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Changing the Health Behaviour of Students During the COVID-19 Pandemic in Poland

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Abstract:

The COVID-19 pandemic has caused unprecedented changes in educational, professional, and leisure activities around the world. Protecting health against the virus has become the most important task in the social and individual dimension. The aim of the study was to diagnose changes in the behaviour and health beliefs of students. The WHO definition of health and the Health Belief Model (HBM) were adopted as the theoretical basis for defining variables. The study was of diagnostic and verification nature, and a quantitative strategy was used in it. The general population comprised students of Nicolaus Copernicus University in Torun. The study was conducted electronically in 2020, during the first lockdown in Poland. The Likert scale was used as a tool to assess the degree of change. The respondents declared the greatest changes in terms of caring about physical and relational health. The declared behavioural changes concerned the most conservative, trained forms of pro-health activity. Despite the declared beliefs about the importance of maintaining health and the personal risk of viral infection, the respondents declared undertaking more advanced pro-health activities only to a small extent.

Keywords: pandemic, health behaviours, health education, Health Belief Model, iGen.

Introduction

The pandemic resulted in an unprecedented limitation of the framework for educational, professional, and leisure activities worldwide. Additionally, as emphasized by Žižek (2020, p. 94), the pandemic caused a triple crisis, i.e. medical (the epidemic itself), economic (which may result in unpredictable consequences in the future), and psychological, in which the basic assumptions of everyday life of millions of people fell apart, from vacation plans to simple physical contact. At the same time, the awareness and feeling of a significant health hazard appeared in the public space. The drama was magnified by the unpredictability of the direction of changes of this threat. This situation also applied to the functioning of educational institutions, including universities, their employees and students. Universities were the first to radically change their functioning and they did so quite quickly from the very beginning of the pandemic. The organization of teaching work (distance education), research work (in many cases suspended), and everyday activities (helping children to work remotely, limited satisfaction of their needs) changed significantly. During the pandemic, people started spending more time in the home space, and thus the amount of free time increased as a result of the lack or limitation of direct contacts (the slogan: Stav home, lockdown, social distance). At the same time, the awareness of the health risk was intensified by the inconsistency of the messages appearing in the media and by the increase in research on the serious consequences of the virus postponed in time. We all found ourselves in an extreme, borderline situation, as Karl Jaspers would say, when we experience our limitations, the inevitability of certain negative events, and their consequences. But it is also in borderline situations that we stand a chance of discovering, creating ourselves, and using our hidden powers. The stress experienced in the situation of "going to the wall" gives us enormous energy that can be used to change one's being and behaviour. The values and attitudes that the individual used to be affected by suddenly needed to be redefined and amended in borderline situations. It is then when questions about new foundations that give orientation to life arise. Jaspers points that out, saying: "the initial awareness of the world and my activity already leads me to the following judgement: there should be something different from what there is. I should be doing something different from what I was doing" (Jaspers, 1999, p. 466). This is owing to the fact that the experience of fear in a borderline situation causes a person to withdraw from the empirical being, beyond external identifications, and to rely on himself or herself, on his or her inner self (Potepa, 2003, p. 405).

Hence, in a borderline situation, the ability increases to deal reflectively with reality. It seems logical that a pandemic as a borderline situation, the main narrative of which is a threat to health and life, may result in changes in health behaviour. How people are able to intentionally change their behaviour when pressures for change arise (when, for example, the individual becomes aware of the risk of a disease, disability, dysfunction, conflict) is demonstrated, for example, by the Transtheoretical Model of Change (TMC) (Prochaska & Di-Clemente, 2008). This model generally describes how thinking (contemplating) about change can occur and how behaviour change can become permanent (sustaining). In his latest book under the title of "The COVID-19 pandemic shakes the world", S. Ziżek also hopes "[...] that one of the unintended consequences of coronavirus quarantines in cities around the world will be the fact that some people will at least use their time, freed from everyday hectic activity, and think about (non)sense" (Žižek, 2020, p. 63).

Changing health behaviours as a theoretical context of the study

Health is defined by the WHO as a state of complete physical, mental, and social well-being/welfare, and is not just about the lack of ill-health, i.e. a lack of an objectively existing illness or disability. According to this approach, building health consists in neutralizing possible threats, ecological, biological, physical, so as to protect against diseases and injuries that may result in disability. Building health also involves the implementation of a positive programme, i.e. constant care for physical, mental, and social well-being. In this study, the positive approach to the health category was used as the theoretical basis. A classification of health behaviours focusing on the behaviours aimed at physical, mental, and social (in other words, relational) health was adopted. This typology was used to define detailed problems and to determine variables. Health behaviours are broadly understood after H. Sęk as: "reactive, habitual and/or deliberate forms of human activity that remain – on the basis of objective knowledge about health and subjective belief – in a significant mutual relationship with health" (Sęk, 2000, p. 539).

