HONG KONG JOURNAL OF SOCIAL SCIENCES

香港社會科學學報

第一的第 61 期 (2023 春/夏) Vol. 61 Spring/Summer 2023

Open Access Article **https://doi.org/10.55463/hkjss.issn.1021-3619.61.71**

Social Network Addiction and Perceived Loneliness in Relation with Gender and Country among Adolescents in India and Afghanistan

Mohammad Basir Bakhtyari[1]*, Kamayani Mathur[2]

[1] *Ph.D. Student, Department of Psychology, Schools of Psychology, Philosophy, and Education, Gujarat University, Ahmedabad, Gujarat, India*

[2] *Supervisor, Professor, and Head, Department of Psychology, Schools of Psychology, Philosophy, and Education, Gujarat University, Ahmedabad, Gujarat, India*

Received: June 13, 2023 ▪ Reviewed: July 10, 2023

▪ Accepted: August 8, 2023 ▪ Published: September 29, 2023

Abstract:
Research has shown a potential association between Social Networking Sites (SNS) and mental health problems in adolescents. Excessive use of SNS may have a negative impact on adolescents' emotional, social, and psychological development. This study examined the relationship between Social Networking Sites Addiction (SNSA) and perceived loneliness of adolescents. In this study, 700 adolescents from different schools, and colleges from Kabul, Afghanistan, and Ahmedabad, India, completed a battery of questionnaires. The data were analyzed using descriptive statistics and correlational analysis. The findings showed that participants from Afghanistan had higher levels of SNSA specifically in impulsivity and virtual freedom and reported more loneliness than participants from India. Girls from India and Afghanistan experienced a greater level of loneliness compared to their male participants. Male participants from Afghanistan had higher levels of SNSA than female participants; however, females from India reported a higher level of SNSA than male participants. The findings suggested that adolescents should be supported and made aware of the dangers of SNSA preferably through training, so that they can develop skills to minimize the risks. Therefore, this study can contribute to a better understanding of social network addiction and perceived loneliness from the perspective of adolescents in two Asian countries.

Keywords: social networking sites, addiction, adolescents, mental health.

印度和阿富汗青少年的社交网络成瘾和孤独感与性别和国家的关系

Corresponding Author: Mohammad Basir Bakhtyari, Ph.D. Student, Department of Psychology, Schools of Psychology, Philosophy, and Education, Gujarat University, Ahmedabad, Gujarat, India; email: basir1983@gmail.com

摘要：
研究表明社交网站(社交网络服务)与青少年心理健康问题之间存在潜在关联。过度使用社交网络可能会对青少年的情感、社交和心理发展产生负面影响。这项研究探讨了社交网站成瘾（国家安全局）与青少年孤独感之间的关系。在这项研究中，来自阿富汗喀布尔和印度艾哈迈达巴德不同学校和大学的700名青少年完成了一系列调查问卷。使用描述性统计和相关分析对数据进行分析。研究结果表明，来自阿富汗的参与者比来自印度的参与者具有更高的国家安全局水平，特别是在冲动和虚拟自由方面，并且报告了更多的孤独感。与男性参与者相比，来自印度和阿富汗的女孩经历了更大程度的孤独感。来自阿富汗的男性参与者的国家安全局水平高于女性参与者；然而，印度女性的国家安全局水平高于男性参与者。研究结果表明，最好通过培训，应支持青少年并让他们了解国家安全局的危险，以便他们能够培养技能，将风险降至最低。因此，这项研究有助于从两个亚洲国家的青少年角度更好地理解社交网络成瘾和孤独感。

关键词：社交网站、成瘾、青少年、心理健康。

1. Introduction

Adolescence is defined as the transitional period between childhood and adulthood, involving biological, cognitive, and socio-emotional alterations (Santrock, 2019). According to the World Health Organization (WHO) (2023), adolescence is a distinctive period from the ages of 10 to 19 in human development and an essential time for laying the fundamentals of good health. Formation of personal and social identity occurs in adolescence, and much of this development is now dependent on social media (Keles et al., 2020). Use of social media among adolescents is ubiquitous and almost universal, and they are known as heavy users in order to stay in touch with friends and feel better (Radovic et al., 2017; Cauberghe et al., 2021). Nevertheless, several studies have reported an association between heavy use of social networking sites (SNS) and mental health problems. For instance, an experimental study conducted in the University of Pennsylvania, found that limiting social media use has a straight and positive impact on subjective well-being over time, and decreases loneliness and depression (Hunt et al., 2018). The research suggests that SNS have both benefits and risks for adolescent health. In this regard, a systematic review of the relationship between online communication and adolescent psychological wellbeing found conflicting evidence suggesting both harmful and beneficial aspects of Internet-based social media. Benefits include increased ability to socialize online, more learning opportunities and increased access to health related issues (Kim, 2017).

However, studies have reported several negative effects of using SNS on mental health among adolescents (Dempsey et al., 2019; Kelly et al., 2018). As adolescents become more popular on Instagram and increasingly use their phones, they may develop behavioral addiction or mental health problems such as poor academic performance, reduced social interaction in actual life, low self-esteem, mood dysfunction, general anxiety and loneliness (Dempsey et al., 2019; Longobardi et al., 2020; Yurdagül et al., 2021; Zhen et al., 2023). Research has also reported an association between time spent on SNS and a lower grade point average (Kim, 2017; Oberst et al., 2017). Adolescents have limited capacity for self-regulation, are susceptible to peer pressure, and may not be able to avoid the possibly harmful effects of SNS use. As a result, they are at the risk of developing mental health problems such as depression, anxiety, and loneliness (Keles et al., 2020; Oberst et al., 2017).

Prevalence rates vary widely across the world in Internet epidemiological studies. Across Europe recent studies reported prevalence for pathological Internet use ranging between 4.4% to 13.5%, for problematic internet use between 14.3% to 54.9% (Peris Hernández et al., 2020). The HSBC (Health Behavior in School-aged Children) reported that for mid adolescents, online communication has become an essential part of their lives, allowing them to keep in touch with peers irrespective of time and space (Gomez-Baya et al., 2019). In the United States, almost 95% of adolescents are online, and 24% indicate that they are online almost continuously (Ohannessian & Vannucci, 2020). A German research project found that the prevalence of problematic social networks use was 2.6% which is in congruent with the European wide prevalence ranging from 0% to 2.1% (Wartberg et al., 2020). In Hong Kong, by 2019, more than 90% of SNS users were in the age group of 10-24, and the heaviest users were young people aged 15-24 who are spending 17.7 h on SNS per week (Yu & Shek, 2021). It has been reported that in Singapore (Tang & Koh, 2017) and the Philippines (Buctot et al., 2020), 29.5% and 62% of college and high school students were addicted to online SNS and smartphones, respectively.

Though in Afghanistan little research has been conducted on social networking site addiction (ANSA), few studies reported the negative impact of SNS on students' well-being. Ghulami et al. (2021) show that social media addiction existed at different levels among university students. They suggested conducting further research involving a large sample. Similar to this, Haand and Elham (2021) conducted a study in public and private universities in Khost province. Their findings illustrate that most participants were mildly addicted to social media, and 5.95% of the participants were experiencing severe addiction, and more than a

quarter of the respondents were not addicted.

In India, Bharucha (2018) found that social media was the top priority for college students, and some of them experienced addiction like symptoms. The participants spent a minimum of five hours on SNSs per week, being considered heavy users, and some even spent 50 h a week on SNSs. He further stated that the addictive characteristics of social media are becoming a concern in India. This country ranks first with the highest number of Facebook users globally and more than 60% of users are college students. This popularity among Indian users is becoming a matter of concern in relation to its addictive usage (Ghosh et al., 2019). In India, the substantial use of SNS has grown in number among the new generation youths (Bhardwaj et al., 2017). Raj et al. (2018) reported that 70.7% of the participants (17 years and above) were addicted to SNS, and sociodemographic factors such as gender, age, and accessibility are all connected with SNS addiction among adolescents, and 54.7% of the participants felt that social networking had a negative impact on their academic performance. Cash et al. (2012) suggested five criteria for diagnosing Internet addiction: (1) pre-occupation with the Internet; (2) involvement in using the Internet for a long time to obtain satisfaction; (3) efforts to stop or control use were not successful; (4) is restless, depressed or irritable when trying to reduce or stop Internet use; (5) involved in online activity for longer periods of time.

