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OFICJALNE PISMO POLSKIEGO TOWARZYSTWA FIZJOTERAPII

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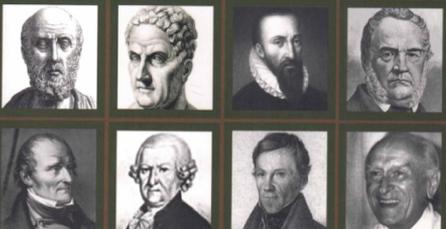
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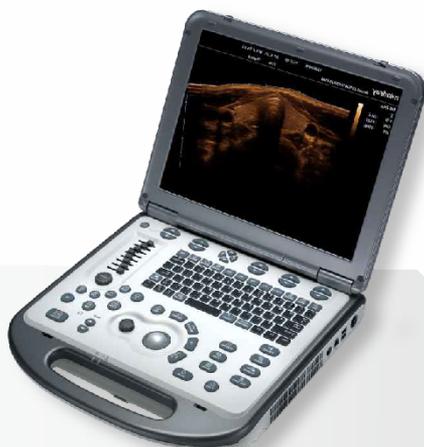
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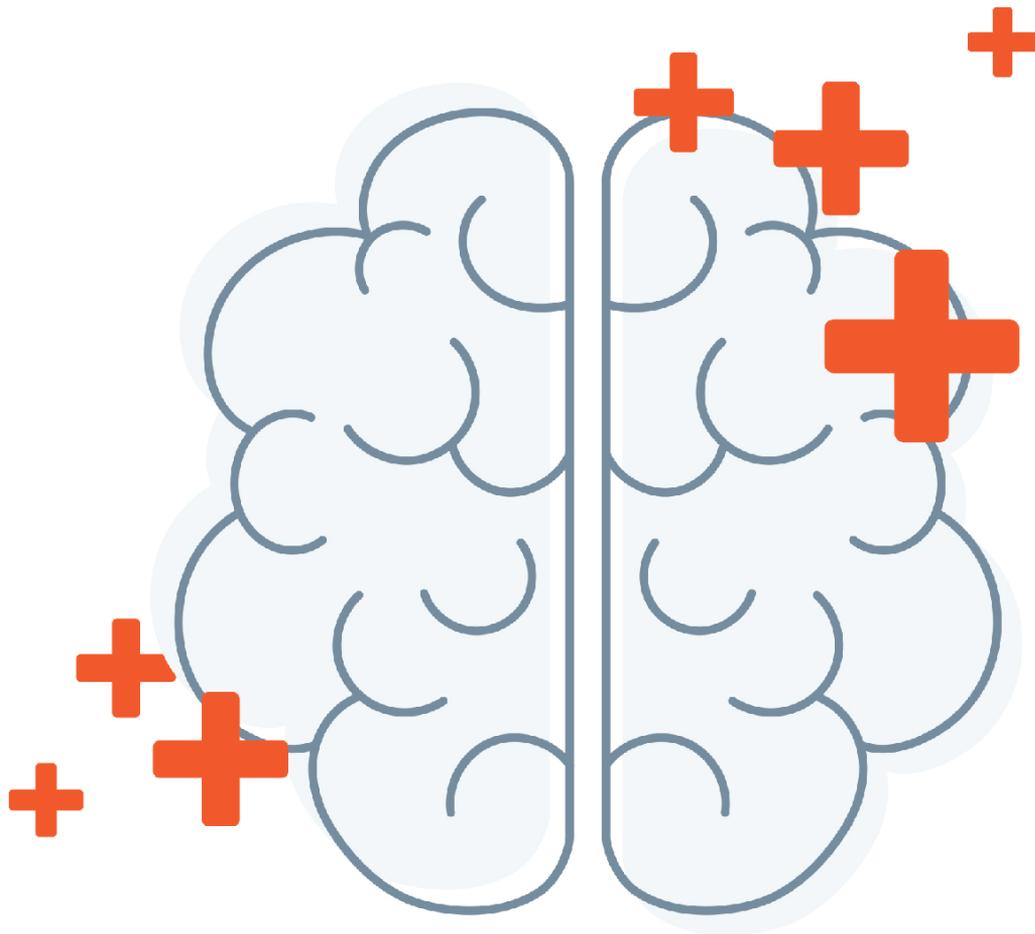
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# Impact of the pandemic on the quality of life in the Polish and German population

