Multidimensional Scale of Perceived Social Support (MSPSS), developed by Gregory Zimet and associates in 1988, is a comprehensive tool designed to assess perceived social support from three key sources: family, friends, and significant others. This instrument employs a self-reporting format, with responses recorded on a seven-point Likert scale that ranges from 1 ("very strongly disagree") to 7 ("very strongly agree"). The MSPSS is noted for its high internal consistency across subscales and the overall measure, with coefficients ranging from 0.91 to 0.81, indicating a reliable assessment of perceived social support dimensions. Furthermore, the scale exhibits a robust level of reliability, demonstrated by a Cronbach's alpha between 0.85 and 0.91, affirming its effectiveness and dependability for research purposes in evaluating individuals' perceptions of support from their social environment.

Procedure-

In the current study, a total of 199 participants were recruited, comprising first- and second-year university students of both genders, from a diverse array of universities. A targeted sampling strategy was employed to specifically collect data from students who use cellphones. For the final data collection, a sample of 199 college students was meticulously selected. Prior to participating, all individuals were required to sign an informed consent form, ensuring they were fully aware of their participation and the study's aims.

Analysis-

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 25. To investigate the hypothesized relationships among the variables, Pearson Product-Moment Correlation was employed. This statistical method allowed for the determination of the strength and direction of associations between smartphone addiction, loneliness, and perceived social support. Furthermore, to examine whether these variables exhibited differences based on gender, a T-test was utilized. This statistical test facilitated the assessment of significant differences in the mean scores of the variables between male and female participants, thereby providing insights into gender-specific patterns and implications within the context of smartphone addiction, loneliness, and perceived social support among college students

Results

Table No 1

Socio-demographic Characteristics of Participants (n=199)

Variables	N	%age
Gender		
Female	89	44.3
Male	110	55.7
College Year		
First Year	96	48.2
Second Year	103	51.8
	21	

Age of Participants		
12	1	0.5
15	1	0.5
16	3	1.5
17	59	32.2
18	64	29.6
19	38	32.2
20	21	19.1
21	10	10.6
22	2	1.0

Note. N=199(N=89 for Females and N=110 for Males)

Table 1 indicates the demographic composition of the study's sample, consisting of 110 male students (55.7%) and 89 female students (44.3%), illustrating a slightly higher representation of male students within the participant pool. The academic standing of the participants is evenly distributed between first-year college students (n=96) and second-year college students (n=103), showcasing a balanced representation of early undergraduate experiences. The age range of the participants spans from 18 to 22 years old, capturing a critical developmental stage typically associated with undergraduate college students. This demographic breakdown provides a foundational understanding of the study's participant characteristics, essential for interpreting the findings related to smartphone addiction, loneliness, and perceived social support across gender and academic standing.

Table No 2

Psychometric Properties for Smartphone Addiction, Loneliness and P. Social scales

Scale	M	No. Items	SD	Range	Cronbach α
SAS-SV	39.16	10	8.83	10-60	.79
UCLA Loneliness	51.48	20	8.82	20-80	.74
MSPSS	57.34	12	14.70	12-84	.89

Note. SAS-SV (Smartphone Addiction Scale-Short version), and MSPSS (Multidimensional Scale of Perceived Social Support), UCLA (University of California, Los Angeles Loneliness Scale)

Skewness and Kurtosis for Study Variables

Table No 3

Scales	No. of Items	M	SD	Skewness	Kurtosis
SAS-SV	10	39.16	8.85	-.438	.120
UCLA Loneliness Scale	20	51.28	8.36	.284	.933
MSPSS	12	57.34	14.70	-.687	.668

Note: SAS-SV (Smartphone Addiction Scale-Short version), MSPSS (Multidimensional Scale of Perceived Social Support), UCLA (University of California, Los Angeles Loneliness Scale)

Correlation between Smartphone Addiction and Loneliness of Students

Table No 4a

Pearson correlation among Smartphone addiction and loneliness (N=199)

Variables	1	2
1. SAS-SV	.342**	1
2. UCLA Loneliness	1.342**	

Note:** Correlation is significant at the 0.01 level, SAS-SV (Smartphone Addiction Scale-Short version), UCLA (University of California, Los Angeles Loneliness Scale)

