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Beata Przyborowska

Nicolaus Copernicus University in Toruń, Poland
e-mail: bprzybor@umk.pl
ORCID: https://orcid.org/0000-0003-3418-3709

Piotr Błajet

Nicolaus Copernicus University in Toruń, Poland
e-mail: pblajet@umk.pl
ORCID: https://orcid.org/0000-0001-8101-0494

School Principals' Perception of Changes in Their Health Behaviours During the Syndemic

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Abstract

The article examines changes in the health behaviours of school principals in a syndemic situation, the synergy phenomenon of the global health crises, such as COVID-19, obesity, depression, and others. The authors study, how the syndemic affects changes in the care of school principals for their own physical, mental, and social health. These changes have been correlated with Health Belief Model (HBM) factors and health self-esteem. The research conducted in the group of 700 headmasters from the Kujawsko-Pomorskie Voivodeship in Poland shows that changes in their health behaviours are diverse. Most of the respondents care more about hygiene, diet, and their physical condition. Passive changes, such as avoiding stimulants, prevail over changes creating new forms of activity. What is also noticeable is improvement in taking care of their mental health, especially maintaining a good mood. Although the analysis indicates that health motivation is high, it does not remove many barriers to maintaining health. However, no significant correlations have been found between the factors of the Health Belief Model and changes in health behaviours.

Keywords: syndemic, health behaviours, school principals, Health Belief Model (HBM).

Introduction

At present, we are dealing with an unprecedented situation in the world referred to as a syndemic – an epidemic synergy (Singer, 1996). This synergy lies in the fact that COVID-19, which has been "settled" for a longer period, is linked to other global issues (obesity, internetaholism, hypokinesia, depression, to mention but a few), mutually reinforcing each other and affecting the overall health of the population around the world. What is added to it is the sense of uncertainty and anxiety that has been growing since the pandemic (Gambin, 2021), which has also resulted from the war taking place right across the border, and the new threat posed by the conflict in the Middle East. Thus, we have undoubtedly found ourselves in an extreme situation – the borderline**.** It is in the situation of a syndemic that we particularly experience our limitations, the inevitability of certain pejorative events and their effects. However, despite negative experiences, in borderline situations, we have a chance to reach for our resources and hidden development potential as well. We can activate energy necessary for changing our functioning. The existing values and attitudes that the individual has adopted, frequently require redefinition and change in borderline situations. Then questions arise about the new foundations that provide life with orientation. Jaspers points this out, stating as follows: "My initial awareness of the world and my activity leads me to the judgment: there should be something divergent than what it is. I should do something different from what I have been doing" (Jaspers, 1999, p. 466).

In crisis situations, the leading role of people managing human teams, creating visions of change, motivating, and supporting in their implementation grows. In educational institutions, such leaders are headmasters. Moreover, they are responsible for the educational process in the units they manage, and for the well-being of the members of the school community. As Madalińska emphasises in her works: "The research into the school leadership shows that the changing and frequently unpredictable environment of the school forces all its members – not only the headmasters as people occupying the most essential position in the school – to cope with the uncertainty generated by this environment" (2012, p. 126). School principals as leaders play a key role in creating and promoting conditions conducive to changing behaviours at

school (Przyborowska, 1996; Fullan, 2006). They are in the middle of the relation between teachers and external ideas and people (Fullan, 2006, p. 162). They are obliged to take care of the well-being of the school community through health education, which is implemented at all educational stages and included in the core curriculum.

A change in the behaviours of principals appears to be the main modification that leaders should introduce in challenging situations, and the syndemic is undoubtedly one of them. Although a change is usually difficult and it always requires effort, it is necessary for the leaders, if they intend to introduce changes in the very environment and others. Even a small transformation in a leader can trigger a cascading change in others: inspired by a role model, they will start to take and imitate similar actions. By being a role model for others, only can they model their behaviours, but also inspire them to self-development. The self-control of the Headmaster's own behaviour contributes to increasing the ability to control the situation of change in the environment, which, in turn, boosts the effectiveness of the intended interactions. In conclusion, changing the health behaviour of the person responsible for the whole community and institution can contribute to creating a more friendly and sustainable environment, conducive to the well-being of the school community.

