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Problematic Smartphone Use: Relationships With Emotional Intelligence, Self-Confidence, and Conflict Behavior in Belarusians and Russians

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Abstract

Introduction. Smartphones have become one of the most important digital devices in modern life. Excessive smartphone use can be associated with negative emotions and other psychological problems. This study aims to identify the relationships between problematic smartphone use and emotional intelligence, self-confidence, conflict management modes and social networking addiction among Belarusian and Russian respondents, and to detect common and different characteristics in these relationships between the two analyzed samples. **Methods.** A total of 1448 respondents participated in the online survey (Belarusian respondents: n = 726; Russian respondents: n = 722). Diagnostic tools: (a) Short Version of the Smartphone Addiction Questionnaire by V. P. Sheinov, (b) Emotional Intelligence Test by N. Hall, (c) Self-Confidence Test by V. G. Romek, (d) Thomas-Kilmann Conflict Mode Instrument (modified by N. V. Grishina), and (e) Social Networking Addiction Questionnaire, SNA-15 by V. P. Sheinov and A. S. Dziavitsyn). **Results.** 1) Problematic smartphone use is negatively associated with emotional intelligence and self-confidence in the samples of Belarusian and Russian respondents. 2) Conflict management modes are weakly correlated with problematic smartphone use (only the negative correlation between problematic smartphone use and collaboration among Russian women, as well as the positive correlation with avoidance in the overall Belarusian sample and in the sub-sample of Belarusian men

are statistically significant). 3) Belarusian and Russian respondents showed significant correlations among all factors of problematic smartphone use (loss of self-control, fear of refusal to use a smartphone, and euphoria caused by smartphone use) and all factors of social network addiction (user psychological state, network user communication, and acquiring information). **Discussion.** Results can be used for preventive and corrective development activities to prevent problematic smartphone use among young people.

Keywords

problematic smartphone use, smartphone addiction, emotional intellect, self-confidence, behavior in conflict, social networking addiction, Belarusians, Russians

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Introduction

Smartphones have become one of the most important digital devices in modern life. Smartphones perform many functions by providing their owners with permanent access to the Internet, maintaining social networks, and acquiring information quickly. Smartphones are used in professional activities, offer users a variety of entertainment and pleasure, help with navigation. The advantages of smartphones are obvious. They are portable, convenient, personalized and always available. Most teenagers (82 %) prefer smartphones to access to the Internet (Soldatova, Chigar'kova, Koshevaya, & Nikonova, 2022, p. 24-25).

Thanks to its functionality, smartphones today are not only tools, but also part of individual self (Nijssen, Schaap, & Verheijen, 2018). Gadgets "change into unique 'psychological tools' and change the quality characteristics of mental phenomena and processes" (Regush, Alekseeva, Veretina, Orlova, & Pezhemskaya, 2019 p. 20). Smartphones are increasingly being used in the education process (Babak 2021; Men'shikov, Sutyagin, & Lisun 2022; Starun & Voistinova 2021).

However, excessive smartphone use can lead to social isolation, negative emotional states, and other psychological problems. It is being discussed whether digital technology can reduce cognitive functions and lead to 'digital dementia'. A special term has appeared in scientific literature – 'problematic smartphone use' (Panova & Carbonell, 2018). However, some authors (Peraman & Parasuraman, 2016) believe that excessive

smartphone use is a form of psychological or behavioral addiction. Excessive smartphone use can be associated with social networking addiction and Internet addiction. Other researchers believe that the terminology associated with the use of smartphones is not completely correct and can cause difficulties both in research and in the stigmatization of users. Therefore, they suggest replacing the concept of 'smartphone addiction' with the concept of 'problematic smartphone use' (Peraman & Parasuraman, 2016).

In our view, the concepts of 'problematic smartphone use' and 'smartphone addiction' can be used as interchangeable synonyms. However, they have specificities.