*Wpływ pandemii na jakość życia u ludności polskiej i niemieckiej*

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## Abstract

**Introduction.** Quality of life during the pandemic has taken on a completely different dimension. As a result of the restrictions, it was necessary to reorganize life in every sphere. This could lead to a number of negative consequences, including the deterioration of physical and mental health, as well as disturbances in the ability to establish proper social relationships.

**Objective.** The objective of the study was to assess the impact of the pandemic on the quality of life in the Polish and German population.

**Material and methods.** The study was conducted on a group of 200 people, of which 100 people are respondents living in Poland, while the remaining 100 live in Germany. The research tool used in this study was a questionnaire. The questionnaire was created in two language versions: Polish and German. The obtained results are presented in the form of pie charts and bar graphs. Pie charts present the results in percentages, obtained in individual questions included in the questionnaire.

**Results and discussion.** The results indicate a change in the frequency of undertaking physical activity. The number of respondents undertaking physical activity has significantly decreased, while the respondents who do not undertake physical activity during the pandemic constitute almost half of the respondents from Poland. The situation in Germany is completely different, as the number of people undertaking and not undertaking physical activity has not changed significantly. As a result of the pandemic caused by the SARS-CoV-2 virus, almost half of the respondents from Poland began to feel a little fatigued while performing everyday activities, while the level of fatigue of the German respondents did not change significantly and oscillates around the same limits as before the pandemic. The quality of sleep in Polish respondents definitely decreased from good to moderate as a result of the COVID-19 pandemic, while in German respondents there is no significant decrease in sleep quality.

**Conclusions.** 1. The COVID-19 pandemic had a negative impact on the mental health of the Polish population to a large extent, while the negative impact of the SARS-CoV-2 virus pandemic on the German population is observed to a much lesser extent.

2. The pandemic situation contributed to a significant deterioration in the quality of life in the case of the Polish population, while in the case of the German population, no significant deterioration in the overall quality of life caused by the COVID-19 pandemic was documented.

3. The COVID-19 pandemic caused a significant decrease in the level of physical fitness and the frequency of undertaking physical activity in the Polish population, while in the case of the German population, the level of physical fitness slightly deteriorated, but no significant decrease in the frequency of undertaking physical activity was observed during the pandemic caused by the SARS-CoV-2 virus.

4. Among the Polish population, the general well-being has clearly deteriorated, however, in the case of the German population, there is no significant decrease in well-being caused by the ongoing COVID-19 pandemic.

## Key words:

pandemic, quality of life, Polish population, German population

## Streszczenie

**Wstęp.** Jakość życia w dobie pandemii nabrała zupełnie innego wymiaru. W wyniku restrykcji konieczne było przeorganizowanie życia w każdej sferze. Prowadzić to mogło do szeregu negatywnych konsekwencji, między innymi do pogorszenia zdrowia fizycznego, jak i psychicznego, a także do zaburzeń umiejętności nawiązywania prawidłowych relacji społecznych. Cel pracy. Celem pracy była ocena wpływu pandemii na jakość życia u ludności polskiej i niemieckiej.