Determinants of changes in health behaviours

The World Health Organization (WHO) defines health as a state of complete physical, mental, and social well-being, not just the absence of a disease, or dysfunction. This definition of health was adopted by the WHO in 1948 and it is widely accepted around the world. The key aspects of this definition are as follows:

1. Physical well-being: it embraces the physical health of the body, including the ability to carry out daily activities without much difficulty, and the absence of diseases, or medical conditions.
2. Mental well-being: it embraces an individual's mental health, including the ability to cope with stress, maintain emotional balance, and the ability to make decisions.

3. Social well-being: it embraces the aspects of social life, such as interpersonal relationships, social inclusion, participation in the society and social support (Bircher, 2005).

The WHO definition of health emphasises that health is not only the absence of diseases, but it is a state of full physical, mental, and social well-being. It is a holistic approach that takes into account the whole person and their social context. Health behaviours in accordance with this concept include taking care of the following states:

1. physical, for example, diet, physical activity, avoiding stimulants, body hygiene, contact with the nature;
2. mental, for example, relaxation, stress neutralisation, learning, pursuing interests, maintaining a cheerful mood;
3. social, for example, family and professional relationships, maintaining acquaintances, supporting others.

Human development covers numerous areas of the human functioning. By introducing changes to them, we have impact on our own harmonious development and health. Particularly crucial are actions in the field of changing health behaviours, which affect all areas of our lives. There are plenty of various concepts regarding the determinants of health behaviour modification (Błajet & Przyborowska, 2021). They define the key factors increasing the chances of a lasting, positive change. These concepts can be of the general nature, such as those related to the role of social communication, social support, and psychotherapy, or treating the issues in more detail. This detailed approach is presented in the Health Belief Model (Rosenstock, 1974). Although this model is sometimes criticised for its excessive focus on individual beliefs, ignoring social, cultural, or environmental factors, the use of the HBM model in health education is broad and it refers to several health behaviours, such as taking vaccines, performing preventive examinations, dietary changes, quitting smoking, or utilising contraceptives.

The HBM model is generally simple and intuitive, making it easy to use in a variety of health contexts (Donadiki et al., 2014). It focuses on two aspects of personal representations in health, that is threat perception and behavioural assessment. Threat perception has been interpreted as two key beliefs: the perceived vulnerability (diseases or health problems) and the anticipated consequences of hazard (diseases) What is more, behavioural as-

sessment consists of two distinct sets of beliefs: those about the benefits, or effectiveness of the undertaken health behaviour, and the barriers associated with the adoption of health behaviours. In later versions of the model, the person's overall health motivation was taken into account. In addition, the model takes into account demographic variables (social background, gender, age, etc.), and psychological variables (e.g. personality, group influence, etc.) as factors influencing the aforementioned variables. The intention of change itself can be modified by the so-called signals – triggers that directly lead to an action (*cues to action*). A syndemic may have been such a trigger in our research.

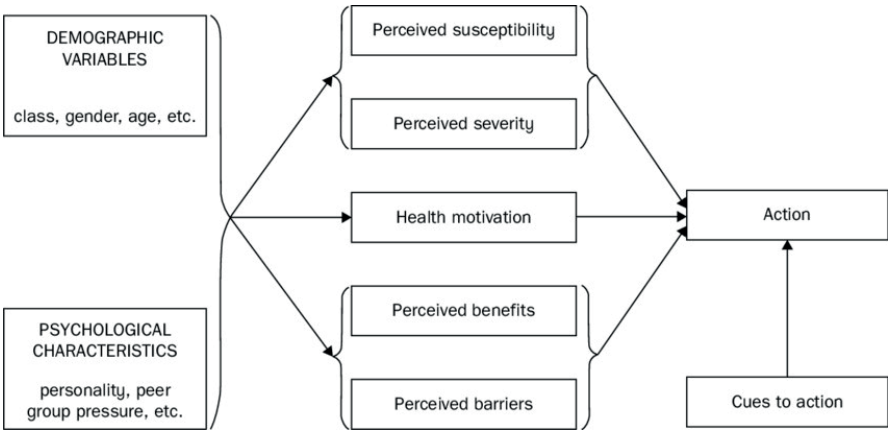

Figure 1. Health Belief Model

Source: https://www.researchgate.net/publication/290193215_The_Health_Belief_Modelhttps://www.researchgate.net/publication/290193215_The_Health_Belief_Model.