Problematic smartphone use includes concerns about mobile communication, excessive spending of money or time, and smartphone use in socially or physically inappropriate situations (e.g., driving). Excessive smartphone use can lead to adverse effects on social relationships, mental or physical health, and can cause anxiety if the smartphone opportunity is excluded (Csibi, Griffiths, Demetrovics, & Szabo, 2021). People addicted to smartphones behave differently than chemical and other addicts. People are not addicted to smartphones, but to the opportunities that smartphones provide – participating in social networking, gambling, pornography viewing, etc. (Panova & Carbonell, 2018). Therefore, the concept of 'problematic smartphone use' is preferred.

The model of non-medical smartphone addiction is based on factor analysis of a large amount of empirical material (Sheinov & Dziavitsyn, 2021, p. 174), and is radically different from the structure of social networking addiction and repeats the structure of medical addiction (ibid., p. 192).

With regard to the Internet environment, the concept of immersion in the web environment is introduced into scientific discourse and is proposed to be considered as "a new psychological phenomenon with its own psychological content, different from phenomena such as Internet addiction, problematic Internet use, etc." (Regush et al., 2021, p. 107). The introduction of the concept of immersion in the web environment as a broader concept, free from negative and clinical connotations, and characterizing individual activities seems appropriate, as "it allows us to identify the interaction of modern people with the Internet environment" (ibid., p. 110).

People's digital hyperconnectivity is expressed by the number of hours spent on monitor screens and smartphones. Hyperconnectivity refers to the level of user activity "when the time of networking corresponds to the time without computer screens" (Soldatova, Chigar'kova, Koshevaya, & Nikonova, 2022, p. 21). However, as the authors note, understanding the phenomenon of hyperconnectivity "should not be limited to the number of hours spent on gadgets". The authors describe hyperconnectivity as "one of the key dimensions of digital socialization and also reflects qualitative changes determined by the evolution of special relationships between adolescents and their personalized digital devices" (Soldatova et al., 2022, p. 38–39). The smartphone has become the main tool to expand the abilities of a child and to perform a variety of activities that were inaccessible to children of the same age a few decades ago. It is no coincidence that smartphones

are at immediate access almost 24 hours a day, making them an integral companion of children, part of their personality, and a very functional technology addition that modern children learn to manage independently" (ibid.).

The importance of smartphones in a person's life does not reduce the dangers of hyperconnectivity. We are not addicted to smartphones, but to a normal and healthy need for social interaction, and satisfaction can be achieved through a smartphone (Veissière & Stendel, 2018). Healthy needs can become unhealthy addictions, and excessive use of smartphones can harm mental health. In particular, smartphone use is related to the dopamine reward system, which have similar patterns to drug use and other addictions (Veissière & Stendel, 2018, p. 4).

Pre-school children and young adults are at greatest risk of problematic smartphone use (Csibi et al., 2021). The problematic smartphone use by children and young people and the resulting addiction raise increasing concern among psychologists, parents, teachers, and the public. There are serious reasons for this. Smartphone addiction is positively associated with depression, anxiety, stress, dissatisfaction in life, and self-control (Sheinov, 2021, p. 97). Smartphone addiction is also associated with many other negative diseases. At the same time, it was revealed that the conflict component of the 20–34 age group is lower than that of the 3–11 age group and that of the 12–19 age group, where it is significantly higher than that of the older age group. These results, the authors note, may reflect a decline in parental control, indicating that partners, employers and/or friends can confront individuals of this age group when they notice an excessive use of an individual's smartphone. These findings are consistent with other studies reporting that positive parental supervision can prevent excessive smartphone use (Csibi et al., 2021).

Previous studies have identified correlations between smartphone addiction and *emotional intelligence, self-doubt, and conflicts* that require research attention.