Changes in health behaviours may be the result of various factors acting on a continuous basis, or they may be related to accidental events. One of the models in health psychology, verified in numerous studies, which explains the appearance of the intention to change health behaviour, is the Health Belief Model. It focuses on two aspects of personal health representations, i.e. risk perception and behaviour assessment. Risk perception has been interpreted as two

key beliefs, i.e. perceived vulnerability to threats (diseases or health problems) and anticipated consequences of a threat (diseases). Behavioural assessment also consisted of two distinct sets of beliefs, i.e. about the benefits or effectiveness of a prescribed health behaviour, and about the costs or barriers related to keeping to it. In later versions of the model, the general health motivation of the person was taken into account. In addition, this model takes into account the factors influencing the variables listed above. These include demographic (social background, gender, age etc.) and psychological (e.g. personality, group influence, etc.) variables. The intention to change itself can be modified by the socalled cues to action (e.g. advertising campaigns) (Abraham & Sheeran, 2015).

For the purposes of this study, five central factors of changing behavioural intent were selected, i.e. perceived vulnerability (or susceptibility) to threat, perceived severity of threat, health motivation, perceived benefits, and perceived barriers

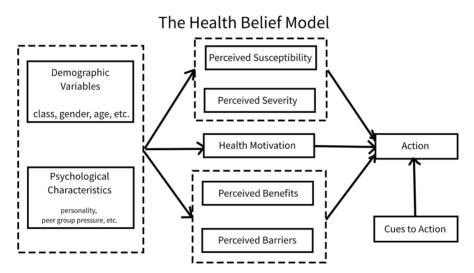


Fig. 1. Health Belief Model

Source: https://en.wikipedia.org/wiki/Health_belief_model#/media/File:%E6%96%B0%E5%BB%BA%E9%A1%B9%E7%9B% AE.jpg, last access: November 18, 2020)

license: https://commons.wikimedia.org/wiki/user:Fanwang0912 Wikimedia username: Fanwang0912 author name string: Fanwang0912.

Method

The aim of research results presented here (they are part of a larger research project) was to diagnose changes in health behaviours and factors conditioning their change (HBM model) in the situation of the COVID-19 pandemic. The applicational objective of the research was equally important to us, and consisted in gaining knowledge about changing health behaviours, which will be used to develop programmes to promote health activity for students during and after the pandemic. For the purpose of this part of the research, three categories of health-related behaviours were adopted: a) body-related behaviours to build physical well-being; b) behaviour related to the mind to build mental well-being; c) relational behaviours to build social well-being. Additionally, a diagnosis was made of five central factors of change in behaviour intentions: perceived vulnerability to threat, perceived severity of threat, health motivation, perceived benefits, perceived barriers. In the course of this part of the research, answers to the following research questions were sought:

- 1. In the event of an epidemic threat, to what extent, was there a change in the health behaviour of students in terms of taking care of: a) physical health, b) mental health, c) relational health?
- 2. Was there and if so to what extent, a change in the situation of an epidemic threat in terms of: a) perceived vulnerability to threat, b) perceived severity of threat, c) health motivation, d) perceived benefits of actions, e) perceived barriers to actions?

The research was planned in a quantitative strategy. It was of a diagnostic and verification nature. The description of the data collection methods was at the same time the description of the operationalization procedure. All variables were measured using an original survey based on theoretical findings regarding the described research perspectives. The general population consisted of students of Nicolaus Copernicus University in Torun, Poland (for epidemic, organizational, and applicational reasons – preparation of health activity promotion programmes for students of those years of study who were forced to take part in physical education classes remotely). 569 responses were obtained, which constituted about 2.5% of the general population surveyed. Among the respondents, there were 76.4% women and 23.6% men, 70% of whom lived in cities (Tab. 1). The research was conducted electronically from April to the end of May 2020, during the lockdown and the subsequent easing of restrictions.

Table 1. Respondents by gender

	Frequency	Percentage
Female	435	76.4
Male	134	23.6
Total	569	100.0

Source: Authors' study.

Table 2. Respondents by place of residence

	Frequency	Percentage
Provinces	67	11.8
District	145	25.5
Municipality	182	32.0
Village	175	30.8
Total	569	100.0

Source: Authors' study.