Adolescents from India and Afghanistan may not experience the same level of SNS addiction, and its prevalence may differ due to factors such as Internet accessibility. The Internet is cheaper and more accessible in India than in Afghanistan. However, access to the Internet and SNS is growing rapidly in both India and Afghanistan, and adolescents may spend much time on SNS. Hence, they may become addicted to SNS. This can be a problem for the parents, adolescents, and government authorities in these countries. To date, this is the first cross-cultural study to examine SNS addiction and perceived loneliness among adolescents from India and Afghanistan. The gender and country of the participants were considered in this study to provide a comprehensive understanding of SNS addiction and loneliness among the participants. Studies show that social networking addiction affects both physical and mental health and wastes young people's energy and time. The development and progress of any nation, including India and Afghanistan, is entirely dependent on young people who have tremendous energy, motivation, and drive with great innovative ideas. Hence, it is imperative to study the harmful effects of SNS use on the health development of adolescents. Therefore, this comparative study allows us to understand SNS addiction among adolescents in Ahmedabad, India, and Kabul, Afghanistan.

2. Literature Review

2.1. Social Networking Sites (SNS)

SNS are web-based applications such as Twitter, Facebook, and Instagram that allow individuals to interact with others in a virtual community, construct public profiles, and share text, audio, and videos (Ho et al., 2017). Online social networking sites (SNSs) such as Twitter, Facebook, and Instagram are becoming progressively popular (Yu & Shek, 2021). Recent advances in technology have opened up a range of opportunities to engage with digital media. However, several threats to children's and adolescents' health have been suggested, including disruption of cognitive and social development, obesity, sleep disturbance, impaired well-being and problematic media use (Galpin & Taylor, 2018). Problematic and excessive use of SNS may result in addiction.

2.2. Social Networking Sites Addiction (SNSA)

SNS addiction is defined by Andreassen (2015) as being overly preoccupied with SNS, driven by a strong motivation to log on or use SNS, and devoting so much time and effort to SNS that it interferes with other social activities, studies/work, interpersonal relationships, and/or psychological health and wellbeing. Addictive behavior has been operationally defined by Griffiths (2013) as any behavior that exhibits the six fundamental components of addiction, those are salience, mood modification, tolerance, withdrawal, conflict, and relapse. According to this behavioral addiction model, any behavior, such as social networking, representing these six components can be operationally defined as an addiction. Although, problematic SNS use has not yet been included in the Statistical Manual of Mental Disorders (DSM), research into this new behavioral addiction has become essential due to its critical physical, psychological, and behavioral consequences (van den Eijnden et al., 2016; Zsido et al., 2021). Addiction to SNS was also found to be comorbid with unhealthy food consumption, shopping addiction, and affective disorders such as depression, anxiety, and mania (Tang & Koh, 2017); females were more likely to report addiction to social networking and affective disorder than males. Particularly, studies reported higher level of loneliness in females than their male counterparts (Bodford, 2017; Borg & Willoughby, 2023).

2.3. Social Networking Sites and Loneliness

Several studies have suggested that Internet and SNS use may deprive individuals of social activities and lead to social withdrawal, thereby reducing psychological well-being, and leading to loneliness. Conversely, some studies have suggested that Internet and SNS use increases, rather than decreases contact with friends and may therefore increase well-being and decrease loneliness (Dibb & Foster, 2021; Rokach, 2019). These inconclusive results lead to the debate of whether lonely people use SNS or whether loneliness is the consequence of using SNS (Caba Machado et al., 2023). In relation to the former, a meta-analysis

conducted by Song et al. (2014) found a positive association between Facebook use and loneliness, and they also explored that lack of social support and shyness result in loneliness, and that loneliness leads to Facebook use. Experimental research by Hunt et al. (2018) shows that decreasing use of social media for three weeks reduced the levels of loneliness. Moreover, a systematic review by O'Day and Heimberg (2021) indicates that socially anxious and lonely individuals become involved more problematically online and search for social support on social media, possibly to compensate for a lack of face-to-face support. In Turkey, depression and loneliness increased as the students used the Internet problematically and their perceived social support reduced (Akgün Kostak et al., 2019).

However, this may not always be the case, Wang et al. (2018) found that an increase in the active public use of Facebook was associated with a decrease in feelings of emotional and social loneliness over time, under the state that adolescents had a rather low to moderate level of active public use of Facebook. Karsay et al. (2019) reported no direct connection of excessive smartphone use with stress and loneliness. They also indicated some types of use can have positive outcomes. Nevertheless, Twenge et al. (2021) found that school loneliness among adolescents aged 15 and 16 in 36 out of 37 countries was high between 2012 and 2018 especially when students spent greater time using the Internet and smartphones.

In the age of the Internet, loneliness is prevalent among adolescents across the world. For instance, in the UK, the prevalence of loneliness among 12-15-year English adolescents was 15% (Geulayov et al., 2022). Loneliness is the unpleasant and distressing experience that happens when the quality or quantity of a person's network or social relation is deficient in some essential way (Perlman & Peplau, 1981; Heinrich & Gullone, 2006; Arslan, 2021). Loneliness is multidimensional and variant among adolescents and is often connected with depression, antisocial behaviors, social anxiety, and various impairing physical health outcomes (Rokach, 2019; Tagomori et al., 2022). Thus, loneliness is one of the factors contributing to poor mental health in higher education (Thomas et al., 2020). Adolescents and young adults are particularly vulnerable to the negative physical and psychological effects of loneliness (Binte Mohammad Adib & Sabharwal, 2023; Dibb & Foster, 2021; Osborn et al., 2021). Therefore, excessive use of SNS can lead to addiction, physical and mental health problems and increase loneliness in adolescents.

This study aimed to investigate the association between SNS addiction, and perceived loneliness among adolescents of Afghanistan and India and to assess the role of country and gender in SNSA and possible association of SNSA with loneliness. Specifically, it was hypothesized that participants from Afghanistan and India would not differ significantly in their levels of SNSA and loneliness, that demographic characteristics and SNS addiction would not differ significantly among adolescents of India and Afghanistan, and demographic characteristics and loneliness would not differ among adolescents of India and Afghanistan.

3. Method

The design for this study was cross cultural, and exploratory.

3.1. Participants

The participants of this study were 700 adolescents from Afghanistan and India (350 participants from Kabul, Afghanistan, and 350 from Ahmedabad, India). A purposive sampling technique was employed to choose participants from different schools and colleges of Kabul, and Ahmedabad. Participants between the ages of 11 and 19 who used SNS were asked to take part in the study and complete the test. 178 boys, 172 girls from Kabul, 145 boys, and 205 girls from India voluntarily participated in this research. All participants responded to a consent form.

3.2. Variables

In this study, gender (male and female) and country (Afghanistan and India) are independent variables. Social networking sites addiction (SNSA) and perceived loneliness are dependent variables. Country (Afghanistan and India), third gender, and the consent form are control variables.

3.3. Tools

The tools used in this study were two standardized scales; namely, the perceived loneliness scale (PLS), and the social networking addiction (SNA) scale. The PLS was developed by Praveen (1971) with the intent to measure and evaluate the feeling of loneliness. The reliability or Cronbach's alpha for this scale is reported to be .87. The validity of the PLS was assessed and confirmed by six experts in the fields of sociology, psychology, and philosophy. The SNAS was developed by Shahnawaz and Rehman (2020), and the purpose was to evaluate and measure the level of SNSA of adolescents. This scale has three dimensions: impulsivity, virtual freedom, and negative outcome; the Cronbach alpha for the three dimensions is r = 0.96, r = 0.92, and r = 0.79, respectively; for the total SNAS, it is r = 0.94. This indicates excellent reliability. The validity of this scale is shown in Table 1. Furthermore, rapport was constructed before the tools were given to the participants. The participants were asked to indicate their level of agreement or disagreement based on five-point Likert scale. The PLS and SNSA were translated for Afghanistan participants into their language Persian (Dari) for better understanding. A professor of Persian Language and Literature, and an English Language and Literature Professor of Bamyan University were requested to verify the content of the translated tools.

The Cronbach's alpha for the total of SNSAS and PLS were further checked and found to be .915, and .833, respectively. Furthermore, the Cronbach's alpha for the three dimensions of SNSA, namely impulsivity, virtual freedom, and negative outcome, were found to be .83, .78, .74, respectively.

Table 1. Discriminant validity for the three domains of SNAS

	Domains	Factor 1	Factor 2	Factor 3	Bartlet Test of Sphericity
Factor 1	Impulsivity	1	0.388**	0.271**	100.167**
Factor 2	Virtual Freedom		1	0.131**	
Factor 3	Negative Outcome			1	

3.4. Procedures and Data Collection

The research was carried out during the academic year 2020/2021. The data collection initiated in Ahmedabad, India, in 2020, and after that moved to Kabul, Afghanistan, over the months of April and July 2021. Official permission to collect the data was obtained from the authorities of various schools and colleges in both countries. The data was collected from the participants in their classrooms. The confidentiality of the study was established, and a consent form was completed by the participants. Instructions were provided before the tools were administered. The participants completed one questionnaire per day over a period of two days. The manual was used for the scoring and interpretation of the tools.