In modern psychology, *emotional intelligence* is defined as the ability of individuals to understand and manage their own and other people's emotions (Lyusin, 2004) and their accurate perception and use (Mayer, 2008). There is increasing evidence that EI plays an important role in the development of drug addiction and behavioral addictions. Henning et al. studies on the importance of EI and related addiction have shown that significant empirical data have been collected, indicating that low EI is an important risk factor for the development of addiction. This indicates the need to pay more attention to the mechanisms of EI in addiction and the potential utility of EI training in addiction treatment (Henning et al., 2021). Another study found that higher smartphone addiction correlates with lower emotional intelligence and self-control ($R = -0.418$, $p < 0.001$). Furthermore, the study found that when respondents' emotional intelligence was higher, self-control was also higher ($R = 0.502$, $p < 0.001$) (Choi et al., 2014). An inverse relationship between smartphone addiction and emotional intelligence scores in the emotional awareness subscale has been found (Morales et al., 2020). Emotional intelligence subscales showed a negative correlation with smartphone addiction in student nurses. Thus, the higher the

level of use of emotions and emotional regulation, the lower the smartphone addiction scores of respondents (Lee & Gu, 2018). Smartphone addiction is negatively associated not only with emotional intelligence, but also with critical thinking. Higher smartphone addiction scores predict lower levels of emotional intelligence and lower critical thinking skills (Lee & Kim, 2017). Another study supports the idea that emotional intelligence scores are negatively associated with problematic Internet use and problematic smartphone use (Arrivillaga, Rey, & Extremera, 2020). In general, there is a negative correlation between virtual world orientation and awareness and emotional expression through the subfactors of emotional intelligence (Yoo et al., 2017).

Self-doubt. The preference for the virtual world over the real world is one of the main characteristics of smartphone addiction. Smartphone addicts lose confidence in their relationships with others (Shim, 2019). Meanwhile, smartphone addiction is more common among people with low self-esteem, and smartphone use helps them to connect to others in the virtual world and increase self-esteem (Lee et al., 2018). Potential factors that lead to excessive smartphone use include personal factors (prolonged leisure time and low self-confidence) and social factors (social pressure and fear of losing friends) (Alotaibi, 2022). Excessive smartphone use can reduce self-confidence and lead to smartphone addiction (Peraman & Parasuraman, 2016).

Conflicts. A study by S. *Mahapatra* showed that the adverse effects of smartphone addiction include poor academic performance, personal and family conflicts (Mahapatra, 2019). *Y.-R. Lee, J.-S. Park*, has confirmed that conflict management modes and smartphone addiction have a direct significant relationship (Lee & Park, 2018). A study by *R. Alan* and *H. S. Guzel* showed that participants with no confident style of coping with stress have higher smartphone addiction scores than those who have chosen other methods of conflict resolution (Alan & Guzel, 2020).

These results have been obtained in previous studies. The natural question is whether such correlations will be observed in Belarusian and Russian samples. Do Belarusians and Russians have the same or different characteristics? The importance of these correlations determines the relevance of such research.

This **study aims** to identify the relationships between problematic smartphone use and emotional intelligence, self-confidence, conflict behavior types and social networking addiction among Belarusian and Russian respondents, and to detect common and different characteristics in these relationships between the two analyzed samples.

The study of a Belarusian-Russian sample was carried out for several reasons. The young generations of the two neighboring countries that were part of the USSR until 1990 "grew up in completely different socio-political, economic, and cultural realities" (Odintsova et al., 2021, p. 169). Research into the problem of personal resources for the spiritually closest peoples "is very few and focuses on ethnic groups as a whole" (ibid.). The article we cited did not deal with the study of the characteristics of digital behavior of the population of both countries. The comparative analysis of correlations between smartphone addiction and personal traits in a Belarusian-Russian sample appears urgent.

Methods

Sample

A total of 1448 respondents participated in the online survey, of whom 66.3 % were women (Belarusian respondents: n = 726, 59.6 % females; Russian respondents: n = 722, 72.9 % females). The mean age of Belarusian respondents was 22.8 years (min = 15, max = 63; SD = 7.18); the mean age of Russian respondents was 21.8 years (min = 15, max = 69; SD = 7.78). The majority of respondents were students.