The vast majority of the respondents were women. Every third respondent represented metropolitan and rural environments.

Table 3. Respondents by health self-assessment

	Frequency	Percentage
Very poor	1	.2
Poor	26	4.6
Quite good	136	23.9
Good	259	45.5
Very good	147	25.8
Total	569	100.0

Source: Authors' study.

Students positively assessed their health. Every fourth respondent self-assessed his or her health condition as very good.

Results

Changes in the care about physical well-being

Table 4. During the epidemic, I care more about my diet and the quality of the food I eat

	Frequency	Percentage
I strongly disagree	51	9.0
I rather disagree	172	30.2
I rather agree	241	42.4
I definitely agree	105	18.5
Total	569	100.0

Source: Authors' study.

The results in the table 4 show that the subjects in general changed their eating habits, or at least tried to do so. However, there is a large group of subjects (over 39%) who did not make any changes and did not start to take more care of themselves in this regard.

Table 5. During the epidemic, I care about maintaining my physical condition

	Frequency	Percentage
I strongly disagree	37	6.5
I rather disagree	146	25.7
I rather agree	220	38.7
I definitely agree	166	29.2
Total	569	100.0

Source: Authors' study.

Most of the respondents indicated to take care of their physical condition to a greater extent. However, more than 30% did not make any changes in this regard during the pandemic (Tab. 5).

Table 6. During the epidemic, I try to be outdoors every day

	Frequency	Percentage
I strongly disagree	70	12.3
I rather disagree	149	26.2
I rather agree	185	32.5
I definitely agree	165	29.0
Total	569	100.0

Most of the students tried to stay outdoors. However, it is worrying that nearly 40% did not feel the need to be outdoors every day (Tab. 6).

Table 7. During the epidemic, I take care of hygiene to a greater extent (I wash my hands and the products I buy more often)

	Frequency	Percentage
I strongly disagree	2	.4
I rather disagree	34	6.0
I rather agree	151	26.5
I definitely agree	382	67.1
Total	569	100.0

Source: Authors' study.

There was a significant change in hygienic behaviour. Over 90% of students tried to wash their hands more often than before the pandemic (Tab. 7).

Table 8. During the epidemic, I care more about observing general safety rules in public space

	Frequency	Percentage
I strongly disagree	5	.9
I rather disagree	17	3.0
I rather agree	139	24.4
I definitely agree	408	71.7
Total	569	100.0

Source: Authors' study.

The principle of social distancing started to apply to students. Almost 90% of the subjects adhered to it (Tab. 8).

Changes in care about mental well-being

Table 9. During the epidemic, I spend more time reading books

	Frequency	Percentage
I strongly disagree	100	17.6
I rather disagree	188	33.0
I rather agree	185	32.5
I definitely agree	96	16.9
Total	569	100.0

Half of the subjects devoted themselves to reading books to a greater extent, while for half of them it was not important (Tab. 9).

Table 10. During the epidemic, I seek mental health and stress management advice to a greater extent

	Frequency	Percentage
I strongly disagree	222	39.0
I rather disagree	204	35.9
I rather agree	92	16.2
I definitely agree	51	9.0
Total	569	100.0

Source: Authors' study.

The research results show that the subjects did feel the need to seek external help in the field of mental health (Tab. 10).

Table 11. During the epidemic, I devote myself more to intellectual activity

	Frequency	Percentage
I strongly disagree	23	4.0
I rather disagree	122	21.4
I rather agree	258	45.3
I definitely agree	166	29.2
Total	569	100.0

Source: Authors' study.

The surveyed students declared greater interest in their intellectual development (approx. 75%) in connection with the pandemic (Tab. 11).

Table 12. During the epidemic, I am more devoted to exploring the Internet in terms of my own interests (music, films, concerts, etc.)

	Frequency	Percentage
I strongly disagree	18	3.2
I rather disagree	79	13.9
I rather agree	191	33.6
I definitely agree	281	49.4
Total	569	100.0

Because of the pandemic, students looked for entertainment and information online to a greater extent (83%) (Tab. 12).

Table 13. During the epidemic, I try to be cheerful and in a good mood to a greater extent

	Frequency	Percentage
I strongly disagree	32	5.6
I rather disagree	142	25.0
I rather agree	250	43.9
I definitely agree	145	25.5
Total	569	100.0

Source: Authors' study.

Students tried to keep their good mood to a greater extent (approx. 70%), while others did not declare any activity in this respect (Tab. 13).

