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Relationships Between Smartphone Addiction and Personal Qualities and Properties of Belarusians and Russians

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Abstract: Introduction. Smartphone addiction is the most common non-medical addiction. The purpose of the study is to find common and differences in the relationship between smartphone addiction and personal qualities and properties of Belarusian and Russian men and women (assertiveness , impulsiveness, narcissism, vulnerability to manipulation, dependence on social networks), comparing the results corresponding to these groups of respondents.
Methods. Smartphone addiction diagnosed CAC-16 questionnaire (author V.P. Sheinov), assertiveness - assertiveness test (V.P. Sheinov), vulnerability to manipulation - questionnaire "Assessment of the degree of vulnerability of an individual from manipulative influences" (V.P. Sheinov), dependence on social networks - questionnaire ZSS-15 (V.P. Sheinov, A.S. Devitsyn) , and impulsivity - by V. BUT. Losenkov , narcissism - questionnaire E. Kot. **Results.** In the relationship between smartphone dependence and personal qualities and characteristics in the Belarusian (n = 403) and Russian (n = 361) samples of men and women, more similarities were found than differences: smartphone addiction is negatively associated with assertiveness and positively with impulsivity, loss of control over oneself, fear of refusal to use a smartphone, euphoria from its use, dependence on social networks. Regardless of gender and geographic location, the strongest link is between smartphone addiction and loss of self-control. ***A negative relationship was found between dependence on a smartphone*** and exposure to manipulation in Belarusian women, while in Russian women this relationship is positive. A negative relationship was found between smartphone dependence and narcissism among Russian women, in the absence of it among other groups of respondents. **Discussion of the results.** The data obtained on the relationship between smartphone addiction and personal qualities and properties of Belarusians and Russians are new, in general they are consistent with the results of studies in other societies, while there are some differences.

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Keywords: smartphone addiction , assertiveness , impulsiveness, exposure to manipulation, narcissism, social media addiction, Russians, Belarusians, men, women

Highlights

- connections between smartphone addiction and personal qualities and properties of Russian and Belarusian men and women are mostly similar, but there are certain differences;
smartphone addiction is most strongly associated with loss of self-control;
- Belarusian women o a negative relationship was found between dependence on a smartphone and vulnerability to manipulation; in Russian women, this relationship is positive;
among Russians, dependence on a smartphone is negatively correlated with narcissism;
- in order to prevent the formation of dependence on smartphones and release from it, it is recommended to promote the development of assertiveness of the individual.

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Introduction

In modern society, digital addictions have become widespread. In a large sociological study on a representative international sample, it was found that the structure of Internet addicted Russian youth is identical to the global one, while "the majority are average independent Internet users (95.5%), highly dependent (2.7%) and absolutely dependent (0.6%)" (Varlamova et al., 2015, p. 174).

Digital dependencies are typical for representatives of the " Generation Z". Therefore , representatives of this particular generation are of particular interest to study the impact of digital addictions, which include smartphone addiction . Generation Z Internet communication is a rather complex and multifaceted phenomenon (Kondratieva, Doveiko, 2021) . It consists of "a form of data transmission on the Web, communication interactions of the young generation in the Internet environment, communication of" generation Z "via e-mail, communication via social networks, use of video hosting, communication via instant messengers, communication in communities in social networks, as well as the use by young generation to communicate video broadcasts" (Kondratieva, Doveiko, 2021, p. 307).

Smartphone addiction is the most common among digital addictions. Smartphone users who are addicted to it have been found to have many negative conditions that negatively affect their psychological well-being. In particular, smartphone addiction increases anxiety, depression, impulsivity (Yan , Kim , 2015). For Russian, Belarusian and Ukrainian subjects, it was found that "smartphone addiction is positively correlated with anxiety, depression, stress and is negatively associated with self-control and life satisfaction. The dependence on the smartphone of women is statistically significantly higher than the dependence on the smartphone of men. A significant positive relationship was found between smoking cravings in men and smartphone addiction" (Sheynov , 2021, p. 97-98) . It is shown that dependence on a smartphone is "directly related to depression, anxiety, stress, decreased self-esteem and self-control, health problems, sleep, quality of life and satisfaction with it, family difficulties, a decrease in

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student and student performance, a decrease in labor productivity and danger become a victim of cyberbullying " (Sheinov, Devitsyn , 2021c, p. 174).