Method

The presented studies were carried out with a quantitative strategy, in a correlational scheme, as practical and diagnostic studies. Their aim was to diagnose and assess the dynamics of changes noticed by school principals in themselves in the field of health-promoting behaviours of the syndemic.

For the purpose of the study, three categories of health behaviours were adopted, following the WHO: a) behaviours aimed at building physical well-being; b) behaviours aimed at building mental well-being; c) behaviours aimed at building social well-being. In addition, on the basis of the selected Health Belief Model (see the Figure 1 above), five central determinants of health behaviour were diagnosed: the perceived vulnerability to threats in terms of physical, mental, and social health, the perceived seriousness of the threat, health motivation, the perceived benefits of maintaining health, the perceived barriers to maintaining health. The respondents were also asked about their subjective assessment of their own health on a 5-point scale.

The answers to the following main research questions were sought in the course of the research:

1. To what extent has the health behaviour of school principals changed in terms of a) physical, b) mental, c) relational healthcare due to the threat of a syndemic?
2. To what extent due to the threat of a syndemic has there been a change in the following areas: a) the perceived vulnerability, b) the perceived seriousness of the threat, c) health motivation, d) the perceived benefits of health-promoting activities, e) the perceived barriers to health-promoting activities?
3. What is the correlation between a change in health behaviour of headmasters and the factors determining a change, according to the HBM model?

In order to answer the questions stated above, the diagnostic tests were carried out with the use of a quantitative strategy. All variables were measured with the author's rating scale, based on theoretical findings related to phenomena, derived from the HBM model. The general population consisted of headmasters of schools at all levels of education. For demographic and organisational reasons, the research group consisted of principals of schools in the Kujawsko-Pomorskie Voivodeship in Poland. There are 1126 schools in this province, including 708 primary schools, 143 1st level vocational schools, 137 technical colleges, and 138 high schools. The demographic structure of this voivodeship is very similar to the one of the country. Thanks to the help and commitment of the School Superintendent, a measurement tool was sent by e-mail to all school principals. The research lasted from February to

April 2023. A total of 700 headmasters from all levels of education responded, which accounted for 62% of the surveyed general population.

Results

Changes in health behaviours

In the course of the conducted research, the results related to changes in health behaviours in the field of care for physical, mental, and relational health were obtained. The obtained outcomes are included in Tables 1–3.

Table 1. Change in health behaviours in terms of physical healthcare

Variable	Statements scale	I completely agree (%)	I rather agree (%)	I somewhat disagree (%)	I completely disagree (%)
Physical health	1. At the moment, I am taking more care of my diet and the quality of the food I eat	33	52	11	4
	2. At the moment, I am taking more care of maintaining physical condition	24	51	21	4
	3. At the moment, I am trying to spend more time in the natural surroundings (parks, forests, meadows)	35	45	15	5
	4. At the moment, I am taking more care of hygiene (I wash my hands and products more frequently)	61	29	7	4
	5. At the moment, I am trying to limit the use of stimulants (alcohol, cigarettes, others) that are potentially threatening to health	46	38	10	5

Source: Own research.

The results of the research included in Table 1 indicate that the vast majority of the respondents (84% – the values of the categories I completely agree and rather agree have been combined here and below) are trying to use

less stimulants (94%), taking more care of hygiene (85%), taking more care of a diet, (75%) taking more care of physical condition (80%) as a result of the syndemic than before, and they are trying to spend more time in contact with the nature.

Taking care of one's diet, fitness, and spending time in the nature requires undertaking an essential activity, such as planning and implementation, while maintaining hygiene is associated with a routine, and reducing the use of stimulants requires avoidance – routine and avoidance are passive behaviours. Therefore, the results indicate that a slight change in health behaviours – physical – passive over active ones – prevails among headmasters.

