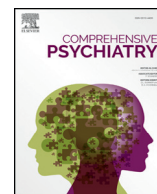


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## Preventing problematic internet use during the COVID-19 pandemic: Consensus guidance

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## ARTICLE INFO

## ABSTRACT

As a response to the COVID-19 pandemic, many governments have introduced steps such as spatial distancing and “staying at home” to curb its spread and impact. The fear resulting from the disease, the ‘lockdown’ situation, high levels of uncertainty regarding the future, and financial insecurity raise the level of stress, anxiety, and depression experienced by people all around the world. Psychoactive substances and other reinforcing behaviors (e.g., gambling, video gaming, watching pornography) are often used to reduce stress and anxiety and/or to alleviate depressed mood. The tendency to use such substances and engage in such behaviors in an excessive manner as putative coping strategies in crises like the COVID-19 pandemic is considerable. Moreover, the importance of information and communications technology (ICT) is even higher in the present crisis than usual. ICT has been crucial in keeping parts of the economy going, allowing large groups of people to work and study from home, enhancing social connectedness, providing greatly needed entertainment, etc. Although for the vast majority ICT use is adaptive and should not be pathologized, a subgroup of vulnerable individuals are at risk of developing problematic usage patterns. The present consensus guidance discusses these risks and makes some practical recommendations that may help diminish them.

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The novel coronavirus disease, COVID-19, an infectious disease characterized by an often severe and sometimes fatal acute respiratory syndrome and caused by a variant coronavirus termed SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2), was first identified in December 2019 in Wuhan, China. Since then it has rapidly spread, globally. The World Health Organization (WHO) declared the disease a pandemic on 11 March 2020. As a response to the crisis, governments in numerous countries have introduced a series of steps aiming to curb the effects of the pandemic. The WHO has promoted SARS-CoV-2 testing and contact tracing to prepare health care systems to respond to the disease and limit spread within populations. “Spatial distancing” [1] is one of the strongly promoted practices and entails creating and keeping safe distances between individuals, as well as reducing the number of times individuals come into close contact with each other. The resulting regulations and recommendations include the temporary closures of childcare and educational institutions, and cultural and entertainment-related locales (e.g., clubs, cinemas, theaters, museums, sporting arenas). They also typically include encouraging employees and companies to use remote (home) working practices when feasible. In essence, spatial distancing is aimed at promoting staying home and self-isolation but, in some instances, it also involves limiting free movement and/or placing individuals in quarantine.

The fear resulting from the disease, and the consequences of lockdowns, stress and anxiety have been mounting, and these affect individuals, families and society as a whole [2–4]. Especially vulnerable are individuals with preexisting mental and physical health conditions, those lacking social support, and first responders and healthcare workers [5]. In extreme cases, fear may contribute to fatal outcomes and suicide, including among individuals who thought they had contracted the virus even though autopsies showed they did not (e.g., [6]). Time spent at home has increased considerably for most individuals, which may lead to a reduction or loss of daily routine and structure. Moreover, being in ‘lockdown’ alone (or with family members), coupled with high states of uncertainty regarding the future and financial insecurity, may also contribute to heightened stress, anxiety, depression and a general decrease in psychological wellbeing [2,7]. Concurrently, research into the precise psychological impact of the current situation is ongoing; not all individuals will be unduly impacted to the same degree [8]. Nevertheless, it is worth acknowledging that the WHO has established general health guidelines for the staying home period that include useful tips for physical activity, mental health, parenting, healthy eating and quitting tobacco [9].

Psychoactive substance use and other reinforcing behaviors such as gambling, video gaming, TV series watching, using social media, watching pornography, or surfing the internet are often used to reduce stress and anxiety and/or to alleviate depressed mood. These potentially addictive behaviors may help alleviate stresses of daily living (often reflected as “escapism”) and avoid problems and difficult thoughts [10–13]. Although these behaviors typically constitute non-problematic (or perhaps even healthy) coping strategies, for a minority of individuals they can lead to reduced engagement in usual social interactions and other activities of daily living [14]. As a result, the tendency to use such substances and engage in the aforementioned behaviors as putative coping strategies in crises like the COVID-19 pandemic increases considerably and may develop into habits that are difficult to break [15–17].