Changes in taking care of social well-being

Table 14. During the epidemic, I spend more time deepening my family relationships

	Frequency	Percentage
I strongly disagree	53	9.3
I rather disagree	146	25.7
I rather agreeed	229	40.2
I definitely agree	141	24.8
Total	569	100.0

Source: Authors' study.

Most students deepened their relationships with their nearest and dearest. Every fourth subject did not feel the need to change their behaviour during this period (Tab. 14).

Table 15. During the epidemic, I spend more time with my friends (Internet, chats, social networks)

	Frequency	Percentage
I strongly disagree	46	8.1
I rather disagree	178	31.3
I rather agree	203	35.7
I definitely agree	142	25.0
Total	569	100.0

Over 70% of the subjects devoted themselves to relationships with friends to a greater extent (Tab. 15).

Table 16. During the epidemic, I make new friends or renew acquaintances to a greater extent

	Frequency	Percentage
I strongly disagree	165	29.0
I rather disagree	233	40.9
I rather agree	122	21.4
I definitely agree	49	8.6
Total	569	100.0

Source: Authors' study.

However, over 70% of the subjects did not spend their time establishing new relationships. Only 30% tried to do so to a greater extent (Tab. 16).

Table 17. During the epidemic, for my own safety and that of others, I do not meet my friends and acquaintances directly

	Frequency	Percentage
I strongly disagree	33	5.8
I rather disagree	110	19.3
I rather agree	165	29.0
I definitely agree	261	45.9
Total	569	100.0

Source: Authors' study.

During the pandemic, over 70% of the subjects limited their direct contacts with friends even more (Tab. 17).

Table 18. During the epidemic, I try to support my fellow students and/or colleagues at work to a greater extent

	Frequency	Percentage
I strongly disagree	30	5.3
I rather disagree	147	25.8
I rather agree	276	48.5
I definitely agree	116	20.4
Total	569	100.0

Almost 70% of the subjects tried to support their acquaintances to a greater extent during the pandemic (Tab. 18).

Table 19. Cumulative results - descriptive statistics

Descriptive statistics	Change in the field of caring about physical well-being — total	Change in the field of caring about mental well- -being — total	Change in the field of caring about social well- -being — total
N	569	569	569
Mean	15.66	13.62	13.67
Median	16.00	14.00	13.00
Dominant	17	13	13
Minimum	10	5	5
Maximum	20	20	20

Source: Authors' study.

The research results show that the largest reserves are in the field of taking care of mental well-being during the pandemic. Most changes were made in the field of taking care of physical and social health (Tab. 19).

Results for the HBM model

Table 20. Assessment of the severity of threat

	Frequency	Percentage
I strongly disagree	32	5.6
I rather disagree	64	11.2
I rather agree	243	42.7
I definitely agree	230	40.4
Total	569	100.0

Source: Authors' study.

Over 83% of the subjects perceived the situation of the epidemic as a threat (Tab. 20).

Table 21. Assessment of personal vulnerability

	Frequency	Percentage
I strongly disagree	74	13.0
I rather disagree	202	35.5
I rather agree	193	33.9
I definitely agree	100	17.6
Total	569	100.0

Source: Authors' study.

Half of the students felt threatened by the epidemic (Tab. 21).

Table 22. Benefits of pro-health activities

	Frequency	Percentage
I strongly disagree	1	.2
I rather disagree	24	4.2
I rather agree	230	40.4
I definitely agree	314	55.2
Total	569	100.0

Source: Authors' study.

Almost all students felt the need for and sense of preventive health care (Tab. 22).

Table 23. Barriers to pro-health activities

	Frequency	Percentage
I strongly disagree	165	29.0
I rather disagree	268	47.1
I rather agree	97	17.0
I definitely agree	39	6.9
Total	569	100.0

Source: Authors' study.

Approximately 75% of the subjects disagreed with the statement that taking care of health requires too much effort and sacrifice (Tab. 23).

Table 24. Assessment of motivation to pro-health activities

	Frequency	Percentage
I strongly disagree	7	1.2
I rather disagree	64	11.2
I rather agree	252	44.3
I definitely agree	246	43.2
Total	569	100.0

Source: Authors' study.

The vast majority of the subjects treated health as a value and were motivated to take care of it (Tab. 24).

