Digitalization of the Social Environment: University Students' Preferences for Online and Offline Mental Health Counselling

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Abstract. The rapid growth of technologies leads to the digitalization of various spheres of our life including development of remote forms of support and assistance in the field of mental health (telepsychology, telepsychiatry). This process goes along with the digitalization of all education process and extracurricular activities. To what extent the university student's acceptability the online forms of mental health counseling in university environment and what contributes to this attitude remains unclear. This paper surveys the association between students' attitudes towards seeking mental health services in the online form and the severity of mental health symptoms and preference for an online learning format. Based on survey data from 1,343 Russian university students we explored factors of associated with students' intentions to seek mental health services in the online form. Despite the relatively small personal experience of receiving psychological support (33.9 %), students overall have a positive attitude to such assistant (75.4 %). Students prefer face-to-face psychological consultations (45.8 %) with University-based specialists to online consultations (11.1 %). The preference to continue studying online or in a mixed format is associated with readiness to seek online psychological help (p=0.000). Technical difficulties are discouraging students from choosing online mental health care (p=0.001). Mental health symptoms had no significant association with a preference to seek online psychological counseling format.

Most students have never used psychological services. Nevertheless, they demonstrate high willingness to seek psychological help if problems arise. The attractiveness of the online format of study is associated with the preference of the online format of psychological assistance. Technical difficulties pose barriers to students' willingness to seek help in this format. Female students are generally more willing to seek online psychological help at the University-based service.

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Цифровизация социальной среды: предпочтения студентов университетов в отношении онлайн- и офлайн-консультирования по психическому здоровью

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Аннотация. Технологический прогресс приводит к цифровизации различных сфер жизни, способствуя в том числе развитию дистанционных форм поддержки и помощи в сфере психического здоровья (телепсихология, телепсихиатрия). Этот процесс идет параллельно с цифровизацией образовательного процесса и внеучебной деятельности. Остается неясным, в какой степени для студентов вузов онлайн-формат консультирования по вопросам психического здоровья и психологического благополучия в университетской среде является приемлемым, и что этому способствует. В данной статье исследуется связь между установками студентов к обращению за психологической помощью в онлайн-формате, выраженностью симптомов психического неблагополучия и предпочтением онлайн-формата обучения. Выборка опросного исследования составила 1343 студента вуза Санкт-Петербурга. Несмотря на относительно небольшой личный опыт обращения за психологической помощью (33,9 %), студенты в целом положительно относятся к такому обращению в будущем (75,4 %). Студенты предпочитают очные психологические консультации (45,8 %) с психологами вуза онлайн-консультациям (11,1 %). Предпочтение продолжать обучение онлайн или в смешанном формате связано с готовностью обращаться за психологической помощью онлайн (p=0,000). Технические трудности препятствуют выбору онлайн-формата помощи в сфере психического здоровья (p=0,001). Симптомы психического неблагополучия не имели значимой связи с предпочтением обращения за помощью в онлайн-формате.

Таким образом, большинство студентов вуза никогда не пользовались психологическими услугами. Тем не менее они демонстрируют высокую готовность обратиться за психологической помощью в случае возникновения проблем в будущем. Привлекательность онлайн-формата обучения связана с предпочтением и онлайн-формата получения психологической помощи. Технические трудности препятствуют готовности студентов обращаться за помощью в онлайн-формате. Студентки, как правило, более готовы обращаться за психологической помощью в онлайн-формате в университетские службы психологического сопровождения.

Introduction

Technological innovation has affected social change in recent years and has been the prime driver of educational transformation (Garrison, 2016). Education and educational service processes are rapidly moving to digitalization and online format as most parts of human lives do, mostly, during the COVID-19 pandemic situation. The amount of time spent on the Internet among university students has significantly increased over the past decade (Rouvinen, et al., 2021). Students are more and more involved in online curricula and extracurricular activities, including online health services.

Remote (online) mental health care, which began six decades ago, has intensified with the onset of the COVID-19 pandemic and is becoming standard practice in many countries worldwide (Torous, et al., 2020; Whaibeh, et al., 2020; Solokhina, et al., 2021; Li et al., 2020). The importance of psychological services for students is recognized on Russian and international levels (Odriozola-González, et al.,

2020). Despite not being a mandatory structural unit of higher educational institutions in Russia, various Russian universities have introduced internal psychological consulting services. Up to date, there is a lack of empirical data describing students' attitudes to university-based psychological services and their experience of their use (Antonova, et al., 2021). The question if the off-line psychological consulting for the university students is more attractive compared with the online format and which factors influence such preferences, is still unstudied. This empirical research focuses on testing three hypotheses.