AT a number of foreign studies have revealed a positive correlation between dependence on a smartphone and *impulsiveness* (Billieux et al ., 2008 ; Gecaite-Stonciene et al., 2021; Jo et al., 2018; Kim et al., 2016; Mei et al., 2018; Peterka- Bonetta et al., 2019). At the same time , greater impulsivity leads to greater dependence on smartphones (Lee , Park , 2014) .

"Smartphones have been shown to encourage *narcissism* even in non- narcissistic users" (Pearson , Hussain , 2027, p.18) . However, *greater* narcissism was associated with problematic smartphone use by both men and women (Giordano et al ., 2019).

Smartphone Addiction Predicts *Social Media Addiction* (Tunc - Aksan , Akbay , 2019, p. 559). There is a relationship between Facebook addiction and smartphone addiction (Khoury , Neves , Roque , 2019) . "Social media use and game use were both positive predictors of smartphone addiction, but social media use appeared to be a stronger predictor of smartphone addiction than game use (Jeong et al ., 2016, p.10).

The results presented above suggest that smartphone addiction can significantly influence *assertiveness* . Assertive is a confident, direct, open behavior that does not aim to harm other people. " Assertive behavior is situational, that is, a person can demonstrate assertive behavior in one situation, but non -assertive behavior in another" (Sheynov, 2015, p. 35). Of interest is the answer to the question whether dependence on a smartphone is associated with the assertiveness of Russian-speaking users of this gadget.

"Danger of becoming a victim of cyberbullying " discovered for smartphone-addicted users (Sheinov, Devitsyn, 2021, p. 174) actualizes the question of the relationship between this addiction and *exposure to manipulation* .

Previous studies have found that the manifestations of smartphone addiction in women and men are different (Sheinov , 2021; Sheinov, Devitsyn , 2021c) . Therefore, the links between these personality traits and smartphone addiction may depend on gender and, therefore, should be studied separately for women and men.

The purpose of the study is to find common and differences in the relationship between smartphone addiction and personal qualities and properties of Belarusian and Russian men and women (assertiveness , impulsiveness, narcissism, vulnerability to manipulation, dependence on social networks), comparing the results corresponding to these groups of respondents.

Methods

Organization of the study. Data collection was carried out in the form of an online survey in September-November 2021. 764 respondents took part in the study, including 403 residents of Belarus and 361 residents of Russia. Among them are 538 women (300 Belarusians and 238 Russians) and 228 men (104 Belarusians and 124 Russians). The average age of the subjects was 20.5 years (SD = 5.4).

Research methods. Smartphone addiction was diagnosed with a short version of the CAC-16 questionnaire "Smartphone addiction scale ", the reliability and validity of which was proven (Sheynov, 2021) . Psychometric characteristics of the CAC-16 questionnaire : the standardized Cronbach's Alpha for the matrix of responses of 447 women to 16 tasks of the questionnaire is 0.749, for 243 men - 0.746, which indicates a good internal consistency of CAC-16 for women and men; deleting any task leads to a deterioration in the internal consistency of the questionnaire.

Its retest reliability was verified by retesting one month apart: the correlation between the first and second test is 0.855 ($p \leq 0.001$) (Sheinov, 2021) .

Assertiveness was measured questionnaire A26 that meets the requirements of reliability and validity; psychometric characteristics A26 : standardized Cronbach's Alpha for the matrix of responses to 26 items of the questionnaire is 0.911 ($p \leq 0.001$), p -test reliability with an interval of one month $R = 0.832$, $p \leq 0.001$ (Sheinov, 2014, pp. 109–110.).

vulnerability to manipulation was diagnosed with the NZM questionnaire "Assessment of the degree of insecurity of an individual from manipulative influences"; psychometric characteristics of the NZM questionnaire : the standardized Cronbach's Alpha for the matrix of responses to 20 items of the questionnaire is 0.772 ($p \leq 0.001$), the correlation between the first and second test when testing four groups with an interval of 4-8 weeks is within $0.771 \leq R \leq 0.923$ ($p \leq 0.001$) (Sheinov, 2012, p. 151).

