

PART II. PHYSICAL ACTIVITY OF SOCIAL AND PROFESSIONAL GROUPS
DZIAŁ II. AKTYWNOŚĆ FIZYCZNA GRUP SPOŁECZNYCH I ZAWODOWYCH

PHYSICAL ACTIVITY AND MENTAL HEALTH OF STUDENTS FROM POLAND AND
BELARUS IN THE CONTEXT OF THE COVID-19 PANDEMIC:
REFLECTIONS ON THE PURPOSE OF A RESEARCH PROJECT

AKTYWNOŚĆ FIZYCZNA I ZDROWIE PSYCHICZNE STUDENTÓW Z POLSKI
I BIAŁORUSI W KONTEKŚCIE PANDEMII COVID-19
– ROZWAŻANIA NT. CELOWOŚCI PROJEKTU BADAWCZEGO

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- A. Study design/planning
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- B. Data collection/entry
zebranie danych
- C. Data analysis/statistics
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- D. Data interpretation
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Summary

Knowledge of the medical-psychological and socio-cultural determinants of physical activity (PA) and mental health is still unsatisfactory. A dominance of diagnostic over explanatory studies and a focus on the association of PA and mental health status with unmodified demographic variables characterizes most research in this area. The aim of the proposed project is to determine PA levels and psychological adaptation to stress among students from Poland and Belarus in the context of different anti-pandemic strategies during the COVID-19 pandemic. John Paul II University of Applied Sciences in Białą Podlaska (Poland) and Yanka Kupala State University of Grodno (Belarus) were chosen for the study, as despite the universities being located a relatively small distance from each other, they are in different countries and subject to different anti-pandemic strategies. The proposed survey will include approximately 800 medical and health sciences students (approximately 400 from each university). Nine standardized survey instruments will be used: IPAQ-SF, MBI, SWLS, CECS, GSES, Mini-COPE, STAI, TSK, and GHQ-28. The outcome of the research will be the identification of the medical-psychological and socio-cultural determinants that influence psychological adaptation and PA levels of students experiencing different anti-pandemic strategies during the COVID-19 pandemic.

Keywords: COVID-19, physical activity, pandemic, mental health, students

Streszczenie

Stan zaawansowania wiedzy na temat medyczo-psychologicznych i społeczno-kulturowych uwarunkowań aktywności fizycznej (AF) i zdrowia psychicznego jest wciąż niezadowolający. Obserwuje się wyraźną dominację badań diagnostycznych nad wyjaśniającymi oraz skupianie się jedynie nad związkiem AF i stanu zdrowia psychicznego z niemodyfikowanymi zmiennymi demograficznymi. Celem projektu jest określenie poziomu AF oraz psychologicznej adaptacji do stresu wśród studentów z Polski i Białorusi w kontekście różnych strategii antypandemicznych w trakcie pandemii COVID-19. Akademia Białska Nauk Stosowanych im. Jana Pawła II (Białą Podlaska, Polska) i Państwowy Uniwersytet im. Janki Kupały w Grodnie (Białoruś) zostały wybrane do badania ze względu na fakt, że uczelnie te, mimo, że położone są w stosunkowo nieznacznej od siebie odległości, znajdują się w różnych krajach i różnicuje je strategia antypandemiczna. Badaniem sondażowym zostanie objętych około 800 studentów kierunków z obszaru nauk medycznych i nauk o zdrowiu (ok. 400 z każdej uczelni). Zostanie wykorzystanych dziewięć standaryzowanych narzędzi badawczych: IPAQ-SF, MBI, SWLS, CECS, GSES, Mini-COPE, STAI, TSK, GHQ-28. Zakładanym rezultatem badań będzie określenie medyczo-psychologicznych i społeczno-kulturowych uwarunkowań, które wpływają na adaptację psychologiczną i poziom AF studentów przy różnych strategiach antypandemicznych w czasie pandemii COVID-19.

Słowa kluczowe: COVID-19, aktywność fizyczna, pandemia, zdrowie psychiczne, studenci

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Introduction

In late 2019, the world heard for the first time about the deadly SARS-CoV-2 virus, believed to have originated in China. It did not take long for the virus to spread across borders to multiple countries, resulting in the COVID-19 pandemic and people experiencing fear, symptoms, and death. Consequently, the preventative measures of staying at home and maintaining social distance became commonplace around the world and the public faced restrictions, blockades, and quarantines [1-3].