Previous research has shown the association between mental health symptoms and willingness to seek mental health help. Some studies have found a negative correlation between those (Aguirre Velasco et al., 2020; Blanco et al., 2008). Other studies find inverted U shape correlation: students are less likely to seek help from a mental health practitioner when they believe their mental health is either

too bad or too good (Liu et al., 2017; Eritsyan et al., 2021). We hypothesized that the online psychological counselling format might be more attractive to students with more pronounced mental health issues since it's associated with fewer costs and barriers. The other argument for such a hypothesis is that since the opportunity for anonymization is higher in the online format this could reduce the influence of stigma which is one main barriers to health-seeking (Talebi, et al., 2016; Kim, et al., 2015).

The development of remote forms of support and assistance in the field of mental health (telepsychology, telepsychiatry) is mediated by the rapid growth of technologies (personal computers, the Internet, mobile devices, videoconferencing software, hotlines and mobile application platforms etc.) (Anthes, 2016; Das, et al., 2016; Gartfel'der, 2016; Kamayev, et al., 2019). However, with the development of technologies, specific technology-related barriers appear. We hypothesized that technical difficulties or lack of technical resources might discourage students from choosing online mental health care.

Data on the students' attitudes toward online counselling are limited. In general, since the dichotomy of online and offline activity is being actualized nowadays, people can form receiving preferences for online or offline interactions. We assumed that the preference for the online format of psychological counselling would also be associated with the choice for conducting other activities in the online form.

Methods

Procedure. In autumn 2020, students of one of Saint-Petersburg universities were invited by the University representatives to voluntary participate in the anonymous online survey. The survey link was distributed via the dedicated social media and online communities of particular University departments. The respondent could decide not to participate in the study right away or refuse to continue participating at any stage without any negative consequences. Thirty-nine students (2.8 %) of the sample declined to participate in the survey after reading the informed consent form. The average time to fill out the questionnaire for those who agreed was 40–50 minutes (an academic hour).

Participants. The final sample consisted of 1343 university students (mean age 20.3 years, σ 2.8; 16 % male). The majority (34.9 %) of participants were first-year students, 22.5 % – the second-year ones, 16.5 % – the third-year ones, 13.8 % – were at their final year of the bachelor program, 12.3 % studied in masters or PhD program.

Measures

Mental health help-seeking behaviour and attitudes. The study examined attitudes towards seeking psychological help in various services available to students, including the psychological support service existing at the University. The primary dependent variable was the attitude towards seeking mental health services in the University, measured by the question 'If in the future you were having a personal problem that was bothering you, would you consider seeking help from psychologists of the University Psychological Service?". Possible responses were rated on a 5-point Likert scale: 'absolutely not', 'probably not', 'hard to answer', 'probably yes', and 'absolutely yes'. Those students who gave positive answers were asked about the preferred format of that help: "It would be more convenient for you to receive consultations from a psychologist at the University: online (via Skype, in Zoom, etc.), in person, no difference." Students also had reported on previous experiences of visiting psychologist, timing and number of such visits as well as where did they found those specialists.

Mental health symptomology. Screening scales for anxiety and depression as critical indicators of the most common mental health disorders (Depression and Other Common Mental Disorders, 2017) together with measures of a subjective representation of mental and physical health were used. We applied a Russian translation of the GAD-7 (Generalized Anxiety Disorder-7) to assess participants' anxiety symptoms (Spitzer, et al., 2006). Seven items evaluated the frequency of anxiety symptoms over the past two weeks on a 4-point Likert scale, ranging from 0 (never) to 3 (nearly every day). The total GAD-7 score

ranged from 0 to 21, with higher scores indicating more severe functional impairments due to anxiety. A Russian translation of the PHQ-9 (the depression module of the Patient Health Questionnaire) to assess participants' depressive symptoms was also employed (Kroenke, et al., 2001). Nine items evaluated the frequency of depressive symptoms over the past two weeks on a 4-point Likert scale ranging from 0 (never) to 3 (nearly every day). The total PHQ-9 score ranges from 0 to 27, and higher scores indicate more severe depressive symptomatology.