**Materiał i metody badań.** Badanie zostało przeprowadzone na grupie 200 osób, z czego 100 osób to ankietowani mieszkający na terenie Polski, natomiast pozostałe 100 osób to mieszkańcy Niemiec. Narzędziem badawczym niniejszej pracy był kwestionariusz ankiety. Ankieta została stworzona w dwóch wersjach językowych: w polskiej i niemieckiej. Uzyskane wyniki badań przedstawione są w postaci diagramów kołowych oraz wykresów słupkowych. Za pomocą diagramów kołowych zostały zaprezentowane wyniki podane w wartościach procentowych, uzyskane w poszczególnych pytaniach zawartych w ankiecie. Wyniki badań i ich omówienie. Wyniki badań wskazują na zmianę częstotliwości podejmowania aktywności fizycznej. Liczba badanych podejmujących aktywność fizyczną znacznie spadła, natomiast osoby badane, które nie podejmują aktywności fizycznej w trakcie pandemii, stanowią prawie połowę respondentów z Polski. Zupełnie inaczej przedstawia się sytuacja w Niemczech, gdyż liczba osób podejmująca oraz niepodejmująca aktywności fizycznej nie zmieniła się w znaczący sposób. W wyniku pandemii wywołanej wirusem SARS-CoV-2 prawie połowa osób badanych z Polski zaczęła odczuwać małe zmęczenie podczas wykonywania czynności dnia codziennego, natomiast poziom zmęczenia respondentów z Niemiec nie uległ znaczącej zmianie i oscyluje w tych samych granicach, co przed rozpoczęciem pandemii. Jakość snu u osób badanych z Polski zdecydowanie spadła z dobrej na umiarkowaną w wyniku pandemii COVID-19, natomiast u osób badanych z Niemiec nie obserwuje się znaczącego spadku jakości snu.

**Wnioski:** 1. Pandemia COVID-19 w dużym stopniu wpłynęła w sposób negatywny na stan zdrowia psychicznego ludności polskiej, natomiast niekorzystne oddziaływanie pandemii wywołanej wirusem SARS-CoV-2 na ludność niemiecką jest obserwowane w znacznie mniejszym stopniu.

2. Sytuacja pandemiczna przyczyniła się do wyraźnego pogorszenia jakości życia w przypadku ludności polskiej, z kolei w przypadku ludności niemieckiej nie udokumentowano znacznego pogorszenia ogólnej jakości życia spowodowanego pandemią COVID-19.

3. Pandemia COVID-19 spowodowała zdecydowany spadek poziomu sprawności fizycznej oraz częstotliwości podejmowania aktywności ruchowej u ludności polskiej, z kolei w przypadku ludności niemieckiej poziom sprawności fizycznej uległ niewielkiemu pogorszeniu, natomiast nie zaobserwowano znacznego spadku częstotliwości podejmowania aktywności ruchowej w trakcie trwania pandemii wywołanej wirusem SARS-CoV-2.

4. Wśród ludności polskiej ogólny stan samopoczucia wyraźnie pogorszył się, jednak w przypadku ludności niemieckiej nie obserwuje się znacznego obniżenia samopoczucia spowodowanego trwającą pandemią COVID-19.

## Słowa kluczowe:

pandemia, jakość życia, ludność polska, ludność niemiecka

### Introduction

Quality of life during the pandemic has taken on a completely different dimension. As a result of the restrictions, it was necessary to reorganize life in every sphere. This could lead to a number of negative consequences, including the deterioration of physical and mental health, as well as disturbances in the ability to establish proper social relationships.

The fear of being infected with the SARS-CoV-2 virus as a result of the COVID-19 pandemic usually generates severe stress of a chronic nature [1, 2]. Regular physical activity may reduce the risk of these problems [3, 4].

Properly selected physical exercises promote well-being, affect emotional well-being, reduce symptoms of depression and eliminate anxiety disorders [5].

Systematic physical activity has a positive impact on human organ systems, improves circulatory and respiratory efficiency, prevents diabetes by controlling blood glucose levels, prevents hypertension, obesity, coronary artery disease, osteoporosis, contributes to increasing muscle and bone mass, and also improves motor skills and develops cognitive functions [5, 6, 7]. It is believed that equally important determinants affecting health during a pandemic are socio-economic factors, the improvement of which is directly proportional to the improvement of the standard of living [6, 7, 8].