Table 4b

Pearson correlation among Smartphone addiction & Perceived Social Support (N=199)

Variables	1	2
1.SAS-SV	1	-.013
2. MSPSS	-.013	1

Note. Correlation is non-significant at the 0.01 level. SAS-SV (Smartphone Addiction Scale-Short version), MSPSS (Multidimensional Scale of Perceived Social Support)

Table 4b indicated an inverse relationship between smartphone addiction and P. Social support, however it was not statistically significant ($p > .05$).

Table 5

Independent sample t-test and differences on Loneliness

Variables	Males		Females		t(199)	P	%CI	
	M	SD	M	SD			LL	UL
Loneliness	50.2	7.49	52.61	9.20	.043	.019	-4.741	-.073

Note: $p > .05$, M=Mean; SD=Standard Deviation; CI=Confidence Interval; LL=Lower limit; UL=Upper Limit.

Table No 5. An independent-samples t-test used to explore gender disparities in loneliness showed significant differences. Males had an average loneliness score of 50.02 (SD = 7.49), whereas females reported a higher average score of 52.61 (SD = 9.20). The statistical outcome, $t(199) = .019$ with a significance level of $p < .05$, underscores the meaningful difference in reported loneliness levels between male and female participants, indicating that females in this cohort experienced greater loneliness than their male peers.

Discussion

Investigating the connections between smartphone use, loneliness, and college students' feelings of social support was the goal of the present study. The current research also looked at the gender disparities in feelings of loneliness among college students. In order to acquire information for these goals, the data from the current study were analyzed using the Statistical Package for Social Sciences version 25. The participant's socio-demographic information. Each of the research's measures had a satisfactory reliability value ($>.5$), as shown by the scales' reliability assessments. The degrees of reliability are strong and reasonably priced. Each scale had excellent internal consistency. Table 4a employed the Pearson Product Moment correlation coefficient to examine the relationship between loneliness and smartphone addiction, revealing a statistically significant positive correlation between the two variables ($p < .05$). This outcome corroborates Theory 1, positing a substantial positive linkage between smartphone addiction and loneliness, thereby aligning with the theoretical expectation. The investigation into the dynamics between smartphone addiction and loneliness, as conducted by Shirani in 2015, aligns with previous studies reviewed in the literature, confirming a pronounced positive correlation between these two factors. Furthermore, Theory 2, suggesting a negative correlation between smartphone addiction and perceived social support, was examined through the Pearson Product correlation coefficient (Table 4b). The analysis indicated a minor negative correlation between smartphone addiction and perceived social support, lending empirical support to the theory. Juan Herrero's 2019 research aimed at discerning the relationship between smartphone addiction and perceived social support corroborates earlier studies. It concluded that there is a minimal correlation between smartphone addiction and perceived social support, consistent with prior findings.

An independent sample T-test (Table 5) was utilized to evaluate the third hypothesis, predicting a significant gender disparity in loneliness. The analysis highlighted that female students reported significantly higher levels of loneliness compared to male students, underscoring a marked gender difference. This finding is supported by the results from a 2019 study examining gender variations in loneliness, which found that adolescent females reported significantly higher levels of loneliness than their male counterparts, echoing the conclusions drawn from the current study's literature review.

Conclusion

The findings of the study elucidate a significant positive correlation between loneliness and smartphone addiction, indicating that higher levels of loneliness are associated with increased smartphone addiction. Conversely, the relationship between smartphone addiction and the perception of social support was found to be inversely related, albeit the association was not

statistically significant. Additionally, the analysis disclosed no significant gender differences in the prevalence of smartphone addiction; however, a notable gender disparity in loneliness was identified, with one gender experiencing significantly higher levels of loneliness compared to the other. This delineation underscores the complexity of the relationships among smartphone addiction, perceived social support, and loneliness, along with the influence of gender on these dynamics.