3.5. Statistical Analysis

The data were analyzed using the SPSS version 20. Means and standard deviations of the variables were calculated using descriptive statistics. Next, two-way analysis of variance was used to test the effect of gender and country on SNSA and to identify the interaction effect. An independent samples t-test was then used to test whether boys and girls differed significantly in their SNSA. The same statistical techniques were used for the perceived loneliness variable. Next, Pearson's correlation test was used to find the correlation coefficients between SNSA and perceived loneliness.

Specifically, the details of the research design are shown in Figure 1.

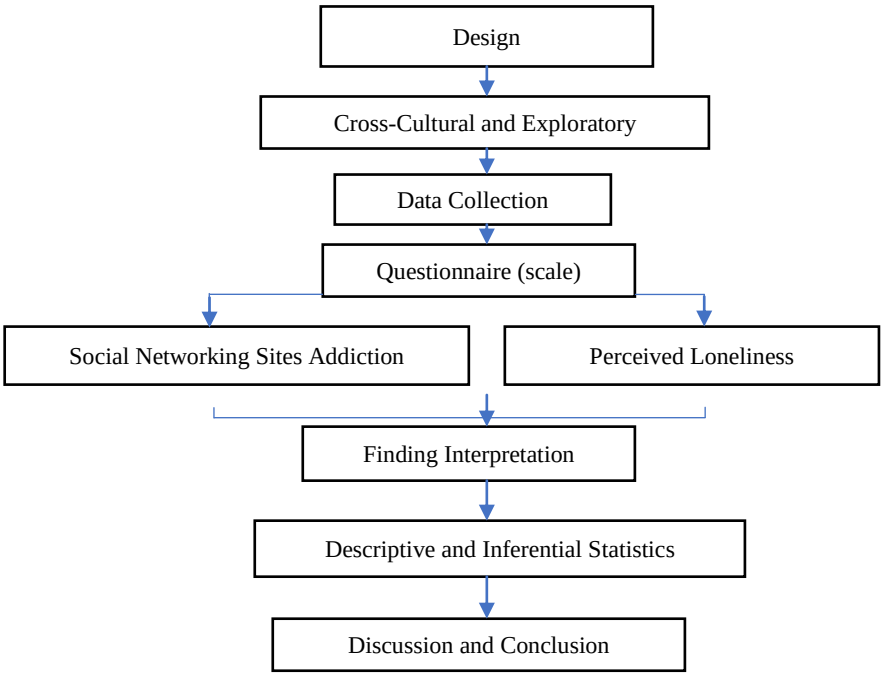

Figure 1. Research design

4. Results

4.1. The Social Networking Sites Addiction Scale

4.1.1. Level of SNS Addiction among the Indian and Afghan Participants

Table 2 illustrates a moderate level (M = 2.75) of addiction to SNS among the participants from Afghanistan and India.

Table 2. Level of SNS addiction between Afghanistan and India

Dimension of SNSA	N	Afghanistan		India	
		M	*SD*	*M*	*SD*
Impulsivity	350	2.57	.651	2.45	.536
Virtual Freedom	350	2.95	.413	2.93	.351
Negative outcome	350	2.73	.653	2.88	.570

4.1.2. Analysis of Variance to Compare Genders, Countries, and SNS Addiction of the Participants

Table 3 shows the analysis of variance for gender, and country in relation to SNSA and Table 4 depicts the means and standard deviations of this analysis. Gender and country of the participants in relation to SNSA were measured using a two-way analysis of variance between groups. The interaction effect of country, and gender on social networking addiction was not

statistically significant, F (1, 696) = .266, p = .606. There was no significant main effect of country, F (1, 696) = 2.763, p = .097. There was also no main effect for gender, F (1, 696) = .016, p = .898, although the effect size was small (partial eta squared = .004). However, the overall mean score for participants from Afghanistan (M = 2.70) was slightly higher from India (M = 2.65). The mean SNSA score (M = 2.71) for Afghan boys is slightly higher than girls (M = 2.70). Conversely, the mean SNSA score (M = 2.66) for Indian girls is slightly higher than boys (M = 2.64).

Table 3. Analysis of variance for gender, country, and SNS addiction

Source of variance	Sum of squares	df	Mean Squares	F	Sig.	Partial Eta Squared
Corrected model	.440[a]	3	.147	.971	.406	.004
Intercept	4940.212	1	4940.212	32701.515	.000	.979
Country	.417	1	.417	2.763	.097	.004
Gender	.002	1	.002	.016	.898	.000
Country * gender	.040	1	.040	.266	.606	.000
Error	105.145	696	.151			
Total	5124.559	700				
Corrected Total	105.585	699				

[a] R squared = .004 (adjusted R squared = .000)

Table 4. Means and standard deviations in comparison between gender, country, and SNA

Country	Gender	Mean	SD	N
Afghanistan	Male	2.71	.430	178
	Female	2.70	.421	172
India	Male	2.64	.342	145
	Female	2.66	.352	205

4.1.3. T-Test Analysis in Comparing Genders and SNSA

Table 5 illustrates the analysis of the t-test in the mean score difference for males and females in relation to SNSA. There was no difference in mean score for males (M = 2.68, SD = .394) and females (M= 2.68, SD = .385; t (698) = .034, p = .973, two-tailed). This indicates that there is no difference between male and female participants in SNSA.

Table 5. T-test analysis of gender difference for SNSA

Gender	N	M	SD	t	df	P
Male	323	2.68	.394	.034	698	.973
Female	377	2.68	.385	.034	676.492	

4.1.4. T-Test Analysis in Country and SNSA Comparison

Table 6 shows the analysis of the t-test on the SNSA mean scores for Afghanistan and India. There was no significant difference in the mean SNSA scores for Afghanistan (M = 2.70, SD = .425) and India (M = 2.65, SD = .348; t (698) = 1.625, p = .105, two-tailed).

Table 6. T-test analysis of comparison between India and Afghanistan in relation to SNSA

Country	N	M	SD	t	df	P
Afghanistan	350	2.70	.425	1.625	698	.105
India	350	2.65	.348	1.625	671.509	

4.2. Perceived Loneliness Scale

4.2.1. Analysis of Variance Comparing Genders, Countries, and Perceived Loneliness of the Participants

Table 7 illustrates the analysis of variance for country and gender in relation to perceived loneliness, and the means and standard deviations of this analysis are also shown in Table 8. A two-way analysis of variance between the groups was used to determine the effect of country and gender on perceived loneliness. The interaction effect between country of the participants and their gender was not statistically significant, F (1, 696) = .002, p = .927. There was a statistically significant main effect for country, F (1, 696) = 26.500, p = .000. There was also a significant main effect for gender, F (1, 696) = 13.105, p = .000; although the effect size was large (partial eta squared = .54). The overall mean perceived loneliness score for Afghans (M = 3.03) was not significantly different from that of Indians (M = 2.83). The mean perceived loneliness score for Afghan girls (M = 3.10) is higher than that of their male counterparts (M = 2.96). For Indian boys and girls, however, there is no significant difference in mean scores.

Table 7. Analysis of variance for gender, country, and perceived loneliness

Source of variance	Sum of squares	df	Mean Squares	F	Sig.	Partial Eta Squared
Corrected model	9.163[a]	3	3.054	12.164	.000	.050
Intercept	5924.333	1	5924.333	23595.563	.000	.971
Country	6.654	1	6.654	26.500	.000	.037
Gender	3.290	1	3.290	13.105	.000	.018
Country * gender	.002	1	.002	.008	.927	.000
Error	174.750	696	.251			
Total	6221.373	700				
Corrected Total	183.913	699				

[a] R squared = .050 (adjusted R squared = .046)

Table 8. Means and standard deviations for Afghanistan and India, related to loneliness

Country	Gender	Mean	SD	N
Afghanistan	Male	2.96	.488	178

Continuation of Table 8

	Female	3.10	.492	172
India	Male	2.76	.479	145
	Female	2.90	.535	205

4.2.2. T-Test Analysis in Comparing Genders and Perceived Loneliness of the Participants

An independent samples t-test was conducted to compare perceived loneliness scores for boys and girls. There was no significant difference in the mean scores for boys (M = 2.87, SD = .493) and girls (M = 2.99, SD = .524; t (698) = 3.092, p = .002, two-tailed).

Table 9. T-test of gender difference for perceived loneliness

Gender	N	M	SD	t	df	p
Female	377	2.99	.524	3.092	698	.002
Male	323	2.87	.493	3.106	691.788	

4.2.3. T-Test Analysis in Comparing Afghanistan and India in Relation to Perceived Loneliness

As shown in Table 10, there is a significant difference in mean scores for perceived loneliness between Afghanistan (M = 3.03, SD = .494) and India (M = 2.85, SD = .516; t (698) = 4.798, p = .000, two-tailed).