Diagnostic tools

- **Short Version of the Smartphone Addiction Questionnaire** (Sheinov, 2021) to assess smartphone addiction. The study used a factorial model of smartphone addiction, which included the following three factors: fear of refusal to use a smartphone, loss of self-control, and euphoria caused by smartphone use (Sheinov & Dziavitsyn 2021, p. 174).
- **Social Networking Addiction Questionnaire, SNA-15** (Sheinov & Dziavitsyn 2021a) to assess social networking addiction. The study used a *three-factor model of social networking addiction*. The model includes the following three factors: network user communication, his/her psychological state and information (acquiring information) (Sheinov & Dziavitsyn, 2021b).
- **Self-Confidence Test by V. G. Romek** (Romek, 1998, pp. 87-108) for assessing self-confidence. The test includes the following components of self-confidence: general confidence, social courage, and initiative in social contacts.
- **Emotional Intelligence Test by N. Hall** (Hall, 2002, pp. 57–59; Fetiskin, Kozlov, & Manuilov, 2002) to assess the following five components: *emotional awareness, emotional self-management, self-motivation, empathy, recognizing other people's emotions.* Based on the assessment of these components, an integrated emotional intelligence indicator is calculated.
- **Thomas-Kilmann Conflict Mode Instrument** (Thomas & Kilmann, 1974, 2007), modified by N. V. Grishina (Greben, 2007, pp. 381–388) to assess conflict management modes, including *competition, accommodation, compromise, avoidance, and collaboration.*

Research procedure

The study of samples of Belarusian and Russian men and women was carried out using an anonymous, voluntary, remote method, using Google Forms. Data collection was carried out simultaneously in Russian and Belarusian samples in 2022. Individual results were automatically sent to all respondents within an hour.

Statistical analysis was carried out with SPSS-22 software.

Results

The test showed that the empirical distribution of all samples representing the characteristics studied was different from normal. Therefore, all correlations were calculated using the non-parametric Mann-Kendall test. The choice of Mann-Kendall test correlations is convenient in capturing both linear and non-linear relationships.

Let us present the results of the correlation calculation in the samples of Belarusian and Russian respondents.

Relationships of problematic smartphone use with social networking addiction, self-confidence, conflict management modes, and age

The data presented in Table 1 indicate that problematic smartphone use strongly correlates with social networking addiction among Belarusian and Russian respondents, and the strongest correlation is among Russian men.

Table 1

Correlations of problematic smartphone use with social networking addiction, self-confidence, conflict management modes, and age among Belarusians and Russians

		Self-confidence			Conflict management modes					
	Social networking addiction	General confidence	Social courage	Initiative in social contacts	Competition	Collaboration	Compromise	Avoidance	Accommodation	Age
Belarus (overall sample)	0.480**	-0.194**	-0.254**	-0.043	-0.026	-0.006	-0.024	0.065*	0.017	-0.053*
Belarus (men)	0.448**	-0.220**	-0.312**	-0.083*	-0.038	0.018	-0.060	0.100*	0.022	0.003
Belarus (women)	0.491**	-0.180**	-0.206**	-0.029	0.010	-0.038	-0.029	0.029	0.020	-0.125**

		Self-confidence			Conflict management modes					
	Social networking addiction	General confidence	Social courage	Initiative in social contacts	Competition	Collaboration	Compromise	Avoidance	Accommodation	Age
Russia (overall sample)	0.494**	-0.252**	-0.214**	-0.056*	-0.015	-0.029	0.003	0.021	0.000	-0.125**
Russia (men)	0.517**	-0.335**	-0.245**	-0.103*	0.009	-0.011	0.015	-0.008	0.006	-0.087
Russia (women)	0.466**	-0.208**	-0.169**	-0.032	0.021	-0.064*	-0.017	0.008	0.004	-0.153**

Note. *In Tables 1-4, significant correlations are in bold font; * $p \le 0.05$, ** $p \le 0.01$.*

The correlation between problematic smartphone use and self-confidence is negative in both Belarusian and Russian samples. This correlation scores are slightly higher among Russians. Social courage is more than initiative in social contacts associated with problematic smartphone use and reduces it.

Conflict management modes have weak correlations with problematic smartphone use. Only a negative correlation with collaboration in the sub-sample of Russian women and a positive correlation with avoidance in the overall sample of Belarusians and in the sub-sample of Belarusian men reach the statistical significance level.

A negative correlation between problematic smartphone use and age was found among Belarusian and Russian respondents. More specifically, as numerical values show, such a correlation can be found in the sub-samples of Belarusian and Russian women.

