The functioning of Poles during the COVID-19 pandemic, taking into account their level of education and gender

Abstract

Introduction: The COVID pandemic causes psychological stress, which is known to have negative effects on mental health. The aim of this study was to identify the educational group most exposed to stress and to determine behavior patterns in the face of the described threat, taking into account the sex of the respondents.

Material and methods: The study involved an online survey using a self-administered questionnaire through Google Forms. The studied group were Internet users, who received a link to the survey through social networking sites, communication apps or via e-mail. The study received a total of 394 valid responses.

Results and conclusions: There is a relationship between the level of education and the attitudes of Poles in the face of the COVID-19 pandemic. Higher levels of education may be associated with better adaptation mechanisms when faced with this pandemic threat. People with vocational education are the most exposed to the negative effects of this epidemiological state. Gender is a moderator in the relationship between the level of education and life satisfaction, the level of stress felt or fear for one’s nearest and dearest in the face of the COVID-19 pandemic.

Key words: SARS-CoV-2, COVID-19, pandemics, mental health, quality of life, education

Introduction

“Stress” as a term was introduced by Canadian pathophysiologist Hans Selye as the body’s response to a state of threat [1]. The recent emergence of the COVID pandemic spread anxiety and fear for one’s health across the globe. On the 4th of March 2020, the Polish Ministry of Health confirmed the first case of a positive SARS-CoV-2 infection. Up until the pandemic announcement by the World Health Organization on the 11th of March, the number of positive SARS-CoV-2 patients in Poland increased to 31 [2]. From the 2nd of March, the Polish Government adopted acts of law and regulations to pre-
cebook, Instagram, Twitter, TikTok), instant messengers (Messenger, WhatsApp) or email who received a link to our survey. Using Google Forms, a link to a self-administered questionnaire was sent by e-mail or made public on other online platforms (Facebook, Instagram, Twitter, TikTok, Messenger, WhatsApp). The Author’s Designed Questionnaire (ADQ) used in the study was used to monitor the mental state and functioning of the subjects in the face of the COVID-19 pandemic. It collected data such as age, gender, education level, and demographic data. Further questions monitored the mental state and functioning of the subjects in the face of the COVID-19 pandemic. The study participants were asked to respond to variables related to their current mental state and living conditions, or how to comply with the recommendations of relevant institutions regarding the social isolation imposed on all citizens as protective measures. The researchers shared a link to the survey on the Internet, including a request to share it with others. The project aroused great interest — in the first 72 hours nearly 60% of the surveyed people took part in it. The results obtained indicate the existence of certain regularities that are worth analyzing.

The inclusion criteria
The study group consisted exclusively of people over the age of 18. Before proceeding to the relevant part of the study, each of the surveyed people was asked to agree to participate in the project. One respondent, despite answering all the questions, did not agree to participate in the study. The researchers suspected that this may have happened by mistake, although, due to the regulations, this person’s answers were excluded from further analysis. Participation in the study was voluntary and the respondents were informed that the results obtained would be used for scientific purposes only. Each of the respondents had the opportunity to contact the researchers via email. Consent for the implementation of this scientific project was obtained from the Independent Bioethics Committee for Scientific Research (NKBBN/249/2020). People with higher education constituted the most numerous group of respondents (n = 248; 63%), of whom nearly 78% (n = 193) were women. The second most numerous group were people with secondary education (n = 118; 30%). Only in the vocational education group were men in the majority.

Statistical analysis
Statistical analysis was carried out using the Statistica program (vs. 13.3) and p < 0.05 was considered indicative of a statistically significant result. Respondents with primary education (n = 6; 1.5%) were the smallest group.