During the course of the pandemic, many governments implemented legal orders requiring people to stay indoors to inhibit the spread of the virus. On March 15th 2020, the Polish government introduced the first national movement ban, which probably had a significant impact on reducing the daily physical activity (PA) of the entire population.

According to Hall et al., this led to having to deal with two pandemics at the same time—the COVID-19 pandemic and a pandemic of physical inactivity [4]. Zaworski et al., in their study of 688 Polish participants, reported a statistically significant decrease in the frequency and duration of PA [5]. It is worth noting that numerous sources indicate that a lack of PA is as a major cause of most non-communicable diseases (NCDs) [6].

Movement restrictions have contributed to lower PA levels in people of all ages. Anxiety, a mental health risk factor, also increased [7]. The pandemic has forced the introduction of remote teaching and working, thus increasing the average time spent engaging in sedentary behavior. This is of particular concern in education (including higher education), as regular exercise reduces the incidence of future depression in adults [8]. As a result of the pandemic, universities across Poland closed their campuses and moved to remote teaching and assessment methods, which has contributed to increased sedentarism among young people. Significant changes in students' lifestyles, as well as difficulties due to movement and social distance restrictions, have had a negative impact on their mental health [9].

According to Khozaeil and Carbon [10], even before the COVID-19 pandemic, mental health was an important and critical area of research. It is estimated that over 10% of children and adolescents worldwide have a mental disorder [11], and in a crisis such as the COVID-19 pandemic, it is important to focus on mental disorders and the potential further deterioration of mental health. In terms of well-being and mental health, both adults [12] and adolescents and children were affected during the pandemic [13].

Wang et al. indicate that from a mental health perspective, young adults, college students, and women may be most vulnerable to the impact of the COVID-19 pandemic [14]. In addition, individuals with a pre-existing mental disorder may be more likely to experience negative emotional reactions in the context of a pandemic, which may lead to a relapse or worsening of their mental illness [15].

Promoting PA for students is particularly valuable during the pandemic, as PA can enhance their mental health and provide additional health benefits such as increased immunity [16].

Moderate to vigorous physical activity (MVPA) has been correlated with improved mental health and a reduction in the symptoms of mental disorders such as depression and anxiety [17]. It has been shown that when PA is undertaken outdoors, it positively affects people's mental health more than PA undertaken indoors [18,19].

From the available research data, it appears that anti-pandemic measures vary from country to country, but the basic measures are similar and consist of targeting the source of viral infection, blocking transmission routes, and increasing population immunity [20]. Social distance, temporary travel restrictions, fear of COVID-19, lockdown-specific quarantine measures, lifestyle changes, insufficient PA, limited or no personal space, and complex interactions with peers significantly increased stress levels and resulted in anxiety, mental health risks, emotional exhaustion, sleep disturbances, and other psychosomatic complications [21,22]. Different strategies to counteract the spread of COVID-19, both in Poland (lockdown and its elements) and Belarus (mild restrictions), can be seen as an unusual and stressful situation accompanied by a lifestyle change for students [23].

From the perspective of the COVID-19 pandemic in Poland, data on the functioning of specific socio-demographic groups seem particularly interesting. Initially, due to health risks, the focus was on seniors. The lockdown also severely affected economically active people (from different age groups) who were not able to do their jobs and often lost them. The situation of the young generation was also an area of interest for the researchers [24].

According to Jakub Olchowski of the Central Europe Institute [25], in April 2020, despite several thousand people being infected with COVID-19, the Belarusian authorities maintained that there was no need to take any countermeasures. This inaction may have been largely due to the realization that a slowdown in the Belarusian economy, which has been weak and unstable for a long time, would cause it to collapse. The Belarusian authorities

maintained their approach to COVID-19, with preparations for events in Minsk on May 9th 2020 to mark the 75th anniversary of victory in World War II continuing despite the opposition of citizens, the appeals of experts, and the recommendations of the World Health Organization (WHO) [26]. According to Fedorovich [27], from the beginning of the pandemic, Belarus chose to consciously ignore the emerging epidemiological threat and adopted a strategy of reassuring the public and downplaying the global danger.

Coping with a stressful situation can be considered as a problem of stress psychology and clinical psychology. However, the transition from the concept of a stressful situation that is objective to the individual's experience in a difficult, critical and stressful situation leads to an increase in the application of coping strategies in other spheres of human life, in relation to the socio-cultural context [28-30]. It is important to identify personality traits that may affect adaptive behavior and the association between ways of coping with stress during the COVID-19 pandemic and the anti-pandemic strategies of Poland and Belarus.