Two items were included to measure self-evaluation of mental health by students. The overall evaluation of mental health was measured via the item: 'Do you think that your mental health is…?' with possible responses on a 4-point Likert scale: 'poor', 'satisfactory', 'good' and 'excellent'. Psychosomatic complaints were assessed with the HBSC subscale (Growing up unequal, 2016). The respondents were asked to measure the frequency of several symptoms (headache, stomach ache, bad mood etc.) ranging from "almost every day" (5 points) to "rarely" or "never" (1 point). The sum of the values for 7 items was calculated.

Preference for the online education format. This survey was conducted during the COVID-19 pandemic (November-December 2020) when the University introduced a blended learning format: most classes were conducted online. Students were asked to rate how much they agree with the following statements to assess the attitudes to this predominantly online format: "I enjoy studying in a blended learning form", "I am comfortable with studying in a blended learning form", "I am good at in a blended learning form", "I see many positives in distance learning" with possible responses on a 5-point Likert scale: "absolutely disagree", rather disagree, it is difficult to say, rather agree, absolutely agree. The sum of points for all the questions was calculated (minimum – 4: maximum – 20). Cronbach's α-coefficient showed an acceptable level of internal consistency of this scale (Cronbach's α = 0.926). Additionally, students reported their preferences for future studies format via choosing between the usual format (in the classrooms of the University), a distance format, and a mixed format.

Online communication-related technical barriers were assessed via the set of questions when students have to measure how often they face the following technical difficulties: lack of a high-quality computer/laptop or tablet; incorrect work of devices (computer, laptop, tablet); low quality of the Internet and lack of a comfortable workplace. The possible responses were: "did not encounter", "encountered from time to time", "constantly encounter".

Data analysis. First, we applied the chi-square test ($\chi2$), Kruskal–Wallis test and Mann–Whitney U test to measure associations between psychological service format and other variables. Second, an ordinal regression model was performed to test the hypothesis that preference for an online learning format, lack of technical difficulties, and the severity of mental health symptoms predict students' attitudes towards seeking mental health services in the online form.

Results

Seeking psychological help: experiences and attitudes. Every third student (33.9 %) has experience visiting a psychologist; for half of them, it was a one-time experience (16.9 %). Over the past year, 13.7 % of students received psychological help. Even though such service is freely available in the University, only 1 % of students had chosen this option, while the overwhelming majority used the services of third-party organizations or private specialists. Most of those who applied were satisfied with the help they received: they rated the services' quality as high or very high (64.1 %). Despite the relatively small personal experience of receiving psychological support, students overall has a positive attitude to such assistant: 75.4 % of students consider this opportunity themselves. At the same time, the idea of seeking help from a psychologist based in university is rated not so positively. Just every fourth student (27.0 %) reported they might consider such an opportunity for themselves, while 39.5 % found it difficult to assess how they felt about this idea.

Correlates of attitudes towards seeking psychological assistance at the University-based service. Let us consider in more detail which of the students is ready, if necessary, to seek psychological help from the specialists of the psychological service of the University and which form of assistance is preferable for them (n = 362). More positive attitudes towards seeking help at a university are more widespread among female students compared with male ones (28.5 % versus 18.6 %, p = 0.025), first-year students compared with other students (p = 0.000), as well as for those living in a dormitory (33.8 %) and a room in a communal apartment (32.1 %) compared to those living in an own (26.8 %) or rented apartment (25.7 %) (p = 0.014). It's important to note that the living arrangements seem to be an independent correlate of positive attitudes towards seeking help from university-based service since student's income do not correlate with that attitude.

Preference for online psychological help format: prevalence and correlates

Overall, students prefer face-to-face psychological consultations with University-based specialists to online consultations: 45.8 % of respondents would choose them. In comparison, only 11.1 % of students would select the online format, and 43.1 % have no preference for the format of psychological counselling. There was no connection between the choice of the format and gender, year of study, material income, living arrangements and previous experience of psychological service use.

Associations between preference for online help format and attitudes towards online learning

Before the data collection, the university carried out educational activities in both online and offline formats. Students could compare the advantages and disadvantages of both forms of education. On average, the attitude towards the new online/distance learning format can be considered neutral: the average score on the respective scale was 7.1 points (min-0, max = 16; δ = 4.89). At the same time, there are also supporters of such a format of study – 28.3 % of students would prefer to study in this way

in the future, and also 21.2 % would choose to combine online and offline learning it is possible. The preference for the online format of psychological counselling is correlated both with a positive attitude (p = 0.006) and a choice for an online learning format (p = 0.000).