The present consensus guidance focuses on the engagement with information and communications technology (ICT) in the time of the COVID-19 crisis. On the one hand, ICT is a “savior”; it contributes vitally to disseminating knowledge about the outbreak to wide sectors of the global population, to an extent not possible without such technology. Information flow is a key factor in fighting the pandemic (enabling individuals to have instant access to reliable information, while granting researchers with means for collaboration on a global scale in the race to develop a vaccine and efficient treatment strategies, for example). Working and studying remotely is possible due to the use of ICT. Keeping social contact remotely with friends/families to reduce psychological impacts of isolation, providing access to entertainment and even materials guiding physical exercise (e.g., live streaming home fitness sessions) are realized through ICT and represent strategies recommended by the WHO [18]. Furthermore, medical and psychological consultation and psychotherapy both in the case of addictive disorders and other mental disorders may be conducted online when appropriate [19].

On the other hand, the use of ICT also carries risks. While considered healthy when pursued in moderation and for meaningful purposes, excessive engagement in specific online activities such as gambling, viewing of pornography, video gaming, social media use, shopping may lead to severe problems and elevate the risk of disordered or addictive use [20–22]. Disordered use of the internet generates marked distress and/or significant impairment in personal, family, social, educational, occupational, or other important areas of functioning [23,24]. Therefore, keeping involvement in these behaviors at moderate and controlled levels, especially during the pandemic, is imperative. This is also important because the respective industries (e.g., gambling, gaming, pornography) may encourage their customers to spend longer periods of

time engaging in these activities, such as by launching opportunistic marketing campaigns.

Based on this contextual background, we, a multidisciplinary and multinational group of experts in problematic usage of the internet make some practical recommendations that may help diminish risks of increased use of ICT devices and online activities. We ask professionals and policymakers to convey these recommendations to their clients specifically and the general population more broadly. We divide these recommendations into general lifestyle and internet-specific recommendations:

### General

- Making an activity schedule for each day and week (e.g., planning in advance when one is going to work/study, engage in social activities, perform leisure activities, conduct physical exercise) and promoting a daily routine at home in self-isolation, quarantine, or lockdown may be very helpful at a time when daily structure is lost or reduced.
- Sleeping regularly and enough, eating regularly and healthily, drinking sufficient fluids, and attending to personal hygiene are essential not only to maintain good physical health but also for enhancing psychological well-being.
- Engaging in physical activity regularly is not only necessary to keep a healthy body but also contributes to boosting mood by reducing levels of stress hormones, stimulating the production of endorphins (i.e., natural chemicals in the brain that relieve pain and enhance mood) and having a beneficial effect on immune function.
- Learning and using relaxation and other stress-reduction techniques (e.g., reading, writing, listening to music, meditation, autogenic training, and mindfulness exercises) can be helpful in keeping bodies and minds healthy and to be aware of ones' emotions. When dealing with difficulties, openly communicating about emotions with a close relative or friend, asking for help and feeling social support can effectively help to reduce stress and anxiety.
- Enjoying social activities and maintaining relationships are also crucial [25]. Family members should arrange to spend quality time with each other and have "family time" periods on a regular basis. Family time may include meaningful conversations, playing social games or sports, eating meals and doing household chores together.
- For individuals who live together with their family or others, it may be useful to find ways of being alone or having some self-time regularly. It may help to negotiate spaces in the house for individual and common use, as well as to establish and respect boundaries such as doors being open or closed. This may help reduce frustration and conflicts that may arise from being confined in the same place for long periods.
- Following the WHO advice to keep up-to-date on the status of the pandemic and public health advice from reliable news sources in a circumscribed way (e.g., watching a reputable news broadcast once or twice per day at a specified time) while limiting excessive exposure to such news can promote balanced and informed thinking about the pandemic.

### Specific

- Being conscious of, self-monitoring and regulating one's screen time (i.e., the amount of time spent using all devices with a screen such as a smartphone, computer, television, or video game console) are essential. Reducing access or exposure by putting the smartphone/device somewhere where it is not constantly available when engaging in technology-free activities and turning off or muting notifications and associated sounds on mobile devices may be helpful methods of such self-regulation. Constantly checking social media or watching the news about the pandemic may have a negative impact on mental wellbeing.
- Monitoring and regulating children's behavior is also crucial and it may best be done by involving them in rule-making. Additionally,

parents are role models; thus, regulating their own ICT-related behaviors (e.g., social media use, aimless surfing on the internet) may help their children to establish controlled use as well. Parents are also encouraged to actively participate in the ICT-related behaviors of their children (e.g., playing video games together with them). Such involvement of the parents will help them regulate their children's usage (e.g., by knowing the characteristics of different video games), as well as promote adaptive online activities and reduce the use of other ones.

- Using digital wellbeing apps (i.e., apps that provide feedback about the amount of time spent on different apps) can be helpful in raising awareness and self-regulation. Having pre-scheduled technology-free periods or programs, and setting specific limits for oneself (e.g., time and/or financial limits for online shopping, gambling or gaming), can all help maintain a healthy balance between screen-based and screen-free activities. Tracking per-session, daily, weekly and monthly limits may be helpful to minimize time online and financial expenditures.
- Using analogue technical tools (e.g., wristwatches, alarm clocks) when possible instead of ICT tools may help prevent overuse in certain situations (e.g., checking the time on a smartphone might turn into the use of other applications such as social media sites due to the notifications appearing on the locked screen) [26].
- Keeping in touch with friends, relatives and acquaintances (via internet or telephone) may help reduce feelings of loneliness during physical distancing and enhance quality of life. ICTs such as group calls, social media groups, and online video games can be useful in forming and maintaining meaningful relationships across physical distances.
- Seeking help if needed is also very important. If experiencing high levels of distress or significant difficulties controlling internet use or specific online activities (e.g., gambling, gaming, watching pornography), mental health professionals should be contacted. Helplines and telehealth consultations might be available depending on the country of residence. Seeking help in early stages may be especially effective to relieve symptoms.

While many of these recommendations are both commonsense and intuitive, it is easy for individuals to neglect the listed activities because of the stress and disruption to usual life. Furthermore, psychological stress related to the COVID-19 pandemic may also contribute to developing a mindset that rationalizes new unhealthy habits (e.g., engaging in a poorly controlled use of the internet or excessive screen time) as necessary for coping, thus potentially posing a longer-lasting threat. Therefore, especially in this time of spatial distancing when the importance of ICT increases even more than usual, it is vital to emphasize healthy means of coping with the crisis and healthy practices of ICT use, because the lives of billions of individuals around the world are affected.

### Acknowledgements

This article is based upon work from COST Action CA16207 "European Network for Problematic Usage of the Internet", supported by COST (European Cooperation in Science and Technology) ([www.cost.eu](http://www.cost.eu)). OK was supported by the János Bolyai Research Scholarship of the Hungarian Academy of Sciences and by the ÚNKP-19-4 New National Excellence Program of the Ministry for Innovation and Technology. CS was funded by the European COMPETE2020 (POCI-01-0145-FEDER-030980) and by Portuguese National funds FCT - Fundação para a Ciência e a Tecnologia, I.P (PTDC/PSI-ESP/30980/2017). ZD was supported by the Hungarian National Research, Development and Innovation Office (Grant number: KKP126835, NKFIH-1157-8/2019-DT). SRC's involvement in this research was funded by a Wellcome Trust Clinical Fellowship (110049/Z/15/Z).