Dependence on social networks was measured by the ZSS-15 questionnaire, the reliability and validity of which has been proven (Sheynov, Devitsyn , 2021a) . Psychometric characteristics of the ZSS-15 questionnaire : standardized Cronbach's Alpha for the response matrix of 514 subjects per 15 questionnaire items was equal to 0.858, which indicates a good internal consistency of the test. Retest reliability verified by retesting one month apart: correlation between first and second test $r = 0.811$, $p \leq 0.001$.

Impulsiveness were evaluated using the " Methodology for diagnosing the potential communicative impulsivity", proposed by V.A. Losenkov (Fetiskin , Kozlov, Manuilov, 2002) .

The assessment of the level of *narcissism* was carried out with a questionnaire (scale) by E. Kot (TestyOnline.ru›persona / nartsiss-li-vy /).

This study also used a statistically consistent three-factor model of smartphone addiction, including the following factors: "Loss of self-control", "Fear of refusal to use a smartphone", "Euphoria from using a smartphone". All three factors that form dependence on a smartphone increase with decreasing age (Sheinov, Devitsyn , 2021c, p. 174). The factorial model of addiction to social networks was also used in the study **,** which allows you to compare the factors that form it with addiction to a smartphone. The structure of dependence on social networks is represented by three factors: "Psychological state of the network user", "Communication of the network user" and "Obtaining information" (Sheinov, Devitsyn , 2021b).

Statistical analysis was carried out using the SPSS -22 package. The significance level $p = 0.05$ was adopted.

Results

To decide what criteria to use to investigate the alleged relationship of smartphone addiction, we checked the studied samples for their compliance with the normal distribution law.

It turned out that some of the samples representing the studied qualities are normally distributed (dependence on a smartphone - CAC-16 questionnaire, vulnerability to manipulation NZM questionnaire, impulsiveness , assertiveness), but the distribution of others is different from normal (dependence on social networks ZSS-15, narcissism, age, and all the factors of smartphone and social media addictions).

Therefore, to determine possible relationships between smartphone addiction and personality traits, we calculated correlations using the Pearson parametric test and the Kendall nonparametric rank test, choosing for output in each case the correlation for which the conditions of normality

of sample distribution are met (or not met) in each study. a couple of variables.

Tables 1-6 present the results of calculating correlations in the total, as well as in the female and male samples of Belarusians and Russians.

Table 1

Correlations of smartphone addiction with states and personality traits (Belarus, women and men, n = 403)

	Age	NZM	Pulse	PoterCon	Fear	Euphoria
Correlations Pearson	**-,151** **	**-,122** *	**.488** **	**.880** **	**.744** **	**.791** **
Value (2-sided)	.002	.014	.000	.000	.000	.000
Correlations Kendella	.010	**-,089** *	**.343** **	**.719** **	**.597** **	**.609** **
Value (2-sided)	.794	.011	.000	.000	.000	.000

	PsychComposition	Kommun	Inform	ZSS-15	Narcissus	assert
Correlations Pearson	**.698** **	**.444** **	**.532** **	**.690** **	.009	**-,389** **
Value (2-sided)	.000	.000	.000	.000	.850	.000
Correlations Kendella	**.536** **	**.331** **	**.382** **	**.518** **	.032	**-,263** **
Value (2-sided)	.000	.000	.000	.000	.355	.000

Notes: * – p < 0.05; ** – p < 0.01. *Designations in the table. 1-6:* NZM - exposure to manipulation, Impulse - impulsiveness ; PoterCon - "Loss of control over oneself", Fear - "Fear of refusal to use a smartphone", Euphoria - "Euphoria from using a smartphone" (factors of dependence on a smartphone); PsychSost - "Psychological state of a network user", Kommun - "Communication of a network user", Inform - "Receiving information" (factors of dependence on social networks), ZSS-15 - dependence on social ties; Narcissus - narcissism, Assert - assertiveness

Tabl. 1 indicates that in the total sample of Belarusian men and women, the Pearson and Kendall correlations show the same relationships (except for the age indicator), differing only quantitatively.

The presence of statistically significant relationships of dependence on a smartphone among Belarusians was revealed: *negative* with assertiveness and vulnerability to manipulation, *positive* - with impulsivity, dependence on social networks and all its factors ("psychological state", "communication", "receiving information).

The *age distribution* is not normal, so we accept the Kendall correlation, which is not statistically significant. Therefore, based on the existing sample, nothing can be said about the relationship between smartphone addiction and age.