Associations between preference for online help and technological barriers

When studying online, students often faced technical difficulties: 64.4 % experienced the low quality of the Internet connection, 43.0 % – lack of a convenient workplace, 39.9 % faced with incorrect work of devices, and 28.9 % – with lack of a high-quality device. The absence of technological difficulties, particularly the presence of a convenient workplace (p = 0.003) and high quality of the Internet (p = 0.012), were associated with a greater preference for the online format of counselling. The preference for the counselling format was not associated with the availability of devices and their correct operation.

Associations between preference for online help and mental health

More than half of the students in the sample assess their mental health as suboptimal: 42.5 % – as satisfactory, and 17.8 % – as bad. The mean value on the depression scale (PHQ-9) was 10.6 points (max = 27), which corresponds to moderately expressed depressive symptoms. The mean value on the anxiety scale (GAD-7) was 6.47 points (max = 21), corresponding to a mild severity of anxiety symptoms. Psychosomatic complaints are also an important indicator of self-reported well-being since they can indicate somatic issues, stress, and negative issues in the immediate social environment (Hurrelmann and Richter, 2006; Inchley et al., 2020). In this study, the average rate of psychosomatic complaints was 13.7 points out of 35 maximum. Most of the complaints were associated with symptoms of bad mood, irritability and anxiety, less often with painful sensations of different localization. Contrary to our predictions, the preference for the particular format of psychological counselling was not associated with any of the studied mental health indicators.

Factors of preference
for online psychological assistance

Table 1 presents the results from a binary regression analysis of the association between the preference for the online format of psychological counselling and several groups of hypothesized variables, such as attitudes to online learning format, technical barriers, mental health state controlling for relevant covariates including sex, age and place of residence.

The model has limited predictive power: R Square Nagelkerkes, a measure of uncertainty indicating the proportion of variance in the dependent variable that the influence of all model predictors can explain, is 24.7 %.

The preference to continue studying online or in a mixed format is associated with preference of online format of psychological assistance. Moreover, this variable is the most predictive one in the model. The other variables that remained in the model are technical difficulties (poor internet quality) and gender and age. Students who have experienced such technical challenges are less likely to choose the online counselling format over the offline one. Also, the online format is more likely to be preferred by females and older students. Other variables related to technological difficulties, attitudes towards blended learning, demographics and living arrangements, and mental health symptoms had no significant association with a preference to seek online psychological help in the final model.

Discussion

The study showed that though 75.4 % of students are ready to seek psychological help, only 27 % consider seeking it from a University-based psychologist. In various countries seeking help from University-based psychological services have been found to be not an extremely attractive idea for students (Hunt and Eisenberg, 2010; Shi, et al., 2020).

Online psychological services potentially might be a valid alternative to the traditional option. It is more cost-effective and could be more attractive for the young population, which already utilizes the internet for all aspects of life and those who would prefer to avoid face-to-face communication about personal issues (Han, et al., 2018). A few studies so far have found that university and college students generally hold favorable attitudes towards Web-based mental health resources (Ryan, et al., 2014). And that they could be more interested in seeking help for emotional problems online than by seeing face-to-face professionals (Lungu and Sun, 2016).

In our study, a little less than half of the students do not have pronounced preferences in the format of psychological consultations, and those who do much more often prefer the traditional face-to-face format. The perceived attractiveness of the online format of psychological counselling is associated with the perceived attractiveness of online education: a certain proportion of students tend to choose the on-

Table 1. Binary logistic regression of preferences for online psychological counselling *

Dependent variable	Estimate	95 % Confidence Interval		Sig. p-value
		Lower Bound	Upper Bound	
Preference for online psychological counselling				
Independent variables				
Female	2.256	1.183	4.300	0.013
Preference for the distant (online) format of education	8.983	5.430	14.863	0.000
Preference for the mixed (combination of online and offline) format of education	3.265	1.836	5.806	0.000
No difficulties with quality of internet connection during distant learning	2.072	1.357	3.163	0.001
Age	1.100	1.026	1.179	0.007

* only statistically significant connections are listed

line format of both educational and therapeutic interaction. We can assume that particular personality traits might be associated with the presence of a generalized preference for online interaction.