Table 10. T-test analysis in comparing Afghanistan and India, related to perceived loneliness

Country	N	M	SD	t	df	P
Afghanistan	350	3.03	.494	4.798	698	.000
India	350	2.85	.516	4.798	696.582	

4.3. Correlation between SNSA and Perceived Loneliness

Table 11 shows the association between perceived loneliness and social networking addiction using Pearson product-moment correlation coefficients. Preliminary analysis was carried out to ensure that the assumptions of linearity, normality and homoscedasticity were not violated. There was a strong positive correlation between SNSA and loneliness, r = .519, n = 700, $p < 0.01$. This suggests that greater use of SNS is likely to lead to loneliness.

Table 11. Correlations between SNSA and loneliness

		SNA	PLS
SNA	Pearson's Correlation	1	
	Sig. (2-tailed)	-	
	N	700	
PLS	Pearson's Correlation	.519**	1
	Sig. (2-tailed)	.000	-
	N		700

** The correlation is significant at the 0.01 level (2-tailed).

5. Discussion

The purpose of this study was to assess the relationship between SNS usage and perceived loneliness among adolescents of India and Afghanistan. The study also investigated the variance of gender, country in relation to SNS addiction, and loneliness.

The results show moderate levels of SNS addiction including impulsivity, virtual freedom, and negative outcome among participants from India and Afghanistan. The domain with the highest mean score is virtual freedom. There was no statistically significant difference in the mean SNSA scores for participants from both countries in the three domains. However, the mean SNSA scores in the impulsivity and virtual freedom domains are slightly higher for Afghans than Indians. This finding is consistent with some previous studies conducted in different parts of the world. In Turkey (Simsek et al., 2019) and Iran (Azizi et al., 2019), moderate levels of SNSA are reported among high school and university students. In Hong Kong, however, SNSA was severe among university students (Yu & Luo, 2021). In India, Thankachan et al. (2019) found that 3% of participants were extremely addicted, 87% were severely addicted, and 10% were moderately addicted. Haand and Elham (2021) reported that most participants in the Khost province of Afghanistan were mildly addicted. This level of addiction refers to users who overuse SNS but can control it and may not cause significant problems.

The results show that the interaction effect of country and gender on SNSA was not statistically significant. Moreover, there was no main effect for country and gender in relation to SNSA. There was also no significant difference in mean SNSA scores for Indian and Afghan participants, but Afghan participants experienced slightly higher levels of SNSA than Indian participants. Specifically, compared to their female counterparts, Afghan boys experienced higher levels of SNSA. In previous studies, there are inconsistencies about the influence of gender. Some studies have shown higher levels of SNS addiction among males. Other researchers, however, have found higher levels of SNS addiction among females (Aparicio-Martínez et al., 2020; Peris Hernández et al., 2020). They reported that male gender has a stronger association with social network addiction. The male students experienced higher level of SNS addiction than female students (Azizi et al., 2019; Ghulami et al., 2021).

The findings show that Indian girls, by contrast, had a higher level of SNSA than their male counterparts. In Singapore, Tang and Koh (2017) found that compared to males, females were more likely to report both SNS addiction and affective disorders. The strength of the association between social media use and depressive symptoms was greater for girls than for boys (Kelly et al., 2018). Similarly, Ripon et al. (2022) reported that females are more likely to be addicted to Facebook than their male counterparts. However, in the study by Al-Shaibani (2020), there was no significant difference between male and female students in terms of SNS addiction.

The results of this study found no significant interaction effect between country, and gender of the participants in relation to their perceived loneliness. However, there was a statistically significant main effect for both countries and gender in relation to loneliness. The results show that participants from Afghanistan experienced higher levels of loneliness

than participants from India. This study found that girls from both India and Afghanistan experienced more loneliness than their male counterparts. Specifically, the highest mean scores were found for the girls from Afghanistan.

This agrees with previous studies. For instance, Tagomori et al. (2022) stated that girls are lonelier than boys. Specifically, social media may create a culture of exclusion that increases loneliness at school, especially for girls (Twenge et al., 2021). Female adolescents may be more vulnerable to feeling lonely (Borg & Willoughby, 2023). However, Karakose et al. (2016) found that both male and female participants experienced low level of loneliness.

The results also show that there was a strong positive correlation between loneliness and SNSA. This suggests that SNSA is more likely to lead to loneliness or vice versa. However, this does not show causation. A significant positive relationship between Facebook use and loneliness was reported in a meta-analysis (Song et al., 2014). Similarly, Stankovska et al. (2016) found a significant positive association between loneliness and social networks. Contrarily, in a longitudinal study, Karsay et al. (2019) found no direct link between overuse of smartphones with stress and loneliness. Moreover, the social networking addiction scale (SNAS) was significantly positively associated with loneliness and significantly negatively associated with life satisfaction (Shahnawaz & Rehman, 2020). This shows that while social networking assists people in staying connected, they still feel isolated and lonely.

6. Conclusion

The aim of this study was to examine the relationship between SNSA and perceived loneliness among adolescents from India and Afghanistan. Overall, the findings show that participants from Afghanistan and India had a moderate level of SNS addiction. The findings revealed that participants from Afghanistan had higher levels of SNSA than their Indian participants. Afghan boys experienced higher levels of SNSA compared to their female counterparts. However, Indian girls experienced greater levels of SNSA compared to Indian boys. In addition, participants from Afghanistan had higher levels of loneliness than their Indian participants. Specifically, girls from both India and Afghanistan had more loneliness than their male counterparts.

7. Implications

The findings of this research can help families, authorities of colleges and schools in India and Afghanistan to assist in the SNS usage of adolescents. There is potential harm for overuse of SNS, and it is essential for the adolescents of both countries to learn how to use SNS properly. In particular, the Afghan participants should be sensitized, especially those who had higher levels of loneliness and SNSA. Teachers and parents play an important role to play in describing the benefits and dangers of SNS for adolescents and propose effective ways to mitigate the risks. Adolescence is a fundamental period in life to build resilience and skills to boost health and well-being. Schools and colleges can provide training on the benefits and dangers of SNS for adolescents. The authorities in the Ministry of Higher Education and Education may use the findings to develop strategies and academic policies.

8. Study Contributions

In addition to some practical implications, the current study contributed to the current literature. This study contributed to the current understanding of how excessive SNS use among adolescents can lead to addiction. The study confirmed the findings of previous studies that SNS addiction is a global health problem, particularly among young people. However, there is a debate in the literature about whether and to what extent SNS use should be considered an addictive behavior. The results showed that SNS addiction and loneliness existed to some extent among adolescents in both India and Afghanistan. The findings of this study contribute to the current literature on the impact of SNS use on adolescent health and provide insights that can be used to inform policy and ultimately mitigate the problem.

9. Study Limitations

Because this study focused on the participants' perceptions and beliefs on the association between SNSA and loneliness, it may not provide adequate information to gain a wide picture on the impact of SNS in the lives of adolescents. For instance, public and private schools, and colleges may be different in technology facilitation, Internet accessibility, and the duration of students' SNS use. In using and applying this study, family backgrounds and socioeconomic status of the participants need to be considered as they are not the same. Therefore, further research may assist to investigate the experiences of adolescents in relation to SNSA which may involve employing different research methods such as qualitative or experimental to gather comprehensive information on the problems facing young people with SNA.

Acknowledgement

The authors are grateful for the Indian scholarship managed by the ICCR. We are thankful to all the students of Ahmedabad schools and colleges and their counterparts in Kabul.