The value of Kendall's correlations indicates that the dependence on the smartphone is most associated with the factor "Loss of control over oneself". Although Pearson's correlation leads to the same conclusion, the conclusion must be made by the non-parametric Kendall test, since the distribution of smartphone addiction factors differs from the normal one.

The positive relationship between smartphone addiction and impulsivity is consistent with the relationship found by foreign researchers (Billieux et al ., 2008 ; Gecaite - Stonciene et al ., 2021; Jo et al ., 2018; Kim et al ., 2016; Mei et al ., 2018; Peterka _ _ et al ., 2019; Lee , Park , 2014) ; and the identified positive relationship with social media addiction is also similar to previously obtained foreign results (Khoury , Neves , Roque , 2019; Tunc - Aksan , Akbay , 2019; Jeong et al ., 2016). –

The links we have established between smartphone addiction and non- assertiveness and all factors of social media addiction are new.

Identified by a number of foreign researchers (Giordano et al ., 2019; Pearson , Hussain , 2017, p. 18) the connection between smartphone addiction and narcissism was not confirmed in the general sample of Belarusian women and men.

When combining a female sample with a male sample into a single sample, it may turn out that the connections that take place in the subsamples "dissolved" in the general sample (for example, if they are in different directions in them). Therefore, we calculated correlations separately for women and men.

Table 2

Correlations of smartphone addiction with states and personality traits (Belarus, women, n = 300)

	Age	NZM	Pulse	PoterCon	Fear	Euphoria
Correlations\ Pearson	**-,164** **	**-,140** *	**.466** **	**.865** **	**.738** **	**.769** **
Value (2-sided)	.004	.015	.000	.000	.000	.000
Correlations Kendella	.029	**-,097** *	**.323** **	**.705** **	**.589** **	**.587** **
Value (2-sided)	.515	.016	.000	.000	.000	.000

	PsychComposition	Kommun	Inform	ZSS-15	Narcissus	assert
Correlations Pearson	**.692** **	**.373** **	**.498** **	**.666** **	-,042	**-,403** **
Value (2-sided)	.000	.000	.000	.000	.470	.000
Correlations Kendella	**.522** **	**.274** **	**.359** **	**.491** **	.000	**-,277** **
Value (2-sided)	.000	.000	.000	.000	.995	.000

Presented in table. The results of Table 2 show the presence of statistically significant relationships between smartphone addiction in Belarusian women: *negative* with assertiveness and vulnerability to manipulation , and *positive* with impulsivity, dependence on social networks and all its factors ("psychological state", "communication", "receiving information).

Similar to the conclusion for the general sample of Belarusian women and men, smartphone addiction among Belarusian women is most associated with the "loss of self-control" factor.

Since exposure to manipulation and dependence on a smartphone are normally distributed, therefore, the conclusion about the presence of a negative relationship between them is based on a statistically significant Pearson correlation. Thus, the hypothesis about a possible connection between smartphone addiction and vulnerability to manipulation was confirmed for Belarusian women.

Assertiveness , vulnerability to manipulation, and all factors of social media addiction found in this study are new.

The positive relationship between smartphone addiction and narcissism established by a number of foreign researchers was not confirmed in this study for Belarusian women.

Table 3

Correlations of smartphone addiction with states and personality traits (Belarus, men, n = 104)

	Age	NZM	Pulse	PoterCon	Fear	Euphoria
Correlations Pearson	-,153	.070	**.491** **	**.899** **	**.710** **	**.826** **
Value (2-sided)	,122	.477	.000	.000	.000	.000
Correlations Kendella	-,078	.046	**.368** **	**.714** **	**.583** **	**.651** **
Value (2-sided)	.303	.511	.000	.000	.000	.000

	PsychComposition	Kommun	Inform	ZSS-15	Narcissus	assert
Correlations Pearson	**.646** **	**.500** **	**.596** **	**.690** **	.083	**-,314** **
Value (2-sided)	.000	.000	.000	.000	.401	.001
Correlations Kendella	**.479** **	**.329** **	**.407** **	**.502** **	.078	**-,213** **
Value (2-sided)	.000	.000	.000	.000	.264	.002

Presented in table. 3 results show the presence of statistically significant links between Belarusian men's dependence on smartphones: *negative* - with assertiveness and *positive* - with impulsivity, dependence on social networks and all its factors ("Psychological state", "Communication", "Receiving

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information"). As in previous cases, the largest correlation coefficient was found between the dependence of Belarusian men on a smartphone and the "Loss of self-control" factor.