Relationships between smartphone addiction and emotional intelligence addiction

As the data presented in Table 2 show, problematic smartphone use is negatively correlated with emotional intelligence in both Belarusian and Russian overall samples, as well as in the subsamples of Belarusian and Russian men and women. This correlation is the strongest among Russian men.

Table 2

Correlations between smartphone addiction and emotional intelligence of Belarusians and Russians

	Integral emotional intelligence	Emotional awareness	Emotional self-management	Self-motivation	Empathy	Recognizing other people's emotions
Belarus (overall sample)	-0.148**	-0.058*	-0.193**	-0.182**	-0.052*	-0.074**
Belarus (men)	-0.196**	-0.117**	-0.203**	-0.213**	-0.135**	-0.126**
Belarus (women)	-0.098**	-0.018	-0.148**	-0.134**	-0.006	-0.045
Russia (overall sample)	-0.144**	-0.022	-0.207**	-0.164**	-0.053*	-0.097**
Russia (men)	-0.235**	-0.089	-0.255**	-0.206**	-0.169**	-0.219**

	Integral emotional intelligence	Emotional awareness	Emotional self-management	Self-motivation	Empathy	Recognizing other people's emotions
Russia (women)	-0.106**	-0.013	-0.151**	-0.133**	-0.043	-0.077*

Analysis of correlations between problematic smartphone use and individual components of emotional intelligence showed that emotional self-management and self-motivation had the strongest negative correlations with problematic smartphone use.

The recognition of other people's emotions and empathy of others have weaker but also negative correlations with problematic smartphone use. Such correlations do not reach statistical significance for the scores of recognition of other people's emotions in the sub-sample of Belarusian women and for empathy scores in the sub-samples of Belarusian and Russian women.

To a lesser extent, problematic smartphone use was negatively associated with emotional awareness. This relationship reaches statistical significance only in the general sample of Belarusians and in the sub-sample of Belarusian men.

Thus, despite the fact that the mean scores of smartphone addiction among Belarusians (equal to 13.65) and Russians (equal to 14.82) are not statistically different ($p = 0.130$), there are both similarities and certain differences in the correlations of smartphone addiction with social networking addiction, self-confidence and the level of emotional intelligence of Belarusians and Russians.

Relationships of the components of problematic smartphone use with the components of social networking addiction and integral personal traits of respondents

Let us present the results of the correlation analysis of relationships of smartphone addiction factors and social networking addiction factors and integral indicators of personal traits of Belarusian and Russian respondents (Tables 3 and 4).

Table 3

Correlations of problematic smartphone use components with the components of social networking addiction and integral indicators of personal traits of Belarusians

Smartphone addiction factors	Social networking addiction (integral indicator and factors)				Self-confidence	Emotional intelligence
	Integral indicator	Network user psychological state	Network user communication	Acquiring information		
Overall sample						
Loss of self-control	0.404**	0.426**	0.261**	0.293**	-0.189**	-0.132**
Fear of refusal to use a smartphone	0.380**	0.393**	0.253**	0.280**	-0.142**	-0.140**
Euphoria caused by smartphone use	0.427**	0.432**	0.284**	0.318**	-0.144**	-0.116**
Men						
Loss of self-control	0.370**	0.393**	0.247**	0.271**	-0.199**	-0.139**
Fear of refusal to use a smartphone	0.339**	0.332**	0.239**	0.286**	-0.117**	-0.154**
Euphoria caused by smartphone use	0.395**	0.393**	0.272**	0.317**	-0.192**	-0.217**

Smartphone addiction factors	Social networking addiction (integral indicator and factors)				Self-confidence	Emotional intelligence
	Integral indicator	Network user psychological state	Network user communication	Acquiring information		
Women						
Loss of self-control	0.414**	0.441**	0.234**	0.300*	-0.181**	-0.110**
Fear of refusal to use a smartphone	0.386**	0.414**	0.221**	0.270**	-0.156**	-0.121**
Euphoria caused by smartphone use	0.438**	0.450**	0.263**	0.313**	-0.111**	-0.042

As Tables 3 and 4 show, there are significant positive correlations between all factors of problematic smartphone use and all factors of social networking addiction among both Belarusians and Russians. The strongest correlations were observed between the factors of problematic smartphone use – loss of self-control, fear of refusal to use a smartphone, and euphoria caused by smartphone use – and the factor of psychological state of a social network user. The data also show that all three factors of smartphone addiction are strongly correlated with the factors of 'acquiring information' and 'network user communication' in both Belarusian and Russian samples.