References

[1] AKGÜN KOSTAK, M., DINDAR, İ., & ZAFER DINÇKOL, R. (2019). Loneliness, depression, social support levels, and other factors involving the internet use of high school students in Turkey. *International Journal of Mental Health and*

Addiction, 17, 1521–1534. https://doi.org/10.1007/s11469-018-9927-3

[2] AL SHAIBANI, M.H. (2020). Prevalence and Factors Associated with Social Networking Addiction among Saudi University Students. *Psycho-Educational Research Reviews,* 9(2), 87–99. Retrieved from https://perrjournal.com/index.php/perrjournal/article/view/134

[3] ANDREASSEN, C.S. (2015). Online Social Network Site Addiction: A Comprehensive Review. *Current Addiction Reports*, 2(2), 175–184. https://doi.org/10.1007/s40429-015-0056-9

[4] APARICIO-MARTÍNEZ, P., RUIZ-RUBIO, M., PEREA-MORENO, A.-J., MARTÍNEZ-JIMÉNEZ, M.P., PAGLIARI, C., REDEL-MACÍAS, M.D., & VAQUERO-ABELLÁN, M. (2020). Gender differences in the addiction to social networks in the Southern Spanish university students. *Telematics and Informatics*, 46, 101304. https://doi.org/10.1016/j.tele.2019.101304

[5] ARSLAN, G. (2021). School belongingness, well-being, and mental health among adolescents: Exploring the role of loneliness. *Australian Journal of Psychology*, 73(1), 70–80. https://doi.org/10.1080/00049530.2021.1904499

[6] AZIZI, S.M., SOROUSH, A., & KHATONY, A. (2019). The relationship between social networking addiction and academic performance in Iranian students of medical sciences: A cross-sectional study. *BMC Psychology*, 7(1), 28. https://doi.org/10.1186/s40359-019-0305-0

[7] BHARDWAJ, A., AVASTHI, V., & GOUNDAR, S. (2017). Impact of social networking on Indian youth - A survey. *International Journal of Electronics and Information Engineering*, 7(1), 41–51. http://dx.doi.org/10.6636/IJEIE.201709.7(1).05)

[8] BHARUCHA, J. (2018). Social network use and youth well-being: A study in India. *Safer Communities*, 17(2), 119-131. https://doi.org/10.1108/SC-07-2017-0029

[9] BINTE MOHAMMAD ADIB, N.A., & SABHARWAL, J.K. (2023). Experience of loneliness on well-being among young individuals: A systematic scoping review. *Current Psychology*. https://doi.org/10.1007/s12144-023-04445-z

[10] BODFORD, J.E. (2017). Loneliness in Modern Life. In: SHACKELFORD, T., & WEEKES-SHACKELFORD, V. (eds.) *Encyclopedia of Evolutionary Psychological Science*. Cham: Springer, pp. 1–16. https://doi.org/10.1007/978-3-319-16999-6_1580-1

[11] BORG, M.E., & WILLOUGHBY, T. (2023). What does it mean to be alone? An analysis of interpretations of solitude among adolescents and adults. *Current Psychology*, 42, 14498–14505. https://doi.org/10.1007/s12144-022-02796-7

[12] BUCTOT, D.B., KIM, N., & KIM, J.J. (2020). Factors associated with smartphone addiction prevalence and its predictive capacity for health-related quality of life among Filipino adolescents. *Children and Youth Services Review*, 110, 104758. https://doi.org/10.1016/j.childyouth.2020.104758

[13] CABA MACHADO, V., MCILROY, D., PADILLA ADAMUZ, F.M., MURPHY, R., & PALMER-CONN, S. (2023). The associations of use of social network sites with perceived social support and loneliness. *Current Psychology*, 42, 14414–14427. https://doi.org/10.1007/s12144-021-02673-9

[14] CASH, H., RAE, C.D., STEEL, A.H., & WINKLER, A. (2012). Internet addiction: A brief summary of research and practice. *Current Psychiatry Reviews*, 8(4), 292–298. https://doi.org/10.2174/157340012803520513

[15] CAUBERGHE, V., VAN WESENBEECK, I., DE JANS, S., HUDDERS, L., & PONNET, K. (2021). How adolescents use social media to cope with feelings of loneliness and anxiety during COVID-19 lockdown. *Cyberpsychology, Behavior, and Social Networking*, 24(4), 250–257. https://doi.org/10.1089/cyber.2020.0478

[16] DEMPSEY, A.E., O'BRIEN, K.D., TIAMIYU, M.F., & ELHAI, J.D. (2019). Fear of missing out (FoMO) and rumination mediate relations between social anxiety and problematic Facebook use. *Addictive Behaviors Reports*, 9, 100150. https://doi.org/10.1016/j.abrep.2018.100150

[17] DIBB, B., & FOSTER, M. (2021). Loneliness and Facebook use: The role of social comparison and rumination. *Heliyon*, 7(1), e05999. https://doi.org/10.1016/j.heliyon.2021.e05999

[18] GALPIN, A., & TAYLOR, G. (2018). *Children, adolescents and screen use*. The British Psychological Society.

[19] GEULAYOV, G., MANSFIELD, K., JINDRA, C., HAWTON, K., & FAZEL, M. (2022). Loneliness and self-harm in adolescents during the first national COVID-19 lockdown: Results from a survey of 10,000 secondary school pupils in England. *Current Psychology*. https://doi.org/10.1007/s12144-022-03651-5

[20] GHOSH, A., DASGUPTA, S., & BASU, J. (2019). Role of social interaction anxiety and sensation seeking in Facebook addiction among male and female college students. *IAHRW International Journal of Social Sciences Review*, 7(6), 1810–1814. Retrieved from https://iahrw.org/product/role-of-social-interaction-anxiety-and-sensation-seeking-in-facebook-addiction-among-male-and-female-college-students/

[21] GHULAMI, H.R., ROESH, A.S., IBRAHIM, M.R., AKBARI, M., & MOHAMMADI, H. (2021). Facebook Addiction among Afghan University Students: A Structural Equation Modelling. *Indian Journal of Data Communication and Networking*, 1(2), 1–9. http://doi.org/10.54105/ijdcn.B5001.041221

[22] GOMEZ-BAYA, D., RUBIO-GONZALEZ, A., & GASPAR DE MATOS, M. (2019). Online communication, peer relationships and school

victimisation: A one-year longitudinal study during middle adolescence. *International Journal of Adolescence and Youth*, 24(2), 199–211. https://doi.org/10.1080/02673843.2018.1509793

[23] GRIFFITHS, M.D. (2013). Social networking addiction: Emerging themes and issues. *Journal of Addiction Research & Therapy*, 4(5), e118. https://doi.org/10.4172/2155-6105.1000e118

[24] HAAND, R., & ELHAM, A.Z. (2021). Social Media Addiction in the Least Developed Countries: A Quantitative Study among University Students in Afghanistan. *International Journal of Sport Culture and Science*, 9(2), 233–245. http://dx.doi.org/10.14486/IntJSCS.2021.641

[25] HEINRICH, L.M., & GULLONE, E. (2006). The clinical significance of loneliness: A literature review. *Clinical Psychology Review*, 26(6), 695–718. https://doi.org/10.1016/j.cpr.2006.04.002

[26] HO, S.S., LWIN, M.O., & LEE, E.W. (2017). Till logout do us part? Comparison of factors predicting excessive social network sites use and addiction between Singaporean adolescents and adults. *Computers in Human Behavior*, 75, 632–642. https://doi.org/10.1016/j.chb.2017.06.002

[27] HUNT, M.G., MARX, R., LIPSON, C., & YOUNG, J. (2018). No more FOMO: Limiting social media decreases loneliness and depression. *Journal of Social and Clinical Psychology*, 37(10), 751–768. http://dx.doi.org/10.1521/jscp.2018.37.10.751

[28] KARAKOSE, T., YIRCI, R., UYGUN, H., & OZDEMIR, T.Y. (2016). Relationship between high school students' Facebook addiction and loneliness status. *Eurasia Journal of Mathematics, Science and Technology Education*, 12(9), 2419–2429. https://doi.org/10.12973/eurasia.2016.1557a

[29] KARSAY, K., SCHMUCK, D., MATTHES, J., & STEVIC, A. (2019). Longitudinal effects of excessive smartphone use on stress and loneliness: The moderating role of self-disclosure. *Cyberpsychology, Behavior, and Social Networking*, 22(11), 706–713. https://doi.org/10.1089/cyber.2019.0255

[30] KELES, B., MCCRAE, N., & GREALISH, A. (2020). A systematic review: The influence of social media on depression, anxiety and psychological distress in adolescents. *International Journal of Adolescence and Youth*, 25(1), 79–93. https://doi.org/10.1080/02673843.2019.1590851

[31] KELLY, Y., ZILANAWALA, A., BOOKER, C., & SACKER, A. (2018). Social Media Use and Adolescent Mental Health: Findings from the UK Millennium Cohort Study. *eClinicalMedicine*, 6, 59–68. https://doi.org/10.1016/j.eclinm.2018.12.005

[32] KIM, H.H. (2017). The impact of online social networking on adolescent psychological well-being (WB): A population-level analysis of Korean school-aged children. *International Journal of Adolescence and Youth*, 22(3), 364–376. http://dx.doi.org/10.1080/02673843.2016.1197135

[33] LONGOBARDI, C., SETTANNI, M., FABRIS, M.A., & MARENGO, D. (2020). Follow or be followed: Exploring the links between Instagram popularity, social media addiction, cyber victimization, and subjective happiness in Italian adolescents. *Children and Youth Services Review*, 113, 104955. https://doi.org/10.1016/j.childyouth.2020.104955

[34] 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. http://dx.doi.org/10.1016/j.adolescence.2016.12.008

[35] O'DAY, E.B., & HEIMBERG, R.G. (2021). Social media use, social anxiety, and loneliness: A systematic review. *Computers in Human Behavior Reports*, 3, 100070. https://doi.org/10.1016/j.chbr.2021.100070

[36] OHANNESSIAN, C.M., & VANNUCCI, A. (2020). Technology use typologies and psychological adjustment during adolescence. *Youth & Society*, 52(6), 960–983. https://doi.org/10.1177/0044118X18785089

[37] OSBORN, T., WEATHERBURN, P., & FRENCH, R.S. (2021). Interventions to address loneliness and social isolation in young people: A systematic review of the evidence on acceptability and effectiveness. *Journal of Adolescence*, 93, 53–79. https://doi.org/10.1016/j.adolescence.2021.09.007

[38] PERIS HERNÁNDEZ, M., DE LA BARRERA, U., SCHOEPS, K., & MONTOYA CASTILLA, I. (2020). Psychological Risk Factors That Predict Social Networking and Internet Addiction in Adolescents. *International Journal of Environmental Research and Public Health*, 17(12), 4598. https://doi.org/10.3390/ijerph17124598

[39] PERLMAN, D., & PEPLAU, L.A. (1981). Toward a social psychology of loneliness. In: GILMOUR, R., & DUCK, S. (eds.) *Personal Relationships: 3. Relationships in Disorder*. London: Academic Press, pp. 31-56.