Well-organized health care, committed to providing services at the highest level, also helps maintain good health and prevents the occurrence of anxiety and depression [9, 10, 11, 12].

### Objective

The objective of the study was to assess the impact of the pandemic on the quality of life in the Polish and German population.

### Material and methods

The study was conducted on a group of 200 people, of which 100 people are respondents living in Poland, while the remaining 100 live in Germany. 113 women and 87 men participated in the study. The study was addressed only to adults in order to analyse the impact of the pandemic on caring for their health. Persons under the age of 18 were excluded from the study because they remain under the care of their parents or legal guardians, they cannot make decisions on their own, and this could affect the results of the study. The study included both people who were infected with the SARS-CoV-2 virus and people who were not infected or did not know about it. The selection of such criteria results from the fact that, although not everyone was infected with COVID-19, the introduced state of the pandemic affected the entire society and influenced the functioning of not only infected people, but also healthy people.

A questionnaire constituted the research tool. It was created in two language versions: Polish and German. The

questionnaire was conducted online, because it allowed to obtain results in a short time from people living in Poland and Germany.

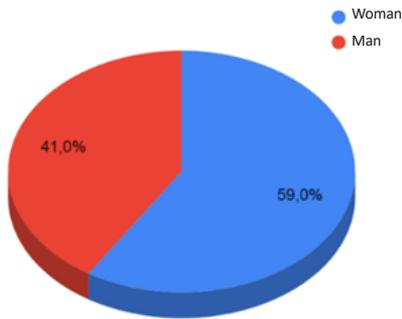
The questionnaire was anonymous, which the respondents were informed about before starting to answer the questions. The questionnaire contained 30 closed, single-choice questions. WHO announced the beginning of the pandemic on March 11, 2020, while the study was conducted in May 2022, i.e. more than two years after the start of the COVID-19 pandemic. Such a period made it possible to verify the impact of the pandemic on functioning in everyday life and to examine the dynamics and intensity of the changes taking place. In addition, conducting a questionnaire in Poland and Germany made it possible to demonstrate the dependencies between the representatives of both countries.

The obtained results are presented in the form of pie charts and bar graphs. Pie charts have been used to present answers to individual questions in percentages. Pie charts show separately the results of the questionnaire for the Polish population and separately for the German population. On the other hand, the bar graphs refer to the total number of respondents from both countries and present the average values expressed in the number of people, obtained for individual issues. In addition, bar graphs, thanks to the compilation of data from Poland and Germany, before and during the pandemic, allow for the presentation of the changes that have occurred in the everyday life of respondents and the differences between the two countries. The selection of methods for verifying the obtained results in the form of pie charts and bar graphs allows for a more accurate and clearer depiction of changes in everyday life as a result of the COVID-19 pandemic and makes it possible to present the differences regarding the Polish and German population in a more accessible way.

### Results

On the basis of the results obtained based on the questionnaire it can be concluded that in both groups, from Poland and Germany, women constitute the majority. Out of 100 respondents from Poland, 59% are women and 41% are men (Figure 1). On the other hand, out of 100 respondents residing in Germany, 54% are women and 46% are men (Figure 2). The vast majority of respondents from Poland, as much as 62%, had COVID-19, while 27% of the respondents do not know whether they were affected by COVID-19. Only 11% of the respondents are sure that they have not been infected with the SARS-CoV-2 virus. In contrast to the Polish population, less than half of the respondents from Germany, i.e. 46%, had COVID-19. The number of the respondents who have not been infected with the SARS-CoV-2 virus is 39%, and 15% of the respondents do not know whether they have been infected.