Similarly to the Belarusian female sample and the combined sample of Belarusian men and women, the obtained associations of dependence on the smartphone of Belarusian men with impulsivity and dependence on social networks correspond to similar associations established in foreign studies.

Shown in table. The 3 links between male smartphone addiction and all factors of social media addiction are new.

For the Belarusian male sample, the hypothesis about a possible connection between dependence on a smartphone and vulnerability to manipulation was not confirmed. The connection between smartphone addiction and narcissism, revealed by a number of foreign researchers, has not been confirmed in the Belarusian society.

Let us turn next to the corresponding results in Russian samples.

Table 4

Correlations of smartphone addiction with states and personality traits (Russia, women and men, n = 361)

	Age	NZM	Pulse	PoterCon	Fear	Euphoria
Correlations Pearson	**-,170** **	.078	**.423** **	**.868** **	**.768** **	**.801** **
Value (2-sided)	.001	.138	.000	.000	.000	.000
Correlations Kendella	**-,074** *	.063	**.285** **	**.700** **	**.602** **	**.625** **
Value (2-sided)	.050	.087	.000	.000	.000	.000

	PsychComposition	Kommun	Inform	ZSS-15	Narcissus	assert
Correlations Pearson	**.634** **	**.426** **	**.498** **	**.621** **	**-,123** *	**-,377** **
Value (2 sides)	.000	.000	.000	.000	.020	.000
Correlations Kendella	**.517** **	**.325** **	**.357** **	**.483** **	-,072	**-,254** **
Value (2-sided)	.000	.000	.000	.000	.052	.000

Presented in table. 4 results show the presence of the following statistically significant relationships depending on the smartphone: *negative* - with age, assertiveness , *positive* - with dependence on social networks and its factors "Psychological state", "Communication", as well

as with the factors "Getting information", "Loss of control over oneself", "Fear of refusal to use a smartphone", "Euphoria from using a smartphone".

In contrast to the Belarusian respondents, the Russian sample did not find a link between smartphone addiction and exposure to manipulation.

The revealed correlations show that dependence on a smartphone in a sample of Russians is associated with impulsiveness, lack of assertiveness , as well as dependence on social networks, and with all factors of dependence on a smartphone and on social networks (according to Kendall), except for narcissism.

The value of Kendall's correlations indicates that the largest correlation coefficient for smartphone addiction is with the "Loss of control" factor (as in the sample of Belarusian respondents).

The found links between smartphone addiction and non- assertiveness and all factors of social media addiction are a new fact that is not reflected in the available studies.

In order to identify possible gender differences, we compare the correlations separately for the female and male samples of Russian respondents (the data are shown in Tables 5 and 6).

Table 5

Correlations of smartphone addiction with states and personality traits (Russia, women, n = 238)

	Age	NZM	Pulse	PoterCon	Fear	Euphoria
Correlations Pearson	**-,209** **	.035	**.454** **	**.872** **	**.783** **	**.791** **
Value (2-sided)	.001	238	.000	.000	.000	.000
Correlations Kendella	-,085	**.128** **	**.309** **	**.708** **	**.606** **	**.608** **
Value (2-sided)	.068	.005	.000	.000	.000	.000

	PsychComposition	Kommun	Inform	ZSS-15	Narcissus	assert
Correlations Pearson	**.748** **	**.451** **	**.531** **	**.711** **	**-,139** *	**-,403** **
Value (2-sided)	.000	.000	.000	.000	.032	.000
Correlations Kendella	**.543** **	**.309** **	**.361** **	**.496** **	**-,101** *	**-,271** **
Value (2-sided)	.000	.000	.000	.000	.026	.000

According to the results presented in table. 5, the following statistically significant relationships of smartphone dependence among Russian women were revealed: *negative* with assertiveness and narcissism , and *positive* with impulsivity, dependence on social networks and all its factors ("Psychological state of the user", "User communication", "Receiving information").

As in the previous cases, the "Loss of self-control" factor shows the greatest connection with Russian women's dependence on smartphones.

Tampering vulnerability score and smartphone addiction are normally distributed, so the conclusion that there is no statistically significant relationship between them is based on the Pearson correlation score. Thus, for the Russians, the hypothesis about a possible connection between dependence on a smartphone and vulnerability to manipulation was not confirmed.