The Authors Designed Questionnaire (ADQ) contained questions about the concerns of the respondents related to their own and loved ones’ health, stress experienced, and the attitude of the respondents to the restrictions resulting from the regulations introduced in Poland. The obtained results indicate that the greatest fear for their health was manifested by the respondents with vocational education (M = 4.67). Less anxiety was declared by those with secondary education (M = 4.63) and with higher education (M = 4.26). People with a primary level of education were the least afraid (M = 2.13). Generally, women (M = 5.18) experienced a statistically significant higher level of anxiety about their health in comparison to men (M = 4.18) (p = 0.001). The highest level of stress resulting from mass social isolation or quarantine in connection with COVID-19 was declared by people with vocational education (M = 6.31). The primary education group (M = 6.25) experienced a high level of stress. The least stressed respondents were those with secondary education (M = 4.70) or higher (M = 4.69). Also in terms of this factor, women (M = 5.36) had a higher mean score than men (M = 4.36) — the differences were statistically significant (p = 0.0007).

As part of the survey, the respondents also estimated their quality of life on a scale from 0–10. The results were analyzed taking into account the sex and level of education of the respondents (Fig. 1).

Men with primary (M = 4.50) and vocational (M = 4.07) educational level assessed their current life situation as the worst. Life satisfaction rose in correspondence with an increase in the level of education: secondary education — M = 6.44, higher education — M = 6.38. The opposite tendency was observed among women — a worse education level resulted in a superior assessment of life satisfaction (M = 5.75 — vocational education, M = 6.25 — primary education).
Among people with a secondary level of education, men evaluated their current quality of life higher than women — the observed differences are statistically significant (p = 0.011). Moreover, men (M = 6.06) obtained significantly higher results compared to women (M = 5.43) in the studied group (p = 0.009) (Table 2).

The Pearson correlation study revealed a statistically significant relationship between the level of education and such variables as the place of residence and the degree of loneliness in both the female and the male group. Additionally, among women a statistically significant relationship was observed between the level of education and concern for the health of their loved ones regarding COVID-19 (R = 0.1226), as well as a negative relationship between education and assessment of their level of activity (R = –0.1220). In the male group, an additional negative correlation between education and the level of stress concerning isolation (R = –0.2215) as well as a positive relationship between the level of education and the assessment of current life satisfaction (R = 0.2846) were observed. In both the female and male groups, the strongest relationship was observed between the level of education and place of residence (women: R = 0.2369, men: R = 0.4406), while the weakest, negative, correlation was discovered between education and the assessment of current level of activity (women: R = –0.1220, men: R = –0.0087). The relationship of the level of education with the other variables appeared to be statistically insignificant.

Table 2. Correlation of the level of education with the studied variables

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<thead>
<tr>
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<th>Female</th>
<th>Male</th>
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<tr>
<td></td>
<td>R Pearson</td>
<td>p</td>
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<tr>
<td>Education × Place of residence</td>
<td>0.2369</td>
<td>0.0000</td>
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<tr>
<td>Education × Worrying about the health of the loved ones</td>
<td>0.1226</td>
<td>0.0372</td>
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<tr>
<td>Education × Stress connected with isolation</td>
<td>–0.0649</td>
<td>0.2715</td>
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<tr>
<td>Education × Assessment of current life</td>
<td>–0.0265</td>
<td>0.6541</td>
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<tr>
<td>Education × Scale of loneliness</td>
<td>–0.1311</td>
<td>0.0259</td>
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<tr>
<td>Education × Current activity level</td>
<td>–0.1220</td>
<td>0.0382</td>
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Discussion
During the pandemic, the use of online surveys is safe both for the researcher and the respondent. While it offers high efficiency and low cost, it also has some disadvantages — for example, it is less accessible to the elderly [8]. The results of the current study confirmed that this type of research tool was most often accepted by young people, i.e., aged 18–29, as well as by people with higher education. For young people, the observations made are understandable, given the wide access of this age group to social media, as well as their interest in this form of communication. In the case of people with higher education, we can only assume that the participation in the study resulted from both the need to expand their knowledge on the subject of COVID, as well as the ability to use this form of research tool.