References

- Adamczyk, K., & Segrin, C. (2015). Perceived Social Support and Mental Health Among Single vs. Partnered Polish Young Adults. *Curr Psychol*, 34, 82–96. <https://doi.org/10.1007/s12144-014-9242-5>
- Akturk, U., & Budak, F. (2019). The relationship between smartphone addiction and nursing students' perceived social support. *International Journal of Caring Sciences*, 12(3), 1825. <https://doi.org/10.1111/ppc.12406>
- Alavi, S. S., Ferdosi, M., Jannatifard, F., Eslami, M., Alaghemandan, H., & Setare, M. (2012). Addiction to behavior vs addiction to substances: Agreement between psychiatric and psychological perspectives. *International Journal of Preventive Medicine*, 3(4), 290.
- Albursan, I. S., Aljomaa, S. S., Qudah, M. F. A., Bakhiet, S. F., & Abduljabbar, A. S. (2016). In light of various factors, university students' addiction to smartphones. *Computers in Human Behavior*, 61, 155–164. <http://dx.doi.org/10.1016/j.chb.2016.03.041>
- Asher, S. R., & Paquette, J. A. (2003). Childhood loneliness and relationships with peers. *Current Directions in Psychological Science*, 12(3), 75–78. <https://doi.org/10.1111/1467-8721.01233>
- Bian, M., & Leung, L. (2014). Smartphone addiction: Relationships between social capital, shyness, symptoms, and usage patterns. *Media Asia*, 41(2), 159–176. <https://doi.org/10.1080/01296612.2014.11690012>
- Borys, S., & Perlman, D. (1985). Variations between genders in loneliness. *Personality and Social Psychology Bulletin*, 11(1), 63–74. <https://doi.org/10.1177/0146167285111006>
- Chen, B., Liu, F., Ding, S., et al. (2017). Gender variations in variables linked to smartphone addiction: a cross-sectional research among medical college students. *BMC Psychiatry*, 17, 341. <https://doi.org/10.1186/s12888-017-1503-z>
- Copel, L.C. (1988). Loneliness: A Conceptual Model. *J Psychosoc Nurs Ment Health Serv*, 26(1), 14-9. <https://doi.org/10.1111/j.1744-6198.2008.00114.x>; PMID: 3339562.
- Herrero, J., Torres, A., Vivas, P., & Urueña, A. (2019). Social Support and Smartphone Addiction: A Three-Year Longitudinal Study. *Psychosocial Intervention*, 28, 111–118. <https://doi.org/10.5093/pi2019a6>
- Kara, N. S., Kara, M., Dönmez, A., Genç, H. I., & Çetin, M. (2020). An investigation on the connection between students studying at the faculty of sports science's levels of loneliness and smartphone addiction. *Asian Journal of Education and Training*, 6(2), 213-218. <https://doi.org/10.20448/journal.522.2020.62.213.218>
- Kassianos, A. P., Symeou, M., & Ioannou, M. (2019). Dealing with depressive symptoms in young adults: Only under mild stress can perceived social support protect against depressed symptoms. *Frontiers in Psychology*, 9, 2780. <https://doi.org/10.3389/fpsyg.2018.02780>
- Seo, B. K., & Cha, S. S. (2018). The prevalence of smartphone usage and addiction among Korean middle school pupils, as well as their use of social media and games. *Open Journal of Health Psychology*, 5, 2055102918755046. <https://doi.org/10.1177/2055102918755046>
- Singh, G. K., & Girmay, M. (2019). International students' social isolation, loneliness, and mental and emotional health in the United States. *International Journal of Translational Medical Research and Public Health*, 3(2), 75–82. <https://doi.org/10.21106/ijtmrph.8>
- Taha, N. W., Alhassan, A. A., Alqadhib, E. et al. (2018). A cross-sectional investigation investigating the connection between smartphone addiction and depression among people. *BMC Psychiatry*, 18, 148. <https://doi.org/10.1186/s12888-018-1745-4>

Urueña, A., Herrero, J., Torres, A., & Hidalgo, A. (2017a). Psychosocial correlates of smartphone addiction, risky attitudes, and smartphone damage. *Journal of Risk Research*.
<https://doi.org/10.1080/13669877.2017.1351472>