Assertiveness and all factors of social network addiction revealed in a sample of Russian women are new.

A positive relationship between smartphone addiction and narcissism, established in a number of foreign studies, was not confirmed for this sample of women from Russia. On the contrary, this study revealed a negative significant relationship between these indicators.

In table. Figure 6 shows data on the relationship between smartphone addiction and personality traits in a male sample of Russian respondents.

Table 6

Correlations of smartphone addiction with states and personality traits (Russia, men, n = 124)

	Age	NZM	Pulse	PoterCon	Fear	Euphoria
Correlations Pearson	**-,233** **	.131	**.339** **	**.851** **	**.735** **	**.823** **
Value (2-sided)	.009	.147	.000	.000	.000	.000
Correlations Kendella	**-,137** *	.069	**.243** **	**.694** **	**.595** **	**.662** **
Value (2-sided)	.038	.274	.000	.000	.000	.000

	PsychComposition	Kommun	Inform	ZSS-15	Narcissus	assert
Correlations Pearson	**.491** **	**.380** **	**.447** **	**.497** **	-,066	**-,312** **
Value (2-sided)	.000	.000	.000	.000	.465	.000
Correlations Kendella	**.480** **	**.349** **	**.359** **	**.460** **	-,001	**-,218** **
Value (2-sided)	.000	.000	.000	.000	.988	.001

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Presented in table. 6, the results show the presence of statistically significant relationships between the dependence of Russian men on a smartphone: *negative* - with age and assertiveness, and *positive* - with impulsivity, dependence on social networks and all its factors ("psychological state", "communication", "receiving information").

"Loss of control" factor also has the greatest impact on smartphone addiction among Russian men.

As in the case of the Russian female sample, and the combined sample of Russian men and women, the obtained associations of smartphone dependence with impulsivity and dependence on social networks correspond to similar associations established in foreign studies.

Presented in table. 6 links between Russian men's smartphone addiction and all factors of social media addiction are new.

For Russian men, the hypothesis about the connection between smartphone addiction and vulnerability to manipulation and narcissism was not confirmed.

Discussion

The results obtained in the study show that Belarusians and Russians have both similarities (they prevail) and differences in the relationship between smartphone addiction and psychological qualities and personality traits.

Similarities in Russian and Belarusian men and women are manifested in the following: dependence on a smartphone is associated with such psychological qualities and personality traits as impulsiveness, lack of assertiveness , loss of self-control, fear of refusal to use a smartphone, euphoria from using a smartphone, psychological states, using a smartphone with a purpose communication, using a smartphone to obtain information. In all studied samples, regardless of gender, the highest correlation was found between dependence on a smartphone and loss of self-control.

The data obtained are consistent with the results of previous studies. So, I. M. Gorodetskaya and I. R. Islamgulov revealed the relationship between mobile phone addiction and a person's propensity for addictive behavior in general (Gorodetskaya, Islamgulov , 2014). E. I. Rasskazova, V. A. Emelin and A. Sh . Tkhostov (2015) describe changes in the need sphere of a person that occur under the influence of excessive use of technical devices. It has been shown that dependence on a smartphone among Russian students (boys and girls) is negatively associated with assertiveness (Sheinov, Devitsyn , Pomelova , Nizovskikh, 2021).

The established links between smartphone addiction and social media addiction and impulsivity are consistent with the results found in foreign studies.

The results obtained on the differences in the relationship of dependence on a smartphone among Belarusians and Russians deserve special attention. In contrast to Belarusian respondents, Russian subjects showed a significant relationship between smartphone addiction and age, which allows us to state that the older Russian men are, the less they become dependent on smartphones. This is consistent with the data that "the problematic use of a mobile phone in adolescence is rather situational, and as they grow older , the smartphone acquires its true functional purpose" (Kolesnikova, Melnik, Teplova, 2018, p. 9).

interest is also the discovery of a negative relationship between smartphone addiction and vulnerability to manipulation in Belarusian women, while in Russian women this relationship is positive. It can be assumed that Belarusian women seem to have more experience in recognizing

the risks of online communication using smartphones. At the same time, women are more likely than men to become victims of cyberbullying , since they are more suggestible than men (Pakov, 2013, p. 24).