Table 2. Change in health behaviours in terms of mental healthcare

Variable	Statements scale	I completely agree (%)	I rather agree (%)	I somewhat disagree (%)	I completely disagree (%)
Mental health	6. At the moment, I am more devoted to reading books or watching movies	24	49	22	6
	7. At the moment, I am looking for more advice on mental health and coping with stress	18	42	28	13
	8. At the moment, I am more devoted to further and self-education	24	54	19	3
	9. At the moment, I am more devoted to exploring the Internet in terms of my own interests and hobbies	17	48	28	7
	10. At the moment, I am trying to maintain my cheerfulness and good mood to a greater extent	37	49	12	2

Source: Own research.

Among education leaders, by far the biggest change has occurred in the area of "internal" activity, which is trying to maintain cheerfulness and good mood (86%). To a lesser extent, there has been a change in self- and further education (76%), reading books, watching films (72%), pursuing interests,

hobbies (65%), seeking for mental health advice (69%). The research indicates that a change in routine behaviours for the sake of internal stability and peace of mind slightly outweighs changes in seeking activities focused on the unknown spheres.

Table 3. Change in health behaviours in terms of social healthcare

Variable	Statements scale	I completely agree (%)	I would rather agree (%)	I somewhat disagree (%)	I completely disagree (%)
Relational health	11. At the moment, I am more devoted to deepening relations with my family and friends	35	48	15	2
	12. At the moment I am making or renewing acquaintances to a greater extent	9	43	41	7
	13. At the moment, I am trying to prevent excessive tension and minimise stress in my relationships with others	34	55	9	2
	14. At the moment, I am trying to support my work colleagues and co-workers to a greater extent	52	43	4	1
	15. At the moment, I am trying to balance my professional and family responsibilities to a greater extent	31	55	12	3

Source: Own research.

The change in social behaviour is highly significant, ranging from 52% in terms of making new friends to 83–95% in other aspects of relational health. The size of changes in relational health behaviours is significantly higher, compared to changes in physical and mental health behaviours. The value of 52% – the lowest one – concerns a change in the creation of new relationships, which may suggest that the respondents have been more focused on routine activities and maintaining the *status quo* than going beyond familiar situations.

Determinants of changes in the health behaviour of school principals

Changes in health behaviour have also been analysed in the context of the use of the Health Belief Model and health self-assessment. Therefore, Pearson correlation coefficients were calculated for both the relation between changes in health behaviours: physical, mental, and social ones, and the relation between these changes and the factors of the Health Belief Model, as well as the self-assessment parameters of the respondents' health. The results are presented in the Tables below.

Table 4. Assessment of the determinants of changes in health behaviours (Health Belief Model)

Determinants of change in health behaviours		Positive marks (%)
Health Belief Model	Perceived physical health vulnerability	50
	Perceived mental health vulnerability	51
	Perceived social health vulnerability	30
	Perceived severity of the threat	75
	Perceived benefits of maintaining health	97
	Perceived barriers to maintaining health	68
	Health motivation	95

Note: Summed up (in %) positive answers (I completely agree, I agree).

Source: Own research.

According to the surveyed education leaders, the objective threat to health is strong, but to a lesser extent, they feel threatened subjectively. This may be related to the high assessment of their own health: 94% of the respondents gave a good or higher rating (the detailed results on self-assessment can be found below). They highly agree that it is worth taking care of health, but at the same time, 68% of the respondents believe that building health requires plenty of effort. By contrast, 95% of the respondents have high health motivation.

In terms of the self-assessment of health, over 90% of the respondents assessed their health positively (very good level – 17%, fairly good – 30%,

good – 47%). Only 6% of the respondents rated their health negatively – as poor, or very poor. The results of this self-assessment of health are largely in line with the outcomes obtained in other surveys from 2024, in which more than 90% of the surveyed Poles describe their health status as moderate to very good (Politykazdrowotna.com).

Table 5. Correlations of changes in physical, mental, and social health behaviours, as well as correlations of these changes with the factors of the Health Belief Model and the self-assessment parameters of the respondents' health

	1	2	3	4	5	6	7	8
1. Change in physical health behaviours	–							
2. Change in mental health behaviours	0.48	–						
3. Change in social health behaviours	0.58	0.52	–					
4. Perceived vulnerability to a health threat	n.s.	0.19	n.s.	–				
5. Perceived severity of a threat	0.19	0.27	0.18	0.59	–			
6. Perceived barriers to maintaining health	n.s.	n.s.	n.s.	0.36	0.30	–		
7. Perceived benefits of maintaining health	0.28	0.21	0.31	n.s.	0.23	0.19	–	
8. Health motivation	0.42	0.26	0.40	n.s.	0.19	n.s.	0.39	–
9. Self-assessment of health	0.21	n.s.	0.20	−0.36	−0.23	−0.28	n.s.	n.s.