To inform future practice and policy, an understanding of potential changes in health-related behaviors and resulting mental well-being among young people during the COVID-19 pandemic is urgently needed. The WHO has suggested that people in isolation should exercise regularly to prevent mental health deterioration [31]. However, isolation may impair people's ability to leave home, participate in daily activities, and establish good social relationships, thus leading to decreased PA levels and increased sedentary behavior [4]. This is of concern, given that systematic exercise reduces the incidence of future depression in adults [8] and may reduce depressive symptoms in adolescents and young adults [19].

The COVID-19 pandemic is predicted to have a negative impact on adolescent mental health; however, according to Savage et al. [9], no prospective longitudinal data quantifying such changes is available.

Aim of the work

The aim of the proposed research project is to determine the level of PA and psychological adaptation to stress among students from Poland and Belarus in the context of different anti-pandemic strategies during the COVID-19 pandemic. This article serves to justify the purpose of the research and acts as a starting point for its implementation.

The description of the study group and the research methods

The project will assess the PA levels and mental health of adolescents studying during the COVID-19 pandemic in Poland and Belarus. The study will include 800 medical and health sciences students, with 400 students from the John Paul II University of Applied Sciences in Biala Podlaska, Poland and 400 students from the Yanka Kupala State University of Grodno in Belarus. The universities have been purposely selected, as they are located in relatively close proximity to each other but are in different countries with different anti-pandemic strategies. A strategy document (methodological recommendations) will be prepared and presented for publication in a scientific journal. Additionally, proposals for progressing the research and practically implementing the findings will be developed.

The project period is 12 months (January–December 2022) and the study is in progress (final stage). A diagnostic survey method was used. This type of research covers multiple social phenomena of significant importance for upbringing, states of social consciousness and views and opinions of certain communities, the growth of the studied phenomena, their tendencies and intensity. The research is focused on the PA levels and mental health of students from Poland and Belarus during the COVID-19 pandemic. An inseparable element of the survey method are the questions asked to the respondents: in oral or written form. In case of the subject research, the responses are written. The technique used was a community survey conducted at the participants' place of study with the direct participation of the interviewer. The survey was conducted using a battery of nine questionnaires:

1. International Physical Activity Questionnaire short form (IPAQ-SF). The IPAQ-SF questionnaire contains seven questions about types of PA that are components of daily life. The questions refer to PA undertaken during the previous seven days. The information extracted relates to time spent sitting, walking, and engaging in PA (moderate and vigorous). Only activities ≥ 10 minutes and without interruption are considered. Total energy expenditure is calculated by multiplying the frequency and duration of PA with the corresponding intensity expressed in metabolic equivalent of task units (METs), and then summing the results for all activities performed during the week. Three levels of PA were identified: high, moderate, and low [32].