A cross-cultural study found more similarities than differences between Russian and Belarusian men compared to female samples. Russian and Belarusian men showed similar relationships between all the studied characteristics, with the exception of the relationship between smartphone addiction and age. As already noted, in Russian men, in contrast to Belarusian men, this connection was found.

The results of the study are of *practical importance* , indicating the need for consulting and educational work in educational organizations for the development of students' personal qualities (in particular, assertiveness), which help prevent the formation of such dependence or get rid of it.

Conclusion

Studies of the relationship between smartphone addiction and personal qualities and properties of Belarusians and Russians showed that Belarusians and Russians have in common: a negative relationship between smartphone addiction and assertiveness and a positive one with impulsivity, dependence on social networks and its factors, loss of self-control (most strong connection), fear of refusal to use a smartphone, euphoria from its use.

and narcissism in Russian women (in the absence of it in other groups of respondents) and with vulnerability to manipulation in Belarusian women, while in Russian women this relationship is positive.

The results obtained contribute to the expansion of scientific discourse on the problem of digitalization of society. The prospects of the study are related to the expansion of the range of personal qualities and properties that are presumably associated with smartphone addiction, as well as to conduct similar studies in other regions.

References

Varlamova, S. N., Goncharova, E. R. and Sokolova, S. N. (2015) Internet addiction of youth in megacities: criteria and typology // Monitoring of public opinion: economic and social changes, 2(125), 165–182. https://doi.org/10.14515/monitoring.2015.2.11

Gorodetskaya, I. M. and Islamgulov I. R. (2014) Mobile addiction as a form of addictive behavior of modern students // Bulletin of the Kazan Technological University, 24, 328–330.

Kolesnikova, V. N., Melnik, Yu. I. and Teplova, L. I. (2018) Mobile phone in the educational activities of a modern high school student and student // Scientific electronic quarterly journal Continuous education: XXI century. Issue 2(22) (summer 2018), 1-10.

Kondratieva, L. E. and Doveiko, A. B. Internet communication of "generation Z" as a basic part of the communication of the young generation in modern society // XI Ryazan sociological readings: development of the territory in the face of modern challenges: materials of the National scientific and practical conference; Moscow, 2021**,** 305–313.

Cat, E. Test "Are you a narcissist?" [Electronic resource]. 2021. URL: https://testyonline.ru/persona/nartsiss-li-vy/ (accessed 12/14/2021).

Pakov, M. M. (2013) Psychological properties of a person with different levels of suggestibility // Abstract of the thesis. diss. M., 25 p.

Rasskazova, E. I., Emelin, V. A. and Tkhostov , A. Sh. (2015) Diagnostics of the psychological consequences of the influence of information technologies on a person. M.: Acropolis. 115 p.

Fetiskin , N. P., Kozlov, V. V. and Manuilov G. M. (2002). Socio-psychological diagnostics of personality development and small groups. M.: Publishing House of the Institute of Psychotherapy, 490 p.

Sheinov, V.P. (2015) Determinants of assertive behavior // Psychological Journal, vol. 36, 3, 28–37.

Sheinov, V. P. (2021) Short version of the questionnaire "Smartphone Addiction Scale" // Organizational Psychology and Labor Psychology, vol. 6, 1, 97–115. https://doi.org/10.38098/ipran.opwp.2021.18.1.005. Accessed December 6, 2021, source http://work-org-psychology.ru/engine/documents/document644.pdf

Sheinov, V. P. (2012) Development of a questionnaire to assess the degree of vulnerability of an individual from manipulative influences // Questions of Psychology, 4, 47–154.

Sheinov, V. P. (2014) Development of an assertiveness test that meets the requirements of reliability and validity // Questions of Psychology, 2, 107–116.