[40] PRAVEEN, J.K. (1971). *Manual of Perceived Loneliness Scale*. Agra: National Psychological Corporation.

[41] RADOVIC, A., GMELIN, T., STEIN, B.D., & MILLER, E. (2017). Depressed adolescents' positive and negative use of social media. *Journal of Adolescence*, 55, 5–15. http://dx.doi.org/10.1016/j.adolescence.2016.12.002

[42] RAJ, M., BHATTACHERJEE, S., & MUKHERJEE, A. (2018). Usage of online social networking sites among school students of Siliguri, West Bengal, India. *Indian Journal of Psychological Medicine*, 40(5), 452–457. https://doi.org/10.4103/IJPSYM.IJPSYM_70_18

[43] RIPON, R.K., AL ZUBAYER, A., RAHMAN,

Q.M., KHAN, A.H., RAHAMAN, A., HASAN, M.T., BHUIYAN, M.R.A.M., KHAN, M.K.A., CHOWDHURY, M.A.U., & HOSSAIN, M.Z. (2022). Factors associated with Facebook addiction among university students amid the COVID-19 pandemic: Findings from an online cross-sectional survey. *PLoS ONE*, 17(8), e0272905. https://doi.org/10.1371/journal.pone.0272905

[44] ROKACH, A. (2019). *The psychological journey to and from loneliness: Development, causes, and effects of social and emotional isolation*. Academic Press. https://doi.org/10.1016/C2017-0-03510-3

[45] SANTROCK, J.W. (2019). *Life-Span Development.* 17th ed. New York: McGraw-Hill Education.

[46] SHAHNAWAZ, M.G., & REHMAN, U. (2020). Social networking addiction scale. *Cogent Psychology*, 7(1), 1832032. https://doi.org/10.1080/23311908.2020.1832032

[47] SIMSEK, A., ELCIYAR, K., & KIZILHAN, T. (2019). A comparative study on social media addiction of high school and university students. *Contemporary Educational Technology*, 10(2), 106–119. https://doi.org/10.30935/cet.554452

[48] SONG, H., ZMYSLINSKI-SEELIG, A., KIM, J., DRENT, A., VICTOR, A., OMORI, K., & ALLEN, M. (2014). Does Facebook make you lonely?: A meta analysis. *Computers in Human Behavior*, 36, 446–452. http://dx.doi.org/10.1016/j.chb.2014.04.011

[49] STANKOVSKA, G., ANGELKOVSKA, S., & GRNCAROVSKA, S.P. (2016). Social Networks Use, Loneliness and Academic Performance among University Students. Proceedings of the 14th Annual International Conference of the Bulgarian Comparative Education Society, Sofia, 14-17 June 2016, pp. 255-261. Retrieved from https://eric.ed.gov/?id=ED568119

[50] TAGOMORI, H., FARDGHASSEMI, S., & JOFFE, H. (2022). How young adults cope with loneliness: A study of London's most deprived boroughs. *International Journal of Adolescence and Youth*, 27(1), 1–22. https://doi.org/10.1080/02673843.2021.2013263

[51] TANG, C.S., & KOH, Y.Y.W. (2017). Online social networking addiction among college students in Singapore: Comorbidity with behavioral addiction and affective disorder. *Asian Journal of Psychiatry*, 25, 175–178. http://dx.doi.org/10.1016/j.ajp.2016.10.027

[52] THANKACHAN, A., JOY, A., ARTHANA, E., MANUEL, A., DILNA, K.V., LIBIJA, A., NEETHU, C.K., AUGUSTIN, K.S., JOHNSON, L.K., & SENTHILKUMAR, T. (2019). A Study to Assess the Level of Social Media App Addiction among Adolescents in a Selected Degree College, Kannur, Kerala. *Asian Journal of Nursing Education and Research*, 9(3), 312–316. https://doi.org/10.5958/2349-2996.2019.00067.3

[53] THOMAS, L., ORME, E., & KERRIGAN, F. (2020). Student loneliness: The role of social media through life transitions. *Computers & Education*, 146, 103754. https://doi.org/10.1016/j.compedu.2019.103754

[54] TWENGE, J.M., HAIDT, J., BLAKE, A.B., MCALLISTER, C., LEMON, H., & LE ROY, A. (2021). Worldwide increases in adolescent loneliness. *Journal of Adolescence*, 93, 257–269. https://doi.org/10.1016/j.adolescence.2021.06.006

[55] VAN DEN EIJNDEN, R.J., LEMMENS, J.S., & VALKENBURG, P.M. (2016). The social media disorder scale. *Computers in Human Behavior*, 61, 478–487. http://dx.doi.org/10.1016/j.chb.2016.03.038

[56] WANG, K., FRISON, E., EGGERMONT, S., & VANDENBOSCH, L. (2018). Active public Facebook use and adolescents' feelings of loneliness: Evidence for a curvilinear relationship. *Journal of Adolescence*, 67, 35–44. https://doi.org/10.1016/j.adolescence.2018.05.008

[57] WARTBERG, L., KRISTON, L., & THOMASIUS, R. (2020). Internet gaming disorder and problematic social media use in a representative sample of German adolescents: Prevalence estimates, comorbid depressive symptoms and related psychosocial aspects. *Computers in Human Behavior*, 103, 31–36. https://doi.org/10.1016/j.chb.2019.09.014

[58] WORLD HEALTH ORGANIZATION. (2023). *Adolescent health.* Retrieved from https://www.who.int/health-topics/adolescent-health#tab=tab_1

[59] YU, L., & LUO, T. (2021). Social networking addiction among Hong Kong university students: Its health consequences and relationships with parenting behaviors. *Frontiers in Public Health*, 8, 555990. https://doi.org/10.3389/fpubh.2020.555990

[60] YU, L., & SHEK, D.T.L. (2021). Positive Youth Development Attributes and Parenting as Protective Factors against Adolescent Social Networking Addiction in Hong Kong. *Frontiers in Pediatrics*, 9, 649232. https://doi.org/10.3389/fped.2021.649232

[61] YURDAGÜL, C., KIRCABURUN, K., EMIRTEKIN, E., WANG, P., & GRIFFITHS, M.D. (2021). Psychopathological consequences related to problematic Instagram use among adolescents: The mediating role of body image dissatisfaction and moderating role of gender. *International Journal of Mental Health and Addiction*, 19, 1385–1397. https://doi.org/10.1007/s11469-019-00071-8

[62] ZHEN, R., LI, L., LI, G., & ZHOU, X. (2023). Social isolation, loneliness, and mobile phone dependence among adolescents during the COVID-19 pandemic: Roles of parent–child communication patterns. *International Journal of Mental Health and Addiction*, 21, 1931–1945. https://doi.org/10.1007/s11469-021-00700-1

[63] ZSIDO, A.N., ARATO, N., LANG, A.,

LABADI, B., STECINA, D., & BANDI, S.A. (2021). The role of maladaptive cognitive emotion regulation strategies and social anxiety in problematic smartphone and social media use. *Personality and Individual Differences*, 173, 110647. https://doi.org/10.1016/j.paid.2021.110647

参考文:

[1] AKGÜN KOSTAK, M.、DINDAR, I. **和** ZAFER DINÇKOL, R. (2019)。**孤独、抑郁、社会支持水平以及其他涉及土耳其高中生互**联网使用的因素。**国**际心理健康与成瘾杂志，17，1521-1534。https://doi.org/10.1007/s11469-018-9927-3