1. Gender



1. Geschlecht:

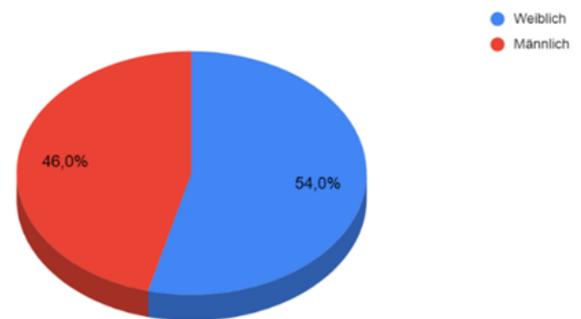


Figure 1. Percentage distribution of the gender of respondents from Poland\*

Figure 2. Percentage distribution of the gender of respondents from Germany

\* All figures – Source: own elaboration

Less than half of the respondents from Poland, i.e. 44%, experienced the effects of COVID-19, such as shortness of breath, rapid fatigue, memory problems or difficulty concentrating, but currently they are not experiencing any of these effects. People who experience the effects of COVID-19 so far account for 10%. Slightly less, i.e. 8%, are respondents who did not experience the effects of the disease caused by the SARS-CoV-2 virus and still do not experience them, while the remaining 38% are people who have not had COVID-19 or have no knowledge about it, hence it is impossible for them to experience the effects of the disease. In the German community, 20% of the respondents experienced the effects of COVID-19, but currently do not experience any. The number of people who experience the effects of the disease to this day is 11%, while 8% of the respondents did not experience the effects of the disease caused by the SARS-CoV-2 virus and still do not experience them. People who have not had or do not know if they have had COVID-19 constitute 61% and it is more than half of the respondents from Germany (Figure 3).

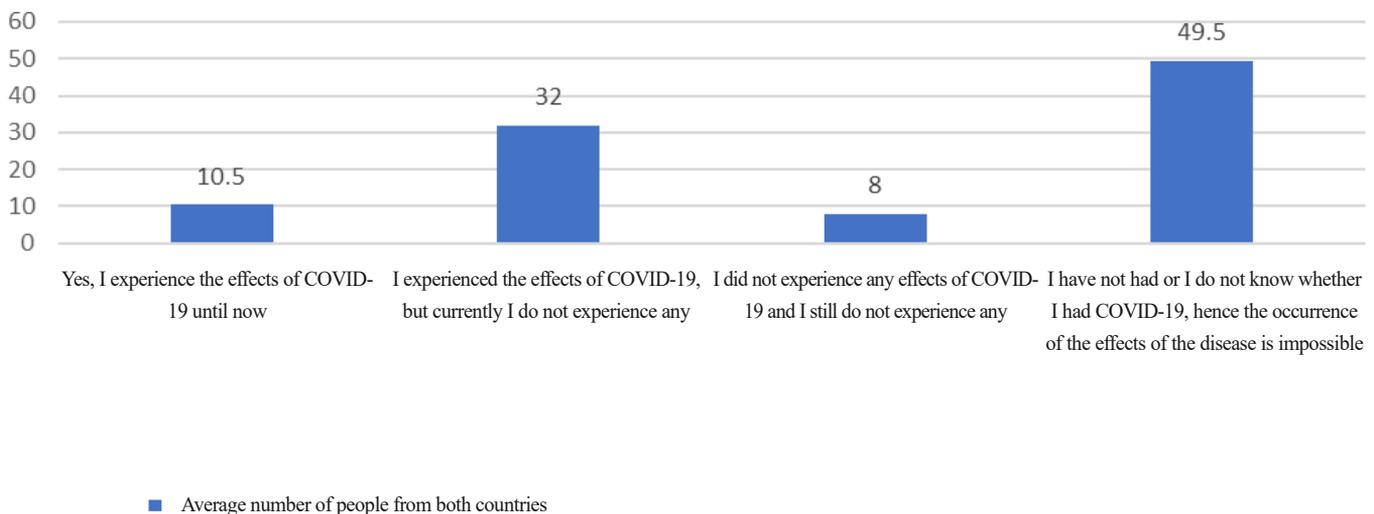


Figure 3. The average occurrence of the effects of COVID-19 in people from Poland and Germany