Sheinov, V.P. and *Devitsyn , A. S.* (2021a) Development of a Reliable and Valid Social Network Addiction Questionnaire // Systemic Psychology and Sociology, 2(38), 41–55. https://doi.org/10.25688/2223-6872.2021.38.2. 04 Accessed December 14, 2021 ,

Sheinov, V. P. and Devitsyn , A. S. (2021b) A three-factor model of social media addiction // Russian Journal of Psychology, 3, 145–158. https://doi.org/https://doi.org/10.21702/rpj.2021.3.10

Sheinov, V. P. and Devitsyn , A. S. (2021c) Factor structure of the smartphone addiction model // Social and economic psychology , vol. 6, 3 (23), 174–197. https://doi.org/10.38098/ipran.sep_2021_23_3_07 Accessed December 6, 2021, source Factor structure of the smartphone addiction model (elibrary.ru)

Sheinov, V.P., Devitsyn , A.S., Pomelova , E.A. and Nizovskikh, N.A. (2021) Personal properties of smartphone addicted students // Bulletin of the Vyatka State University, 2 (140), 133–143. https://doi.org/10.25730/vsu.7606.21.025 Microsoft Word - Vestnik_2(2021)_5.10.2021 (vestnik43.ru)

Billieux , J. , Van der Linden , M. , & rochat , L. (2008) The role of impulsivity in actual and problematic use of the mobile phone // *Applied Cognitive Psychology,* 22. 9, 1195-1210. https://doi.org/10.1002/acp.1429

Gecaite-Stonciene , J., Saudargiene , A. , Prankeviciene , A. et al. (2021) Impulsivity mediates associations between problematic internet use, anxiety, and depressive symptoms in students: a cross-sectional COVID-19 study . front. Psychiatry. https://doi.org/10.3389/fpsyt.2021.634464

Giordano, C., Salerno, L. _ , Pavia , L. _ , & Cavani , P. _ (2019) Magic Mirror on the wall: selfie-related behavior as mediator of the relationship between narcissism and problematic smartphone use // Clinical Neuropsychiatry, 16(5-6),197–205. Clinical19_5.indd (core.ac.uk)

Jeong , SH , Kim, HJ, Yum, JY, & Hwang , Y. (2016) What type of content are smartphone users addicted to?: SNS vs. games **.** Computers in Human Behavior, Vol. 54, 10-17.

Jo, H., Na, E., & Kim, DJ (2018) The relationship between smartphone addiction predisposition and impulsivity among Korean smartphone users , Addiction Research & Theory, 26(1) , 77–84. https://doi.org/10.1080/16066359.2017.1312356

Khoury, JM, Neves, MC L, Roque, MAV *et al.* (2019) Smartphone and Facebook addictions share common risk and prognostic factors in a sample of undergraduate students. *Trends Psychiatry Psychother*. 41(4). http://dx.doi.org/10.1590/2237-6089-2018-0069

kim , Y. , Jeong , JE, Cho, H., Jung, DJ, Kwak, M., & Rho , MJ (2016) Personality factors predicting smartphone addiction predisposition: Behavioral inhibition and activation systems, impulsivity, and self-control . PloS one. https://doi.org/10.1371/journal.pone.0159788

Lee, YJ, & Park, JH (2014) The effect of use motives, self-control and social withdrawal on smartphone addiction . Journal of Digital Convergence, 12(8), 459-465 . https://doi.org/10.14400/JDC.2014.12.8.459

Mei, S., Chai, J., Wang, SB, Ng, CH, Ungvari , GS et al. (2018) Mobile phone dependence, social support and impulsivity in Chinese university students . *Int. J. Environ. Res. Public Health* , *15*(3): 504; https://doi.org/10.3390/ijerph15030504 .

pearson, C. _ , & Hussain , Z **.** (2017) Smartphone use, addiction, narcissism, and personality: A mixed methods investigation . Gaming and Technology Addiction: Breakthroughs in Research and Practice , 18−29. DOI: 10.4018/978-1-5225-0778-9.ch011

Peterka- Bonetta , J., Sindermann , C. , Elhai , JD , & Montag Ch. (2019) Personality associations with smartphone and internet use disorder: A comparison study including links to impulsivity and social anxiety . front. Public Health, 11. https://doi.org/10.3389/fpubh.2019.00127

Tunc-Aksan , A., & Akbay , SE (2019) Smartphone Addiction, Fear of Missing Out, and Perceived Competence as Predictors of Social Media Addiction of Adolescents. European Journal of Educational Research, 8(2), 559–566 . http://dx.doi.org/10.12973/eu-jer.8.2.559

Yang, HC, & Kim, YE (2015) Intermittent Addiction and Double Sidedness of Thought Suppression: Effects of Student Smart Phone Behavior. The Journal of Distribution Science, 13 (9), 13–18. https://doi.org/10.15722/JDS.13.9.201509.13

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Information about the conflict of interest

The authors declare no conflict of interest.