[2]**沙巴尼**，M.H.（2020）。**沙特大学生社交网**络成瘾的患病率和相关因素。**心理教育研究**评论，9(2)，87–99。检索自https://perrjournal.com/index.php/perrjournal/article/view/134

[3] **安德烈森**，C.S. (2015)。**在**线社交网站成瘾：全面审查。**当前成**瘾报告，2(2)，175–184。https://doi.org/10.1007/s40429-015-0056-9

[4] APARICIO-MARTÍNEZ，P.、RUIZ-RUBIO，M.、PEREA-MORENO，A.-J.、MARTÍNEZ-JIMÉNEZ，M.P.、PAGLIARI，C.、REDEL-MACÍAS，M.D. **和** VAQUERO-ABELLÁN，M.（2020）。**西班牙南部大学生**对社交网络成瘾的性别差异。远程信息处理和信息学，46，101304。https://doi.org/10.1016/j.tele.2019.101304

[5]ARSLAN，G.（2021）。**青少年的学校**归属感、幸福感和心理健康：探索孤独的作用。**澳大利**亚心理学杂志，73(1)，70–80。https://doi.org/10.1080/00049530.2021.1904499

[6]**阿**齐兹，S.M.，**索**鲁什，A.，**&卡托尼**，A.（2019）。**伊朗医学生社交网**络成瘾与学业成绩之间的关系：一项横断面研究。BMC**心理学**，7(1)，28。https://doi.org/10.1186/s40359-019-0305-0

[7] BHARDWAJ, A.、AVASTHI, V. **和** GOUNDAR, S. (2017)。**社交网**络对印度年轻人的影响——一项调查。**国**际电子与信息工程杂志，7(1)，41-51。http://dx.doi.org/10.6636/IJEIE.201709.7(1).05)

[8]**巴**鲁查，J.（2018）。**社交网**络的使用和青少年的福祉：印度的一项研究。**更安全的社区**，17(2)，119-131。https://doi.org/10.1108/SC-07-2017-0029

[9] BINTE MOHAMMAD ADIB, N.A., & SABHARWAL, J.K.（2023）。**年**轻人的孤独经历对幸福感的影响：系统范围界定审查。**当前心理学**。https://doi.org/10.1007/s12144-023-04445-z

[10]**博德福德**，J.E.（2017）。现代生活中的孤独。见：SHACKELFORD, T. **和** WEEKES-SHACKELFORD, V.（编辑）《进化心理科学百科全书》。**占婆**：**施普林格**，**第** 1-16 页。https://doi.org/10.1007/978-3-319-16999-6_1580-1

[11] ME **博格和T威洛比** (2023)。**孤独意味着什么？青少年和成人**对孤独的解释分析。现代心理学，42，14498–14505。https://doi.org/10.1007/s12144-022-02796-7

[12] BUCTOT，D.B.，KIM，N.，& KIM，J.J.（2020）。**与智能手机成**瘾流行率相关的因素及其对菲律宾青少年健康相关生活质量的预测能力。**儿童和青少年服**务评论，110，104758。https://doi.org/10.1016/j.childyouth.2020.104758

[13] CABA MACHADO，V.、MCILROY，D.、PADILLA ADAMUZ，F.M.、MURPHY，R. **和** PALMER-CONN，S. (2023)。**社交网站的使用与感知到的社会支持和孤独感之**间的关联。现代心理学，42，14414–14427。https://doi.org/10.1007/s12144-021-02673-9

[14] CASH，H.、RAE，C.D.、STEEL，A.H. **和** WINKLER，A. (2012)。**网**络成瘾：研究和实践的简要总结。**当前精神病学**评论，8(4)，292–298。https://doi.org/10.2174/157340012803520513

[15] CAUBERGHE，V.、VAN WESENBEECK，I.、DE JANS，S.、HUDDERS，L. **和** PONNET，K. (2021)。**青少年如何利用社交媒体**应对**新冠肺炎封**锁期间的孤独感和焦虑感。**网**络心理学、行为和社交网络，24(4)，250–257。https://doi.org/10.1089/cyber.2020.0478

[16] DEMPSEY，A.E.、O'BRIEN，K.D.、TIAMIYU，M.F. **和** ELHAI，J.D. (2019)。对错过的恐惧(FoMO)**和沉思**调节了社交焦虑和Facebook**使用**问题之间的关系。**成**瘾行为报告，9，100150。https://doi.org/10.1016/j.abrep.2018.100150

[17] DIBB，B. **和** FOSTER，M. (2021)。**孤独和**Facebook**使用**：**社会比**较和沉思的作用。**日光**，7(1)，e05999。https://doi.org/10.1016/j.heliyon.2021.e05999

[18]**加**尔平，A.，**&泰勒**，G.（2018）。**儿童、青少年和屏幕使用。英国心理学会**。

[19] GEULAYOV，G.、MANSFIELD，K.、JINDRA，C.、HAWTON，K. **和** FAZEL，M. (2022)。**第一次全国性新冠肺炎封**锁期间青少年

的孤独感和自残：对英格兰10,000名中学生的调查结果。当前心理学。https://doi.org/10.1007/s12144-022-03651-5

[20] GHOSH, A.、DASGUPTA, S. 和 BASU, J. (2019)。社交互动焦虑和感觉寻求在男女大学生Facebook成瘾中的作用。人权观察协会国际社会科学评论杂志，7(6)，1810-1814。检索自https://iahrw.org/product/role-of-social-interaction-anxiety-and-sensation-seeking-in-facebook-addiction-among-male-and-female-college-students/

[21]古拉米，H.R.，罗什，A.S.，易卜拉欣，M.R.，阿克巴里，M.，和穆罕默迪，H. (2021)。阿富汗大学生的Facebook成瘾：结构方程模型。印度数据通信和网络杂志，1(2)，1–9。http://doi.org/10.54105/ijdcn.B5001.041221

[22] 戈麦斯-巴亚，D.，鲁比奥-冈萨雷斯，A.，和加斯帕·德·马托斯，M. (2019)。在线交流、同伴关系和学校受害：青春期中期为期一年的纵向研究。国际青少年杂志，24(2)，199-211。https://doi.org/10.1080/02673843.2018.1509793

[23]格里菲斯医学博士（2013）。社交网络成瘾：新出现的主题和问题。成瘾研究与治疗杂志，4(5)，e118。https://doi.org/10.4172/2155-6105.1000e118

[24] HAAND, R., & ELHAM, A.Z.（2021）。最不发达国家的社交媒体成瘾：阿富汗大学生的定量研究。国际体育文化与科学杂志，9(2)，233–245。http://dx.doi.org/10.14486/IntJSCS.2021.641

[25] HEINRICH, L.M., & GULLONE, E. (2006)。孤独的临床意义：文献综述。临床心理学评论，26(6)，695–718。https://doi.org/10.1016/j.cpr.2006.04.002

[26] HO, S.S., LWIN, M.O., & LEE, E.W. (2017)。直到注销我们才会分手吗？新加坡青少年和成年人过度使用社交网站和成瘾的预测因素比较。计算机在人类行为中的应用，75，632–642。https://doi.org/10.1016/j.chb.2017.06.002

[27]亨特，M.G.，马克思，R.，利普森，C.，&杨，J.（2018）。不再有错失恐惧症：限制社交媒体可以减少孤独和抑郁。社会与临床心理学杂志，37(10)，751–768。http://dx.doi.org/10.1521/jscp.2018.37.10.751

[28] KARAKOSE, T.、YIRCI, R.、UYGUN, H. 和 OZDEMIR, T.Y.（2016）。高中生Facebook成瘾与孤独状态的关系。欧亚数学、科技教育杂志，12(9), 2419–2429。https://doi.org/10.12973/eurasia.2016.1557a

[29] KARSAY, K.、SCHMUCK, D.、MATTHES, J. 和 STEVIC, A. (2019)。过度使用智能手机对压力和孤独感的纵向影响：自我表露的调节作用。网络心理学、行为和社交网络，22(11)，706–713。https://doi.org/10.1089/cyber.2019.0255

[30] KELES, B.、MCCRAE, N. 和 GREALISH, A. (2020)。系统评价：社交媒体对青少年抑郁、焦虑和心理困扰的影响。国际青春期杂志，25(1)，79–93。https://doi.org/10.1080/02673843.2019.1590851

[31] KELLY, Y.、ZILANAWALA, A.、BOOKER, C. 和 SACKER, A. (2018)。社交媒体使用和青少年心理健康：英国千年队列研究的结果。电子临床医学，6，59–68。https://doi.org/10.1016/j.eclinm.2018.12.005

[32] KIM, H.H. (2017)。在线社交网络对青少年心理健康（世界银行）的影响：韩国学龄儿童的人口水平分析。国际青春期杂志，22(3)，364–376。http://dx.doi.org/10.1080/02673843.2016.1197135