Note: The values of the perceived physical, mental, and social vulnerability to health threats have been converted to one, overall value of the perceived vulnerability to health threats (see point 4 in the Table).

Symbols: n.s. – not statistically significant, other correlation coefficients are significant at the level of $p < 0.05$.

Source: Own research.

No strong correlations were found between the factors of the Health Belief Model and changes in health behaviours. Only a weak, or moderate correlation was noted for the relation between the studied changes and the perceived benefits of maintaining health and health motivation. In addition, a moderate correlation was found between the change in the following terms:

- physical and mental health behaviours: $r = 0.48$,
- physical and relational health behaviours: $r = 0.58$,
- mental and relational health behaviours: $r = 0.52$.

This may indicate that the surveyed education leaders' attitude towards their own health is generalised, i.e. efforts conducive to health in one aspect are usually accompanied by actions in other aspects of health.

A moderate correlation was found between the perceived barriers to health maintenance and the perceived vulnerability to health threats: $r = 0.36$ and the perceived threat severity: $r = 0.30$. There is also a similar correlation between the perceived vulnerability to a health threat and its perceived severity: $r = 0.59$. This may be related to the general principle, according to which the perception of the difficulty of actions results, among others, from the perception of one's own abilities and the scale of the challenge. Furthermore, this explanation may be indicated by a negative (however weak) correlation between the perceived barriers to change in health behaviours and health self-assessment: $r = -0.28$, the perceived vulnerability to health threats and health self-assessment $r = -0.36$, and the perceived threat severity and health self-assessment: $r = -0.23$.

In addition, what is noteworthy is a moderate correlation between health-promoting motivation and the perceived benefits of maintaining health: $r = 0.39$. It is difficult to argue unequivocally, whether this state (a stronger correlation could be expected) may be related to the lack of correlation between health self-assessment and pro-health motivation. Both of these values require further analysis, as Gadamer strongly emphasised the fact that thinking about health intensifies adequately to the perception of one's own health problems (Gadamer 2011, p. 134). In our research, this effect – as in Gadamer's case – appeared in the relation between the perceived severity of a health threat and the activation of thinking about health ($r = 0.23$), as well as between the perception of the benefits of maintaining health and pro-health motivation ($r = 0.19$). Nevertheless, these correlations are weak.

Discussion

The surveyed school principals have introduced positive changes in terms of healthcare due to experiencing the syndemic. In particular, there have been significant changes in social health activities. It may come as a surprise that no vital correlations have been found between the factors of the Health Belief Model and changes in health behaviours. It means that the Model in question

does not explain changes in health behaviours. This may be due to the fact that this Model (HBM) ignores environmental determinants of health behaviour change and it only considers personal variables.

What is more, it is noteworthy that greater changes have occurred in routine and passive behaviours than in search activities. Routine behaviours aim at reducing tension associated with homeostatic disruption and feeling relief. According to Józef Kozielecki's concept of transgression, they are part of protective action strategies that are related to daily and routine activities keeping an organism in balance (e.g. health, safety). They are based on cause-and-effect thinking, which derives from the previous experience and current knowledge, and thus, they contribute to the duplication and consolidation of patterns in the field of health cultivation. While protective-routine actions are clearly crucial for strengthening the vitality foundation, they may be ineffective and even counterproductive in a syndemic situation, characterised by indeterminacy and uncertainty (Kozielecki, 1987, p. 56, 75; Błajet, 2016, pp. 107–109). Taking into consideration the effectiveness of health-promoting activities in the uncertainty of the syndemic, an essential complement to routine behaviours, such as the proverbial care for inner peace, is going beyond the "comfort zone" and making transgression attempts, learning new forms of activity in new spaces. The key attitude, on which taking transgressive actions depends, is an optimistic inclination, despite the risk of failure. For this purpose, we can use the Columbus heuristics[1] (Kozielecki, 1987, p. 225); otherwise known as the sail heuristic:[2] strengthening low probabilities resembles operating a sail in light winds, in order to maintain a stable course.