We hypothesized that online mental health care might be more attractive to students with more severe mental and physical symptoms, as fewer barriers and costs are associated with such a format of care. This hypothesis was not confirmed – we did not find any links between the current state of health and the preference for a specific counselling format. Recent works have shown that students with more pronounced symptomology showed greater use and willingness to use some Telemental health apps (Toscos et al., 2018). However, this might be an example of overall higher readiness to seek help, not the preference for the online format.

The presence of technical barriers (in particular, a low-quality Internet connection) might be an obstacle to developing positive attitudes towards online mental health care. It is noteworthy that the students' income did not mediate this connection: students with different incomes may experience similar technical difficulties. In addition, an indirect indicator of a student's low socioeconomic status, namely living in a dormitory, also turned out to be unrelated to attitudes towards online psychological help. At the same time, the connection between the preference for an online format and the absence of technological barriers found in this study raises an important issue of digital inequality and the accessibility of health care (Khilnani, et al., 2020). Facilitated by the COVID-19 pandemic, the digitalization of all walks of life has created a new basis for inequality.

Further progress in providing mental and physical health services might be related to the development of hybrid models that include both traditional and remote forms of care (Solokhina, et al., 2021). Online platforms, despite their advantages, should complement rather than replace existing forms of assistance (Wong et al., 2021; Lee and Jung, 2018). Universities should work out the most appropriate format for providing psychological counselling, or a combination of it as well as minimizing existing bar-

riers that prevent students from actively using these services (Stebleton, et al., 2014).

Our research has shown that many students declare that the assistance format is not important for them and perceive them as interchangeable. On the other hand, some have expressed preferences. Most students do not yet have experience with mental health services, either online or offline, so the expressed preferences are based on attitudes rather than previous experience. Understanding how preferences would change after such experience is acquired as important for future research. This information is critical to guide early mental health prevention in this population.

Conclusion

Digitalization makes new demands on education in general and university education in particular and leads to a revision of approaches to the organization of psychological services for students. The digitalization process increases the variety of possible formats for providing psychological assistance to university students.

Most students have never used psychological services. Nevertheless, they demonstrate high willingness to seek psychological help if problems arise, but to a lesser extent from the university-based specialists. Both psychological counselling formats (online and offline) have their supporters among students, and this choice is not associated with experienced mental health symptoms.

The attractiveness of the online format of study is associated with the choice of the online format of psychological assistance. Technical difficulties pose barriers to students' willingness to seek help in this format. Girl students are generally more willing to seek online psychological help.

It may be worthwhile for universities to monitor students' preferences for receiving psychological help and associated barriers and facilitators.

Limitations

An important limitation of the study is that we study the preference for online/offline psychological counselling formats and the factors associated with this using the example of

the University-based service. Therefore, the study does not allow the generalization of conclusions on the preference for the online format of psychological counselling.

Ethics Statement

Ethical approval for this study was granted by the Institutional Review Board of Herzen University (IRB 00011060 Herzen State Pedagogical University of Russia IRB#1, record #1). Informed consent has been obtained from all participants. There were no participants under 14 years old in the study.

Author Contributions

N.A., K.E. and L. Ts. conceived of the idea. K.E. developed the theory and performed the computations. N.A. and K.E. verified the analytical methods. L. Ts. encouraged to investigate and supervise the findings of this work. All authors discussed the results and contributed to the final manuscript.

References

Aguirre Velasco A., Cruz I. S.S., Billings J., Jimenez M., Rowe S. What are the barriers, facilitators and interventions targeting help-seeking behaviours for common mental health problems in adolescents? A Systematic Review. In: *BMC Psychiatry,* 2020, 20(1), 293–315. DOI: 10.1186/s12888–020–02659–0.

Anthes E. Mental health: There's an app for that. In: *Nature,* 2016, 532(7597), 20–23. DOI: 10.1038/532020a.

Antonova N. A., Eritsyan K. Yu., Tsvetkova L. A. Zapros na psikhologicheskuyu pomoshch' studentam pedagogicheskogo vuza [Psychological help-seeking among pedagogical university students]. In: *Psikhologiya cheloveka v obrazovanii [Psychology in Education],* 2021, 3(2). 208–217. DOI: 10.33910/2686–9527–2021–3–2–208–217.

Blanco C., Okuda M., Wright C., Hasin D. S., Grant B. F., Liu S-M, Olfson M. Mental health of college students and their non-college-attending peers: Results from the national epidemiologic study on alcohol and related conditions. In: *Arch Gen Psychiatry,* 2008, 65, 1429–37. DOI: 10.1001/archpsyc.65.12.1429.