Table 4

Correlations of problematic smartphone use components with the components of social networking addiction and integral indicators of personal traits of Russians

eSmartphone addiction factors	Social networking addiction (integral indicator and factors)				Self-confidence	Emotional intelligence
	Integral indicator	Network user psychological state	Network user communication	Acquiring information		
Overall sample						
Loss of self-control	0.410**	0.440**	0.252**	0.300**	-0.244**	-0.130**
Fear of refusal to use a smartphone	0.426**	0.449**	0.297**	0.313**	-0.204**	-0.148**
Euphoria caused by smartphone use	0.450**	0.461**	0.304**	0.341**	-0.191**	-0.104**
Men						
Loss of self-control	0.446**	0.468**	0.277**	0.334**	-0.318**	-0.220**
Fear of refusal to use a smartphone	0.449**	0.447**	0.394**	0.321**	-0.247*	-0.206**
Euphoria caused by smartphone use	0.465**	0.459**	.361**	0.361**	-0.273**	-0.176**

eSmartphone addiction factors	Social networking addiction (integral indicator and factors)				Self-confidence	Emotional intelligence
	Integral indicator	Network user psychological state	Network user communication	Acquiring information		
			Women			
Loss of self-control	0.378**	0.412**	0.214**	0.266**	-0.205**	-0.089**
Fear of refusal to use a smartphone	0.397**	0.433**	0.241**	0.287**	-0.175**	-0.119**
Euphoria caused by smartphone use	0.421**	0.441**	0.257**	0.312**	-0.147**	-0.072*

Note. Significant correlations are in bold font; * $p < 0.05$. ** $p < 0.01$.

Belarusians and Russians found significant negative correlations of the three factors of smartphone addiction with self-confidence and emotional intelligence among male and female respondents.

Discussion

In this study we found a negative relationship between smartphone addiction and age in men and women. These study results confirm previously obtained data on the negative relationship between smartphone addiction and age in women (cited from: Sheinov & Dziavitsyn, 2021, p. 171). This fact requires research attention and understanding. The older Belarusian and Russian women are, the less they are exposed to smartphone

addiction. Perhaps this is partly explained by the expansion of women's responsibilities with age, including the responsibilities relating to motherhood and childcare, which are further entrusted to women. They have less time for a smartphone and it becomes often out of sight.

Relationship with emotional intelligence

As the study showed, problematic smartphone use is negatively associated with emotional intelligence and the following its components: emotional self-management, empathy, self-motivation, and recognition of other people's emotions. This fact is consistent with the result of a previous study (Turkle, 2017) that shows that "because of excessive communication via smartphones, people are less sensitive to each other, resulting in a loss of empathy and a deterioration of emotional contact with others" (cited by Sheinov, 2020, p. 120). This study confirms previous findings that the higher the level of problematic smartphone use, the lower the emotional intelligence score, and the higher the emotional intelligence score, the lower the smartphone addiction score (Choi et al., 2014; Lee & Kim, 2017; Yoo et al., 2017; Morales et al., 2020). This provides further evidence that emotional intelligence plays an important role in the development and manifestation of problematic smartphone use. Emotional intelligence development is a means of preventing and correcting smartphone addiction.

The results of our study are consistent with the statement that "...in digital interactions, the cognitive component of emotional intelligence prevails" (Minyurova et al., 2021, p. 163). The study found that the recognition of other people's emotions and the ability to affect the emotions of others are less correlated with the problematic smartphone use. Problematic smartphone use is even less associated with respondents' emotional awareness.