2. Maslach Burnout Inventory (MBI). The MBI was developed by Maslach and Jackson in 1981. It assesses the three components of burnout syndrome: emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment. It consists of 22 items divided into three unequal groups that each address one of the components of burnout syndrome. The emotional exhaustion subscale consists of nine items, the depersonalization subscale consists of five items, and the reduced sense of personal accomplishment subscale consists of eight items. Test items on the subscales of emotional exhaustion and depersonalization are negatively worded, and test items on the reduced sense of personal accomplishment subscale are positively worded. Scores are calculated separately for each subscale. Significant levels of burnout are indicated by high scores on the emotional exhaustion and depersonalization subscales, and low scores on the reduced sense of personal accomplishment subscale [33].
3. Satisfaction With Life Scale (SWLS). The SWLS was developed by Diener et al. [34] and adapted to Polish conditions by Zygfryd Juczyński [35]. The SWLS contains five statements and the respondent determines to what extent each statement applies to their past life. The resulting measurement is an overall index of satisfaction with life. The scale is designed to test healthy and ill adults. The respondent indicates on a seven-point scale the extent to which they agree with each statement [34].
4. Courtauld Emotional Control Scale (CECS). The CECS was developed by Watson and Gree and adapted to Polish conditions by Zygfryd Juczyński [35]. The scale consists of three subscales each containing seven statements about levels of disclosure of anger, depression, and anxiety. The scale is used to measure subjective control of anger, depression, and anxiety in adults experiencing difficult situations. The CECS is a self-report tool and can be administered individually or in groups. The respondent determines the frequency of the given way of expressing their emotions on a four-point scale from “almost never” (1 point) to “almost always” (4 points) [35].
5. General Self-Efficacy Scale (GSES). The GSES was developed by Schwarzer and Jerusalem and adapted to Polish conditions by Zygfryd Juczyński [36]. The scale consists of 10 statements comprising one factor. The GSES scale measures the strength of an individual’s overall belief in the effectiveness of how they cope with difficult situations and obstacles. The respondent marks a response of their choice on a four-point scale [36].
6. Coping Orientation to Problems Experienced (Mini-COPE). The Mini-COPE was developed by Carver and adapted to Polish conditions by Zygfryd Juczyński and Nina Ogińska-Bulik [37]. The inventory is a screening tool for healthy and ill adults. It consists of 28 statements across 14 strategies (2 statements in each strategy). The tool is used to assess typical ways of responding when experiencing severe stress. When completing the test the respondent should indicate how often each strategy is used when he/she is in a very difficult situation. The respondent selects one of four possible answers for each statement: “I almost never do that” (0 points); “I rarely do that” (1 point); “I often do that” (2 points); and “I almost always do that” (3 points). The higher the score, the more often the subject uses the strategy.
7. State-Trait Anxiety Inventory (STAI). The STAI was developed by Spielberger and adapted to Polish conditions by Strelau, Tysarczyk and Wrześniewski [38]. The STAI Self-Evaluation Questionnaire is designed to survey individuals over 15 years of age. It consists of two separate subscales. The first subscale (Y-1) measures state anxiety (anxiety in response to a specific situation) and the second subscale (Y-2) measures trait anxiety (a relatively constant personality trait that accompanies a person in everyday situations). Each subscale of the questionnaire consists of 20 items that take the form of short statements relating to an individual’s subjective feelings. The individual chooses one of the four categorized responses to assess his or her level of anxiety. The point values range from 20 to 80, with high values indicating high levels of anxiety. The questionnaire can be used in clinical work, counseling, and research. The Y-1 scale is also useful in experimental studies requiring changes in the severity of anxiety to be recorded.
8. Tampa Scale of Kinesiophobia (TSK). The TSK was developed in 1991 by Miller, Kopri and Todd [39]. The TSK is a 17-item questionnaire based on an assessment of fear of movement and PA. The scale uses four items: the fear avoidance model, fear of work-related activities, fear of movement, and fear of re-injury.
9. General Health Questionnaire (GHQ-28). The GHQ was developed by Goldberg and adapted to Polish conditions by Zofia Makowska and Dorota Merez [40]. It is used to assess the mental health status of adults and identifies individuals who are at significant risk of mental health disorders and individuals whose mental state has been affected temporarily or for a prolonged period of time due to difficulties, problems or mental illness. The GHQ-28 contains 28 questions that participants answer using a four-point scale. The selected version of the questionnaire allows the participants to be described on four scales: somatic symptoms, anxiety/insomnia, impaired functioning, and depressive symptoms [40].

Expected project results

Knowledge of the medical-psychological and socio-cultural determinants of PA and mental health is still unsatisfactory. There is a dominance of diagnostic over explanatory studies and a focus on the association of PA and mental health status with unmodified demographic variables; these major limitations characterize most of the research conducted in this area. With regard to the proposed research, the types of coping strategies used to manage stress and the identification and description of situational factors and stressors experienced by students in Poland and Belarus during the COVID-19 pandemic are important. Identifying additional factors that determine the choice of coping strategies and influence PA levels is a niche of previous scientific exploration in this area. The proposed study will result in a database of stress coping factors and strategies to predict behavior in relation to the epidemiological situation. Through international cooperation, it will be possible to identify conditions and applied solutions that have proven themselves in a given country for the target group. This will enable the modification of the instruments used to date to increase their relevance, effectiveness, and efficiency.

Conclusions

As mentioned earlier, it is assumed that as a result of the conducted research, Polish and Belarusian students' coping strategies will be determined and the stressors affecting them identified and described. The analysis of the questionnaire results will allow factors determining the PA levels of students from two neighboring countries to be identified. The results can inform the development of psychological support programs and the design of a safe and comfortable educational environment, as well as providing a basis for identifying effective strategies for coping with stress. Awareness and understanding the factors influencing adolescent well-being during the COVID-19 pandemic is an important first step toward adolescent health and the health of the entire population.

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