Das J. K., Salam R. A., Lassi Z. S., Khan M. N., Mahmood W., Patel V., Bhutta Z. A. Interventions for Adolescent Mental Health: An Overview of Systematic Reviews. In: *Journal Adolescent Health,* 2016, 59(4S), S 49-S 60. DOI: 10.1016/j.jadohealth.2016.06.020

Depression and Other Common Mental Disorders: Global Health Estimates. Geneva: World Health Organization. 2017. Available at: https://apps.who.int/iris/bitstream/handle/10665/254610/WHO-MSD-MER-2017.2-eng.pdf (accessed 5 February 2023).

Eritsyan K., Antonova N., Kazantseva T., Usacheva N. Association between descriptive and injunctive norms and students' intention towards seeking mental health service. In: *Couns Psychother Res.,* 2021, 21, 827–836. DOI: 10.1002/capr.12461.

Garrison D. R. *E-learning in the 21st century: A community of inquiry framework for research and practice.* Taylor & Francis, 2016.

Gartfel'der D. V. Distantsionnaya psikhologicheskaya pomoshch': obzor sovremennykh i funktsional'nykh vozmozhnostey [Remote psychological assistance: an overview of modern and functional capabilities.]. In: *Vestnik psikhiatrii i psikhologii Chuvashii [Bulletin of psychiatry and psychology of Chuvashia],* 2016, 12(2), 77–96.

Growing up unequal: gender and socioeconomic differences in young people's health and well-being. Health behaviour in school-aged children (HBSC) study: international report from the 2013/2014 survey. World Health Organization, Regional Office for Europe. Health policy for children and adolescents, 2016, 7, 292. Available at: https://apps.who.int/iris/handle/10665/326320 (accessed 20 February 2023).

Han J., Batterham P. J., Calear A. L., Randall R. Factors influencing professional help-seeking for suicidality: a systematic review. In: *J. Crisis Intervention and Suicide Prevention,* 2018, 39 (3), 175–196. DOI: 10.1027/0227–5910/a000485.

Hunt J., Eisenberg D. Mental health problems and help-seeking behavior among college students. In: *J. Adoles. Health,* 2010, 46, 3–10. DOI: 10.1016/j.jadohealth.2009.08.008.

Hurrelmann K., Richter M. Risk behaviour in adolescence: the relationship between developmental and health problems. In: *Journal of Public Health,* 2006, 14(1), 20–28. DOI: 10.1007/s10389–005–0005–5.

Inchley J., Currie D., Budisavljevic S., Torsheim T., Jåstad A., Cosma A. et al. Spotlight on adolescent health and well-being. Findings from the 2017/2018 Health Behaviour in School-aged Children (HBSC) survey in Europe and Canada. In: *International report. Copenhagen: WHO Regional Office for Europe*. 2020. Available at: https://apps.who.int/iris/bitstream/handle/10665/332091/9789289055000-eng.pdf (accessed 01 February 2023).

Kamayev I. A., Karpukhin I. B., Levanov V. M. Distantsionnaya psikhoterapiya: zarubezhnyy i otechestvennyy opyt [Remote psychotherapy: foreign and domestic experience.]. In: *Aktual'nyye problemy upravleniya zdorov'yem naseleniya [Actual problems of public health management].* Nizhny Novgorod: Publishing house of the Privolzhsky Research Medical University of the Ministry of Health of Russia, 2019, 246–251.

Khilnani A., Schulz J., & Robinson L. The COVID-19 pandemic: new concerns and connections between eHealth and digital inequalities. In: *Journal of Information, Communication and Ethics in Society*, 2020, 18(3), 393–403. DOI: 10.1108/JICES-04–2020–0052.

Kim J., Saw A., & Zane N. The influence of psychological symptoms on mental health literacy of college students. In: *Am J Orthopsychiatry,* 2015, 85, 620–630. DOI: 10.1037/ort0000074.

Kroenke K., Spitzer R. L., & Williams J. B. The PHQ-9: validity of a brief depression severity measure. In: *Journal of general internal medicine,* 2001, 16, 606–613.

Lee R. A., & Jung M. E. Evaluation of an mHealth App (DeStressify) on University Students' Mental Health: Pilot Trial. In: *JMIR Ment Health,* 2018, 23, 5(1): e2. DOI: 10.2196/mental.8324.