In the authors’ study, the male respondent group with primary or vocational educational level rated their life satisfaction the worst. On the brink of the COVID pandemic in Poland, in March 2020, 54% of respondents admitted to having average earnings; respondents with primary (23%) and vocational education (26%) declared that they live modestly at best. Moreover, 20% feel poverty and 3% feel helpless [9]. An increase in the level of education brings a corresponding rise in life satisfaction. However, the opposite tendency was observed among women. The male and female secondary education group assessed their life differently, with men being more satisfied. The relationship between gender and work satisfaction varies, dependent on their different values upon which satisfaction is evaluated (i.e., women focusing on relationship aspects at work in contrast to men, who focused on intrinsic work-related values) [10]. Another CBOS telephone survey showed that 28% of the respondents who feared redundancy were among private sector workers. Compared to February 2020, the fear of unemployment increased significantly. In the first half of March 2020, 49% of respondents with vocational education declared that they had been unemployed at least once in their lives [11]. The authors’ results show that vocationally educated people present the greatest fear for their health and have the highest level of stress resulting from mass social isolation or quarantine. The inability to provide income for oneself and one’s family through a job loss is a major stress factor that can develop into a sense of worthlessness [12]. The above observation seems to be of particular importance in situations where interpersonal contact is necessary, and this form of contact is mainly found in professional industries. This correlation is manifested in the stress level of this particular educational group. Sex differences occurred in the perception of loneliness and anxiety, where in both cases women dominated. In addition to psychological consequences, the lack of professional activity runs the risk of economic collapse. The seriousness of the problem is underlined by the plans of the European Commission (EC) related to the reconstruction of the economy after the pandemic crisis — the EC wants to allocate as much as EUR 750 billion for this purpose. Although the consequences of COVID-19 seem to be global, the effects are also felt by individuals. In this study, the authors confirmed the relationship between the level of stress experienced in connection with the pandemic and the level of education. The highest level of stress resulting from mass social isolation or quarantine in connection with COVID-19 was declared by people with vocational and primary education, and therefore the most exposed to direct work with clients. The results of the study confirm the reports of the Alon study group (2020) that one of the criteria for better adaptation in the face of the crisis is the ability to perform professional duties remotely [13]. Given that work is such an important area, it does not seem strange that men with the primary or vocational level of education were those among all the respondents who consequently rated their current life the worst. Interestingly, according to The Wall Street Journal, the effects of SARS-CoV-2 are more severely felt by women, due to the specificity of their work, which is unique in the light of previous reports. Doepke and Tertilt (2016) noticed in their studies that it had been the female sex that had so far experienced less variability at work, and their working time was more stable [14]. The employment sector is one of the reasons. Work related to education or in the area of health care was assessed as less exposed to the consequences of a possible recession [15]. Paradoxically, in the current situation, these sectors turned out to be the most affected by the effects of the COVID-19 pandemic. It is worth adding that the authors’ research indicates gender as a factor moderating the fear for loved ones’ health. Women felt a higher level of anxiety for the safety of their families compared to men. There are several possibilities for explaining this phenomenon. Medical personnel tend to have higher education — in the authors’ study this level of education was dominated by women. Perhaps health care work, i.e. in an area directly related to the topic discussed, is associated with a higher awareness of the existing threat, which in turn translates into an increase in the level of anxiety. Unfortunately, in this case the
CONCLUSIONS

1. There is a relationship between education and attitudes of Poles in the face of the COVID-19 pandemic.

2. A higher level of education may be a predisposing factor for improved ability to cope with the crisis.

3. Higher education is associated with less activity during a pandemic, which may be associated with performing work of a mental nature, i.e., performing office work remotely.

4. People with vocational education are more exposed to the negative effects of a pandemic, as a result of the nature of their work.

5. A higher level of education in men safeguards life satisfaction and reduces the stress resulting from social isolation/quarantine in the face of COVID-19.

6. Women worry more about their health in the face of the COVID-19 pandemic. Gender is a moderating factor in fear for relatives’ health.

References:


