Internet addiction among Poles living in Poland and the UK in the light of COVID-19 – a pilot study

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A- Conception and study design; B - Collection of data; C - Data analysis; D - Writing the paper; E- Review article; F - Approval of the final version of the article; G - Other (please specify)

ABSTRACT

Objective: Any addiction is a rather significant problem, not only in terms of health, but also in terms of society. The pandemic outbreak was associated with a reduced quality of life for populations around the world and contributed to widespread health, social and economic impacts. The aim of this study was to assess the level of internet addiction in a group of Poles living in Poland and the UK in light of the COVID-19 pandemic.

Material and Methods: In January 2023, an online cross-sectional survey was conducted among Polish adults living in Poland and the United Kingdom. The questionnaires in the form of a link to the form were send via Facebook to groups of Poles living in United Kingdom and in the private social media of the researcher. The Kimberly Young questionnaire was used to assess the extent of internet addiction among Poles living in Poland and the United Kingdom.

Results: Among the respondents, women slightly predominated (51.5%). The vast majority of the respondents were people who suffered from COVID-19 at least once during the pandemic (90%) and were vaccinated against SARS-CoV-2 (61.5%). The analysis of the results showed that 24.5% of the respondents abused the Internet, there were no people strongly addicted to the Internet in the study group. The conducted research showed no statistically significant gender differences with the level of Internet addiction.

Conclusions: Based on the study, it was concluded that the average level of Internet addiction of people living in Poland was significantly lower than in people living in the United Kingdom.

Keywords: Internet Addiction, Poland, UK, COVID-19

DOI:

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Received: 14.04.2023
Accepted: 21.06.2023
Progress in Health Sciences
Vol. 13(1) 2023 pp 76-81
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INTRODUCTION

Any addiction is a rather significant problem, not only in terms of health, but also in terms of society. The term addiction refers to a state of psychological or physical dependence on a psychoactive chemical substance associated with a compulsion to take it in order to obtain its effects. In the past century, this mostly referred to addiction to alcohol, smoking or other chemicals. Only in the last decade new addictions have emerged in which chemical substances do not play a role, but are linked to modern civilization and advances in technology. Dozens of addictions have already been defined and described, ranging from workaholism, sexoholism, shopoholism to network-holism, teleholism or phonoholism [1,2].

The pandemic outbreak was associated with a reduced quality of life for populations around the world and contributed to widespread health, social and economic impacts [3,4,5,6,7]. The introduction of online working and learning, largely related to the outbreak and spread of the pandemic COVID-19 in 2020, has shown that one of the most important and basic tools necessary for daily functioning is the Internet. The process of digitalisation of selected areas of work has accelerated bringing some limitations at the same time. The period of pandemic combined with the introduction of various restrictions, mobility pattern due to the introduced lockdown, led to the preference of virtual reality over the real environment, which could affect not only the physical but also the psychological state of society [8]. It is clear that during the pandemic, not only young people but also adults were definitely using information and communication technology for longer periods of the day. This includes not only working or studying remotely, but also socialising with peers or at least enjoying the entertainment opportunities offered by the internet to an even greater extent than before the pandemic [9,10].

Data conducted by the University of Economics in Katowice show that in the last several years, and in particular in 2020, the importance of the Internet has increased significantly. These studies show that in 2020, 91% of households in the EU had access to the Internet and used it regularly, for comparison, in 2010 only 70% of households in the EU had access to the Internet. This proves the high saturation of households with this service [11].

Excessive internet use can have long-term consequences, not only for health, such as back pain and decreased physical activity, but can also become an addiction that leads to mental health problems [12,13,14,15,16].

The negative effects of internet addiction require multidisciplinary teams to explore the various factors that influence addiction and the mechanisms that cause it. These can contribute to the development of preventive measures to prevent Internet users from becoming "cyber-addicted". The aim of this study was to assess the level of internet addiction in a group of Poles living in Poland and the United Kingdom in light of the COVID-19 pandemic.

MATERIALS AND METHODS

Participants and Procedure

In January 2023, an online cross-sectional survey was conducted among Polish adults living in Poland and the United Kingdom. The survey, in the form of a link to a Google form, information about the survey and anonymity as well as voluntary consent to participate, was sent via Facebook to groups of Poles living in the United Kingdom and via the researcher's private social media. Inclusion criteria were: Age over 18 years, consent to participate in the study, Polish citizenship, residence in Poland or the United Kingdom. Exclusion criteria were: Age under 18 years, no consent to participate in the study, no Polish citizenship, no residence in Poland or the United Kingdom. The study was approved by the Senate Committee on Research Ethics of the Lomza Academy of Applied Sciences under number 5293400. Respondents voluntarily participated in the survey and the course of the research was published on the basis of the Personal Data Protection Act of 10 May 2018 (Journal of Laws of 2018, item 1000), in accordance with the Regulation of the European Parliament and the European Union pursuant to Regulation of the European Parliament and of the Council (European Union) 2016/679 of 27 April 2016 on the protection of individuals with regard to the processing of personal data, on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation). Respondents were informed about the objectives of the study, the survey process and the applicable data protection guidelines.

Methods of Assessing Internet Addiction

The Kimberly Young questionnaire [17] was used to assess the extent of internet addiction among Poles living in Poland and the UK. It measures the frequency of internet use and consists of 20 items. Respondents answer the questions on a 5-point scale. The total score ranges from 20-100, with 20-49 indicating a low level of dependence, 50-79 indicating a medium level of dependence and 80-100 indicating a high level of dependence. The Cronbach's alpha value is > 0.7 [18,19,20].

Statistical Methods

To characterize the structure of the study variables, basic descriptive statistics were calculated in the form of location and variability measures. Spearman’s rank coefficients were calculated to determine the strength of the association between the variables. Student’s t-test for independent samples
was used to test the significance of differences. A significance level of 0.05 was assumed for all analyses. All analyses were performed using the Statistica v.13.1 package.

RESULTS

General Characteristics

Data from 200 adult Poles inhabiting Poland (52%) and the United Kingdom (48%) were used for the statistical study. The percentage of women among the respondents was slightly higher (51.5%). The vast majority of respondents were individuals who had contracted COVID-19 at least once during the pandemic (90%) and had been vaccinated against SARS-CoV-2 (61.5%).

Internet Addiction

An analysis of the results in Table 1 showed that the median score of the questionnaire describing Internet addiction was 33, indicating a low score, i.e., an average amount of time spent on the computer.

Table 1. Basic descriptive statistics for the Kimberly Young questionnaire

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Deviation Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet addiction</td>
<td>38,30</td>
<td>33,00</td>
<td>20,00</td>
<td>76,00</td>
<td>14,69</td>
</tr>
</tbody>
</table>

Analysis of the results in Figure 1 suggests that 24.5% of respondents abuse the Internet; there were no individuals in the study group who were highly dependent on the Internet.

![Figure 1. KY test of internet addiction](image)

In the subsequent analyses it was verified whether gender significantly differentiated Internet addiction scores. The results are presented in Table 2. The analysis of the results included in the table did not find statistically significant differences.

Table 2. Gender, place of residence and internet addiction

<table>
<thead>
<tr>
<th>Variable</th>
<th>The average woman</th>
<th>Average male</th>
<th>Deviation std. female</th>
<th>Odds ratio male</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet addiction</td>
<td>37,92</td>
<td>38,69</td>
<td>14,45</td>
<td>14,99</td>
<td>-0,37</td>
<td>198</td>
<td>0,71</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average Poland</th>
<th>Average UK</th>
<th>Deviation std. Poland</th>
<th>Deviation std. UK</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet addiction</td>
<td>35,30</td>
<td>41,54</td>
<td>12,83</td>
<td>15,90</td>
<td>-3,07</td>
<td>198</td>
<td>0,0025</td>
</tr>
</tbody>
</table>
Subsequent analyses examined whether country of residence made a significant difference in ratings of Internet addiction. The results are presented in Table 2. Based on the analyses, the average level of Internet addiction was found to be significantly lower among individuals residing in Poland than among individuals residing in the United Kingdom.

DISCUSSION

Isolation and loneliness during pandemics or in expatriate settings have led people to use the internet more often, especially social media. This phenomenon also has its good sides, such as easier contact with loved ones, reduction of the feeling of loneliness, and the possibility to work or study online [21]. At the same time, the COVID-19 pandemic has had a negative impact on Internet use, increasing the prevalence and severity of Internet addiction. The amount of time spent on recreational Internet use in most households has increased significantly [22]. Previous studies available in the literature have shown an increase in Internet addictive behaviours. These have typically been associated with financial difficulties, isolation, problematic substance use, increased stress levels, and mental health problems such as depression [23].

In our own study, as many as 24.5% of respondents abused the Internet. A 2020 study of a large Chinese population found that the overall prevalence of Internet addiction was 36.7% of the general population and severe Internet addiction was 2.8% [22]. Among Mexicans, addiction was estimated at 10.2% and 0.2% (moderate and severe, respectively) [24]. A study conducted in Indonesia in 2020 found that isolation associated with the pandemic had no significant impact on Internet addiction in the adult group studied [25]. These results highlight the high prevalence of this type of addiction in society. Social media addiction is a problem in Poland, with as many as 5.68% of women being at high risk for social media addiction [21]. At the same time, a study by Rachubińska et al. found that 27.2% of Polish women were at risk of internet addiction and 4.8% were addicted [26]. In the studied Polish group, gender had no influence on the level of Internet addiction, which is consistent with the trends in the literature [27].

In our own study, we found that the average level of Internet addiction among Poles living in Poland was significantly lower than among those living in the United Kingdom. The literature indicates a higher vulnerability of migrant groups to behavioural addictions [28]. For example, people may use the Internet as a dysfunctional coping strategy for anxiety or depression [29]. In addition, limited interpersonal relationships, e.g., due to quarantine or emigration, may increase the risk of spending more time online [30]. All of these issues were amplified during the pandemic period, when other COVID-19 related problems influenced increased use of the Internet to alleviate negative feelings [27].

The strengths of this study were the easy access to the study group, the low cost, the small amount of time spent on the project and the organic form of data collection. Limitations include the cross-sectional design of the study with a small sample and the reliance on data from the Polish population only, so a causal interpretation cannot be developed with certainty. However, despite these limitations, the present results provide a preliminary basis for further research into the issue of Internet addiction.

More effective measures should be taken to prevent and reduce behavior pattern that leads to problematic Internet use, and every effort should be made to ensure the prevention of addiction, especially in the Polish expatriate population. There should also be widespread information on the risks and consequences of addiction to social media and the Internet, and information on safe use of the virtual world should be disseminated. Further monitoring of the effects of pandemics and emigration on Internet use is advisable.

CONCLUSIONS

Based on the study, it was concluded that the average level of Internet addiction of people living in Poland was significantly lower than in people living in the United Kingdom.

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Conflicts of interest
The authors have declared no conflict of interest.

Funding
The authors did not receive support from any organization for the submitted work.

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