Interpretation

The research results show that students generally positively assessed their health condition. At the same time, they indicate a change in the students' beha-

viour during the pandemic. The greatest changes are noticeable in taking care of social and physical well-being. Against this background, concern for mental well-being has come out to be worse. Almost 40% of students did not change their eating habits or those related to taking care of their physical condition. At the same time, over 90% of the subjects changed their hygienic habits and maintained social distance. The research shows that the time when the pandemic started and lockdown was imposed on people was a period of increased penetration of the Internet for students in terms of pursuing their interests and passions, as well as their intellectual activity. However, they devoted time to reading books to a lesser extent (but still 50% of the subjects declared an increase in the amount of their leisure reading time). This may suggest that their cognitive activity was related more to learning the material of their studies rather than to reading "extra-compulsory" texts, for example belles-lettres. Generally, the subjects did not look for information on coping with stress.

The research clearly indicates that changes in the field of concern for social well-being are very visible. Most of the subjects (approx. 70%) deepened their relationships with their family and acquaintances. At the same time, they did not look for new relationships, and limited direct contacts with them.

When analysing health beliefs according to the HBM model, it can be concluded that the surveyed students felt threatened by the epidemic. Half of them believed they may be vulnerable to this threat. This is surprising because they rated their health condition very highly. They also believed that taking health measures is cost-effective in terms of the balance of benefits and obstacles. They were motivated to stay healthy in the long run.

The obtained research results confirm that at the time of an epidemic threat, as in any stressful situation, general mobilization in respect of activities that, according to the beliefs of individuals, health and life depend on (hygiene, diet, support of relatives) may occur. In such a situation, a person turns, as if instinctively, to the most basic behaviours that condition survival. The subjects made a big change in taking care of their health in terms of the simplest and necessary behaviours, i.e. taking care of hygiene, keeping distance, entertainment, learning (learning is a necessity for students), maintaining contact with the nearest and dearest, and not with a wider group (the latter could be the effect of forced isolation). This could indicate that the epidemic did not affect the correction and formation of health behaviours much, i.e. it did not fulfil an educational function, but only caused turning to the most basic activities that were trained in the process of socialization of activities conditioning survival. This is perhaps all the more puzzling because, at the same time, the subjects declared their motiva-

tion to take care of their own health, felt threatened by COVID-19, and saw the profitability of taking care of their health. Perhaps this "omission error" is the result of the iGen generation's pragmatic approach to life problems, for whom "here and now" solutions matter (Twenge, 2019, pp. 204, 224). Perhaps it is also associated with "trained passivity", reluctance to go beyond the standards of young people (Twenge, 2019, p. 188).

Jean M. Twenge, on the basis of his research, states that concern for safety and health characterizes the surveyed generation. At the same time, he states that the Internet generation are less able to cope with mental problems. Hence, the students we surveyed did not expand their contacts by making new friends during the pandemic, but mainly strengthened their relations with family and friends. They were also not bothered by their parents' overprotectiveness, so they were less likely to engage in risky behaviours than previous generations. They were less likely to enter into direct relationships with their peers. Therefore, based on our research, it can be concluded that during the pandemic they seemed unlikely to feel the isolation resulting from the lack of direct social contact to the same extent as Millennials, or the X, or Y generations. The iGen generation is on the brink of the most serious mental health crisis in decades, although it is not externally visible (Twenge, 2019, p. 107). IGens seek safe physical spaces (they can try for them in the easiest way), and/but they cope worse with social spaces where they can be emotionally harmed. They look for safe space just like that at home. This is also shown by the research results obtained by us.

However, young people going onto the streets in connection with the protests against the abortion ban and the inventiveness of young people during the protests may indicate something completely different. When young people feel that someone is attempting to limit, in their opinion, the rights most important for them, i.e. those related to their physicality and... using the Internet (protests against ACTA regulations in 2012), they do not hesitate to get out of their "safety bubble".

In summary, students are generally conservative in taking care of their health. They feel the threat, but it is not a significant impulse for a change. Bearing in mind the results of the research, it is worth taking educational measures to intensify changes in the health behaviour of students.

The obtained study results made it possible for us to achieve the application objective of the research. The Centre for Personal Support and Development, established during the pandemic, is conducting further in-depth research under our leadership regarding the well-being of students. On the basis of the research results, an educational programme is being created that is tailored to the needs of students and employees. Here are some examples of activities in this area: workshops on stress (on how to deal with stress in difficult and new situations, learning about relaxation methods, and autogenic training; a series of meetings – "Move your body" (an action aimed at encouraging engagement in physical activity and taking care of oneself); promoting publications on mental health and personal development, launching more free psychological and psychiatric counselling.

Modifications resulting from the obtained research results have also been introduced into the teaching content of subjects in various fields of study (e.g. health pedagogy, basics of health training) and to compulsory physical education for all students (about 2,000 students were covered by it).

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