Li W., Yang Y., Liu Z. H., Zhao Y. J., Zhang Q., Zhang L., … & Xiang Y. T. Progression of mental health services during the COVID-19 outbreak in China. In: *International journal of biological sciences,* 2020, 16(10), 1732. DOI: 10.7150/ijbs.45120.

Liu F., Zhou N., Cao H., Fang X., Deng L., Chen W., … & Zhao H. Chinese college freshmen's mental health problems and their subsequent help-seeking behaviors: A cohort design (2005–2011). In: *PLoS One,* 2017, 12(10), e0185531. DOI: 10.1371/journal.pone.0185531.

Lungu A., Sun M. Time for a change: college students' preference for technology-mediated versus face-to-face help for emotional distress. In: *Telemedicine and e-Health*, 2016, 22(12), 991–1000. DOI: 10.1089/tmj.2015.0214.

Odriozola-Gonzále, P., Planchuelo-Gómez Á., Irurtia M. J., & de Luis-García R. Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university. In: *Psychiatry research,* 2020, 290, 113108. DOI: 10.1016/j.psychres.2020.113108.

Rouvine, H., Jokiniemi K., Sormunen M., & Turunen H. Internet use and health in higher education students: a scoping review. In: *Health Promotion International,* 2021, 36(6), 1610–1620. DOI: 10.1093/heapro/daab007.

Ryan M. L., Shochet I. M., & Stallman H. M. Universal online interventions might engage psychologically distressed university students who are unlikely to seek formal help. In: *Adv Ment Health,* 2014, 9(1), 73–83. DOI: 10.5172/jamh.9.1.73.

Shi W., Shen Z., Wang S., Hall B. J. Barriers to professional mental health help-seeking among Chinese adults: a systematic review. In: *Frontiers in psychiatry*, 2020, 11, 442. DOI: 10.3389/fpsyt.2020.00442.

Solokhina T. A., Kuz'minova M. V., Mitkhin V. G. Telepsikhiatriya i telepsikhologiya: vozmozhnosti i ogranicheniya distantsionnoy raboty. [Telepsychiatry and telepsychology: opportunities and limitations of telecommuting]. In: *Psikhiatriya [Psychiatry],* 2021, 19(3), 68–79. DOI: 10.30629/2618–6667–2021–19–3–68–79.

Spitzer R. L., Kroenke K., Williams J. B., Löwe B. A brief measure for assessing generalized anxiety disorder: the GAD-7. In: *Archives of internal medicine,* 2006, 166(10), 1092–1097. DOI: 10.1001/archinte.166.10.1092.

Stebleton M. J., Soria K. M., Huesman R. L. First-generation students' sense of belonging, mental health, and use of counseling services at public research universities. In: *Journal of College Counseling,* 2014, 17(1), 6–20. DOI: 10.1002/j.2161–1882.2014.00044.x.

Talebi M., Matheson K., Anisman H. The stigma of seeking help for mental health issues: Mediating roles of support and coping and the moderating role of symptom profile. In: *Journal of Applied Social Psychology,* 2016, 46(8), 470–482. DOI: 10.1111/jasp.12376.

Torous J., Jän Myrick K., Rauseo-Ricupero N., Firth J. Digital mental health and COVID-19: using technology today to accelerate the curve on access and quality tomorrow. In: *JMIR Mental Health,* 2020, 7(3), e18848. DOI: doi:10.2196/18848.

Toscos T., Carpenter M., Drouin M., Roebuck A., Kerrigan C., Mirro M. College students' experiences with, and willingness to use, different types of telemental health resources: do gender, depression/anxiety, or stress levels matter? In: *Telemedicine and e-Health,* 2018, 24(12), 998–1005. DOI: 10.1089/tmj.2017.0243.

Whaibeh E., Mahmoud H., Naal H. Telemental Health in the Context of a Pandemic: the COVID-19 Experience. In: *Curr Treat Options Psychiatry* 2020, 2, 1–5. DOI: 10.1007/s40501–020–00210–2.

Wong K., Chan C., Chan M., Wong C., Cheng Q., Xiong C., Yip P. Who Seeks Help Online? Comparing Online and Offline Help-Seeking Preferences among Youths with Suicidal Ideation. In: *Journal of Affective Disorders,* 2021, 292, 21–29. DOI: 10.1016/j.jad.2021.05.056.