[33] LONGOBARDI, C.、SETTANNI, M.、FABRIS, M.A. 和 MARENGO, D. (2020)。关注或被关注：探索Instagram受欢迎程度、社交媒体成瘾、网络受害和意大利青少年主观幸福感之间的联系。儿童和青少年服务评论，113，104955。https://doi.org/10.1016/j.childyouth.2020.104955

[34]奥伯斯特，U.，韦格曼，E.，斯托特，B.，布兰德，M.，&查马罗，A.（2017）。青少年大量社交网络的负面后果：害怕错过的中介作用。青春期杂志，55，51-60。http://dx.doi.org/10.1016/j.adolescent.2016.12.008

[35] O'DAY, E.B., & HEIMBERG, R.G.（2021）。社交媒体使用、社交焦虑和孤独：系统评价。人类行为报告中的计算机，3，100070。https://doi.org/10.1016/j.chbr.2021.100070

[36] OHANNESSIAN, C.M., & VANNUCCI, A. (2020)。技术在青春期使用类型和心理调整。青年与社会，52(6)，960–983。https://doi.org/10.1177/0044118X18785089

[37] OSBORN, T.、WEATHERBURN, P. 和 FRENCH, R.S.（2021）。解决年轻人孤独和社会孤立问题的干预措施：对可接受性和有效性证据的系统审查。青春期杂志，93，53-79。https://doi.org/10.1016/j.adolescent.2021.09.007

[38] PERIS HERNAÁNDEZ, M.、DE LA BARRERA, U.、SCHOEPS, K. 和 MONTOYA CASTILLA, I. (2020)。预测青少年社交网络和网络成瘾的心理

风险因素。国际环境研究与公共卫生杂志，17(12), 4598。https://doi.org/10.3390/ijerph17124598

[39] PERLMAN, D. 和 PEPLAU, L.A. (1981)。走向孤独的社会心理学。见：GILMOUR, R. 和 DUCK, S.（编辑）《个人关系：3. 混乱的关系》。伦敦：学术出版社，第 31-56 页。

[40]普拉文，J.K.（1971）。感知孤独量表手册。阿格拉：国家心理公司。

[41] RADOVIC, A.、GMELIN, T.、STEIN, B.D. 和 MILLER, E. (2017)。抑郁青少年对社交媒体的积极和消极使用。青春期杂志，55，5-15。http://dx.doi.org/10.1016/j.adolescent.2016.12.002

[42] RAJ, M.、BHATTACHERJEE, S. 和 MUKHERJEE, A. (2018)。印度西孟加拉邦西里古里学生在线社交网站的使用情况。印度心理医学杂志， 40(5), 452–457。https://doi.org/10.4103/IJPSYM.IJPSYM_70_18

[43] RIPON, R.K.、AL ZUBAYER, A.、RAHMAN, Q.M.、KHAN, A.H.、RAHAMAN, A.、HASAN, M.T.、BHUIYAN、M.R.A.M.、KHAN, M.K.A.、CHOWDHURY, M.A.U. 和 HOSSAIN, M.Z.（2022）。新冠肺炎大流行期间与大学生Facebook成瘾相关的因素：在线横断面调查的结果。《公共科学图书馆一》，17(8)，e0272905。https://doi.org/10.1371/journal.pone.0272905

[44]罗卡奇，A.（2019）。孤独的心理历程：社会和情感孤立的发展、原因和影响。学术出版社。https://doi.org/10.1016/C2017-0-03510-3

[45]桑洛克，J.W.（2019）。终身发展。第17版。纽约：麦格劳-希尔教育。

[46] SHAHNAWAZ, M.G. 和 REHMAN, U. (2020)。社交网络成瘾量表。令人信服的心理学，7(1), 1832032。https://doi.org/10.1080/23311908.2020.1832032

[47] SIMSEK, A.、ELCIYAR, K. 和 KIZILHAN, T. (2019)。高中生和大学生社交媒体成瘾的比较研究. 当代教育技术，10（2），106-119。https://doi.org/10.30935/cet.554452

[48] SONG, H.、ZMYSLINSKI-SEELIG, A.、KIM, J.、DRENT, A.、VICTOR, A.、OMORI, K. 和 ALLEN, M. (2014)。Facebook让你孤独吗？：元分析。计算机在人类行为中的应用， 36, 446–452。http://dx.doi.org/10.1016/j.chb.2014.04.011

[49] STANKOVSKA, G.、ANGELKOVSKA, S. 和 GRNCAROVSKA, S.P. (2016)。大学生的社交网络使用、孤独感和学业表现。保加利亚比较教育学会第14届国际年会论文集，索非亚，2016年6月14-17日，第 255-261 页。检索自https://eric.ed.gov/?id=ED568119

[50] TAGOMORI, H.、FARDGHASSEMI, S. 和 JOFFE, H. (2022)。年轻人如何应对孤独：对伦敦最贫困行政区的研究。国际青春期杂志，27(1)，1-22。https://doi.org/10.1080/02673843.2021.2013263

[51]唐春生、高耀伟（2017）。新加坡大学生的在线社交网络成瘾：行为成瘾和情感障碍的共病。亚洲精神病学杂志，25，175-178。http://dx.doi.org/10.1016/j.ajp.2016.10.027

[52] THANKACHAN, A.、JOY, A.、ARTHANA, E.、MANUEL, A.、DILNA, K.V.、LIBIJA, A.、NEETHU, C.K.、AUGUSTIN, K.S.、JOHNSON, L.K. 和 SENTHILKUMAR, T.（2019）。一项评估喀拉拉邦坎努尔选定学位学院青少年社交媒体应用成瘾程度的研究。亚洲护理教育与研究杂志， 9(3), 312–316。https://doi.org/10.5958/2349-2996.2019.00067.3

[53]托马斯，L.，奥姆，E.，&克里根，F.（2020）。学生孤独：社交媒体在生活转变中的作用。计算机与教育， 146, 103754。https://doi.org/10.1016/j.compedu.2019.103754

[54]特温格，J.M.，海特，J.，布莱克，A.B.，麦卡利斯特，C.，柠檬，H.，&勒罗伊，A.（2021）。全球青少年孤独感增加。青春期杂志，93，257-269。https://doi.org/10.1016/j.adolescent.2021.06.006

[55] VAN DEN EIJNDEN, R.J.、LEMMENS, J.S. 和 VALKENBURG, P.M.（2016）。社交媒体混乱量表。计算机在人类行为中的应用， 61, 478–487。http://dx.doi.org/10.1016/j.chb.2016.03.038

[56] 王 K.、弗里森 E.、艾格蒙特 S. 和范登博斯 L. (2018)。活跃的公众Facebook使用和青少年的孤独感：曲线关系的证据。青春期杂志，67，35-44。https://doi.org/10.1016/j.adolescent.2018.05.008

[57]沃特伯格，L.，克里斯顿，L.，&托马斯，R.（2020）。德国青少年代表性样本中的网络游戏障碍和社交媒体使用问题：患病率估计、共病抑郁症状和相关心理社会方面。计算机在人类行为中的应用，103，31-36。https://doi.org/10.1016/j.chb.2019.09.014

[58]世界卫生组织。（2023）。青少年健康。检索自https://www.who.int/health-topics/adolescent-

health#tab=tab_1
[59]于丽，罗涛（2021）。香港大学生的社交网络成瘾：其健康后果及其与养育行为的关系。公共卫生前沿，8, 555990。https://doi.org/10.3389/fpubh.2020.555990
[60]于丽、石大良（2021）。积极的青少年发展特质和养育方式是香港青少年社交网络成瘾的保护因素。儿科前沿, 9, 649232。https://doi.org/10.3389/fped.2021.649232
[61] YURDAGÜL, C.、KIRCABURUN, K.、EMIRTEKIN, E.、WANG, P. 和 GRIFFITHS, M.D. (2021)。与青少年使用Instagram有问题相关的心理病理后果：身体形象不满的中介作用和性别的调节作用。国际心理健康与成瘾杂志，19, 1385-1397。https://doi.org/10.1007/s11469-019-00071-8
[62]郑瑞、李丽、李光、周旭（2023）。新冠肺炎大流行期间青少年的社会孤立、孤独和手机依赖：亲子沟通模式的作用。国际心理健康与成瘾杂志，21, 1931-1945。https://doi.org/10.1007/s11469-021-00700-1
[63] ZSIDO, A.N.、ARATO, N.、LANG, A.、LABADI, B.、STECINA, D. 和 BANDI, S.A. (2021)。适应不良的认知情绪调节策略和社交焦虑在有问题的智能手机和社交媒体使用中的作用。性格和个体差异, 173, 110647。https://doi.org/10.1016/j.paid.2021.110647