## Declaration of competing interest

MNP, DJS, DLK, DCH, JBS, MDG, JB, MWA, HKL, HJR, ARM, SH, NAF, ZD have been members of a WHO advisory group on the public health consequences of addictive behaviors. In this capacity they have been eligible for travel support from WHO or the host center to attend advisory group meetings but have not been remunerated for their work. MNP has received financial support or compensation for the following: MNP has consulted for and advised RiverMend Health, Opiant Pharmaceuticals, Idorsia, the Addiction Policy Forum and AXA; has received research support from the Mohegan Sun Casino and the National Center for Responsible Gaming; has participated in surveys, mailings or telephone consultations related to addictive disorders or other health topics; has consulted for or advised law offices and gambling entities on issues related to addictive disorders and behaviors; has provided clinical care in the Connecticut Department of Mental Health and Addiction Services Problem Gambling Services Program; has performed grant reviews; has edited journals and journal sections; has given academic lectures in grand rounds, CME events and other clinical or scientific venues; and has generated books or book chapters for publishers of mental health texts. DJS has received research grants and/or consultancy honoraria from Lundbeck and Sun. DCH receives partial salary support from the Alberta Gambling Research Institute and volunteers on the Scientific Advisory Board of the International Center for Responsible Gaming. He has received conference travel support from a variety of non-profit associations. MDG's university currently receives research funding from Norsk Tipping (the gambling operator owned by the Norwegian Government). MDG has also received funding for a number of research projects in the area of gambling education for young people, social responsibility in gambling and gambling treatment from Gamble Aware (formerly the Responsible Gambling Trust), a charitable body which funds its research program based on donations from the gambling industry. MDG regularly undertakes consultancy for various gaming companies in the area of social responsibility in gambling. SRC consults for Ieso Digital Health and Promentis; he receives stipends from Elsevier for editorial work. SRC's involvement in this research was funded by a Wellcome Trust Clinical Fellowship (110049/Z/15/Z). JBu has been working as a consultant for Cogstate, Ltd. in the past several years. JMM has received research or networking funding from several Spanish official research agencies: CIBERSAM-ISCIII and AGAUR, has received consultation fees from Janssen, research funding from Janssen, AbBiotics and Medtronic, and has accepted travel grants from Servier, in the last 36 months. JZ received grants from Lundbeck, Servier, Brainsway & Pfizer, and also received honoraria or consultation fees from Servier, Pfizer, Abbott, Lilly, Actelion, AstraZeneca, SunPharma, Roche and Brainsway. He also participated at sponsored events supported by Lundbeck, Roche, Lilly, Servier, Pfizer, Abbott, SunPharma and Brainsway. SW received in the last 5 years royalties from Thieme Hogrefe, Kohlhammer, Springer, Beltz. Her work was supported in the last 5 years by the Swiss National Science Foundation (SNF), different EU FP7s, Bfarm, ZInEP, Hartmann Müller-, Olga Mayenfisch-, Gertrud Thalman-, Vontobel-Fonds. Outside professional activities are declared under [www.uzh.ch/prof/ssl-dir/interessenbindungen/client/web/](http://www.uzh.ch/prof/ssl-dir/interessenbindungen/client/web/). NAF has been a member of the WHO advisory group on obsessive compulsive disorders. In the past 3 years NAF has held research or networking grants from the ECNP, UK NIHR, EU H2020, MRC, University of Hertfordshire; has accepted travel and/or hospitality expenses from the BAP, ECNP, RCPsych, CINP, International Forum of Mood and Anxiety Disorders, World Psychiatric Association, Indian Association for Biological Psychiatry, Sun; has received payment from Taylor and Francis and Elsevier for editorial duties; has accepted a paid speaking engagement in a webinar sponsored by Abbott. Previously, she has accepted paid speaking engagements in various pharmaceutical industry supported symposia and has accepted grants and funding support for various pharmaceutical industry-sponsored studies in the field of OCD treatment. She leads an NHS treatment service for OCD. She holds Board

membership for various registered charities linked to OCD. She gives expert advice on psychopharmacology to the UK MHRA and NICE. ZD's university receives funding from the Szerencsejáték Ltd. to maintain a telephone helpline service for problematic gambling. ZD has also been involved in research on responsible gambling founded by Szerencsejáték Ltd. and the Gambling Supervision Board.

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