Negative relationships between problematic smartphone use and self-confidence have previously been found in a number of studies (Lee et al. 2018; Shim 2019; Peraman & Parasuraman, 2016). The results presented in this paper support the proposal that a positive self-appraisal reduces problematic smartphone use. At the same time, smartphone addicts lose self-confidence and social courage over time.

Relationship with conflict management modes

With a few exceptions, the study did not show a significant correlation between problematic smartphone use and conflict management modes among Belarusians and Russians (Table 1). The exception is a positive relationship with avoidance in the

overall sample of Belarusians and in the sub-sample of Belarusian men. This relationship seems to be quite logical. Avoidance in real conflict situations can potentially increase the desire to interact with gadgets. However, such a relationship has not been observed among Russians. Another exception is a negative relationship between the problematic smartphone use and collaboration in the sub-sample of Russian women. This relationship seems, undoubtedly, quite logical. If avoidance in real conflict situations can potentially increase the desire to interact with gadgets, then the desire to collaborate in real conflict situations will reduce the desire to escape into smartphones.

The strong correlation between smartphone use and social networking addiction found in the study is logical. Smartphone addiction is rooted in the desire for communication with others and the need to be seen, heard, directed, and controlled by others (Veissière & Stendel, 2018). A strong significant correlation between all factors of problematic smartphone use and all factors of social networking addiction in the Belarusian and Russian samples indicates further evidence that all factors of problematic smartphone use (fear of refusal to use a smartphone, loss of self-control, and euphoria caused by smartphone use) are independent, causing the problem of excessive smartphone use.

This idea was confirmed by a significant negative correlation between the three factors of smartphone addiction and self-confidence and emotional intelligence among male and female respondents in Belarusian and Russian samples. The higher the scores of self-confidence and emotional intelligence, the lower the scores of loss of self-control when using a smartphone, and the less pronounced fear of refusal to use a smartphone and euphoria caused by smartphone use.

Conclusions

The study found that the mean smartphone addiction scores were significantly different ($p = 0.130$) among Belarusians and Russians. Significant similarities have been found in the relationships between problematic smartphone use and social networking addiction and the personality traits of Belarusian and Russian men and women.

The analysis of the results of the study led us to draw the following conclusions:

1. Problematic smartphone use can manifest itself as a psychological addiction to smartphones or smartphone addiction, and is associated with a number of personality traits and social networking addiction among Belarusians and Russians.

2. Problematic smartphone use is negatively associated with emotional intelligence and its following components: emotional self-management, self-motivation, empathy, recognizing other people's emotions. To a lesser extent, smartphone

addiction is negatively associated with emotional awareness scale, reaching statistical significance only in the overall sample of Belarusians and in the sub-sample of Belarusian men.

3. Problematic smartphone use is negatively associated with self-confidence in the samples of Belarusian and Russian respondents. Social courage, rather than initiative in social contacts, is related to smartphone addiction.

4. The negative relationship between problematic smartphone use and collaboration among Russian women, and the positive relationship between smartphone addiction and avoidance in the overall sample of Belarusians and in the sub-sample of Belarusian men have reached the statistical significance level.

5. There are strong significant correlations between all factors of problematic smartphone use (loss of self-control, fear of refusal to use a smartphone, and euphoria caused by smartphone use) and all factors of social networking addiction (user psychological state, network user communication, and acquiring information) both among Belarusians and Russians.

Thus, all factors of problematic smartphone use have independent significance in determining the problems caused by excessive smartphone use. The collected data may be useful for preventive, correctional, and developmental work to prevent problematic smartphone use among Belarusian and Russian youth.

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Author Contribution

Viktor Pavlovich Sheinov developed the methodological concept of the study, overviewed relevant literature, organized the study, collected and described initial data, performed mathematical processing and analyzed the results, wrote the text of the manuscript.

Nina Arkad'evna Nizovskikh collected initial data, analyzed and discussed the results, wrote the text, prepared and edited the manuscript.

Anton Sergeevich Dziavitsyn developed the initial data processing programs and promptly delivered the test results to respondents online.

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Conflict of Interest Information

The authors have no conflicts of interest to declare.