According to Columbus heuristics, the value of positive outcomes ought to be overestimated in education and the importance of pejorative effects,

[1] "If Columbus had accepted the true parameters of the globe, he would never have decided to travel to India" (Kozielecki, 1987, p. 228).

[2] The sail heuristic is the description of the process of change in subjective probability: piling up improbabilities and the pursuit of what is possible, but improbable is a condition for human cognition and action. A human is a strange gambler, betting on improbable events and doing everything to make them happen. It is not known, whether people do this, as it is a condition for their survival and safety (adaptation), or perhaps their cognitive needs and curiosity about the unknown determine it. The sail heuristic serves to increase the value of subjective probability (Nosal & Kozielecki, 2011, p. 11).

or possible side effects should be reduced. As a result, the attractiveness of (transgressive) action will increase and subjective risk will decrease (Błajet, 2016, pp. 116–118). A certain confirmation of the use of this heuristics by the researchers is a greater relation between the change in health behaviours and positive factors (the perceived benefits from the change in behavior and pro-health motivation) than with pejorative factors (risk assessment, the perceived barriers to changing behaviours).

Conclusions

The general conclusion that can be drawn from the conducted research indicates that all innovations (transgressions) in health behaviours, the quality of life in a syndemic situation may depend on, result mainly from positive narratives emphasising possible benefits of behaviours modification and minimising both inconvenience and the risk of change.

References

Bircher, J. (2005). Towards a Dynamic Definition of Health and Disease. *Medicine, Health Care and Philosophy*, *8*(3), 335–341, doi: 10.1007/s11019-005-0538-y.

Błajet, P. (2016). *(Nie)przypadkowa edukacja* [(Un)Accidental Education]. Toruń: Wydawnictwo Naukowe UMK.

Błajet, P., & Przyborowska, B. (2021). Changing the Health Behavior of Students During the COVID-19 Pandemic in Poland. *Przegląd Badań Edukacyjnych*, *35*, 97–113, doi: 10.12775/PBE.2021.033.

Donadiki, E.M., Jiménez-García, R., Hernández-Barrera, V., Sourtzi, P., Carrasco-Garrido, P., López de Andrés, A., Jimenez-Trujillo, I., & Velonakis, E.G. (2014). Health Belief Model Applied to Non-Compliance with HPV Vaccine Among Female University Students. *Public Health*, *128*(3), 268–273. doi: 10.1016/j.puhe.2013.12.004.

Gadamer, H.G. (2011), *O skrytości zdrowia* [On the Secrecy of Health]. Poznań: Media Rodzina.

Gambin, M., & Zawadzki, B. (Eds.) (2021). *Pandemia COVID-19 w Polsce. Perspektywa psychologiczna* [COVID-19 Pandemic in Poland. Psychological Perspective]. Warszawa: Wydawnictwa UW. Retrieved 10 November 2024 from: https://liberilibri.pl/wp-content/uploads/2022/06/Pandemia-COVID-19_2022.pdf.

Janz, N.K., & Becker, M.H. (1984). The Health Belief Model: A Decade Later. *Health Education & Behavior*, *11*(1), 1–47, doi: 10.1177/109019818401100101.

Jaspers, K. (1999). *Wiara filozoficzna wobec objawienia* [Philosophical Faith in the Face of Revelation]. Kraków: Publ. Znak.

Kozielecki, J. (1987). *Koncepcja transgresyjna człowieka* [The Transgressive Concept of Man]. Warszawa: Wydawnictwo Naukowe PWN.

Politykazdrowotna.com. Retrieved 15 October 2024 from: https://politykazdrowotna.com/artykul/zdrowie-polakow-zalezy-n1211864#topic_1.

Rosenstock, I. (1974). Historical Origins of the Health Belief Model. *Health Education & Behavior*, *2*(4), 328–335, doi: 10.1177/109019817400200403.

Singer, M. (1996). A Dose of Drugs, a Touch of Violence, a Case of Aids: Conceptualizing the Sava Syndemic. *Free Inquiry – Special Issue: Gangs. Drugs & Violence*, *24*, 2.