More than half of the respondents from Poland, i.e. 61%, before the start of the COVID-19 pandemic, undertook physical activity lasting more than 30 minutes once or twice a week. People who undertook physical activity lasting more than 30 minutes 3–4 times a week before the pandemic account for 16%. Respondents who did not engage in physical activity for more than 30 minutes before the COVID-19 pandemic constitute 13%. The remaining 10% are people who before the pandemic undertook physical activity lasting more than 30 minutes more than 5 times a week. The number of respondents from Germany who undertook physical activity lasting more than 30 minutes once or twice a week before the COVID-19 pandemic is 36%. People who did not engage in physical activity for more than 30 minutes before the pandemic account for 27%. Slightly less, i.e. 26%, are respondents who undertook physical activity lasting more than 30 minutes 3–4 times a week before the pandemic, while the remaining 11% are people who undertook physical activity for more than 30 minutes, more than 5 times a week before the pandemic caused by the SARS-CoV-2 virus (Figure 4, 5).

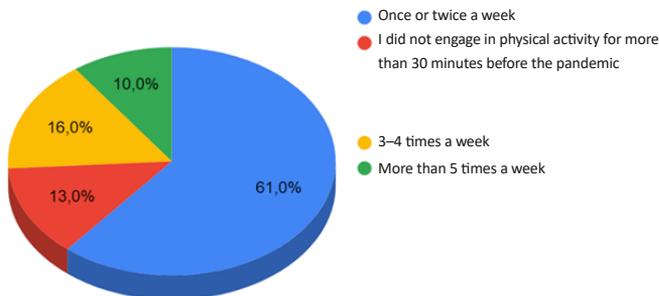


Figure 4. Percentage of the frequency of undertaking physical activity lasting longer than 30 minutes before the COVID-19 pandemic among Polish respondents

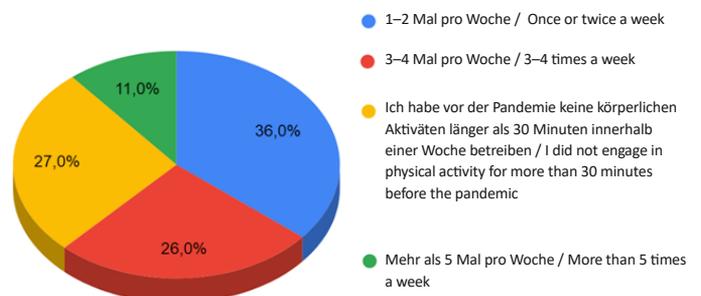


Figure 5. Percentage of the frequency of undertaking physical activity lasting longer than 30 minutes before the COVID-19 pandemic among German respondents

Less than half of the respondents from Poland, i.e. 49%, do not engage in physical activity lasting longer than 30 minutes during the COVID-19 pandemic. The number of respondents who during the pandemic undertake physical activity lasting longer than 30 minutes once or twice times a week is 26%. People engaging in physical activity 3–4 times a week during the pandemic account for 17%.

Only 8% of the respondents from Poland during the pandemic caused by the SARS-CoV-2 virus undertake physical activity lasting more than 30 minutes more than 5 times a week (Figure 4). The respondents from Germany who, during the COVID-19 pandemic, undertake physical activity lasting more than 30 minutes once or twice a week, account for 38%. A slightly smaller number of people, i.e. 35%, do not undertake physical activity lasting longer than 30 minutes during the pandemic. People who engage in physical activity for more than 30 minutes during the pandemic account for 18%, while respondents who engage in physical activity

for more than 30 minutes more than 5 times a week during the COVID-19 pandemic account for 9% (Figure 6, 7).

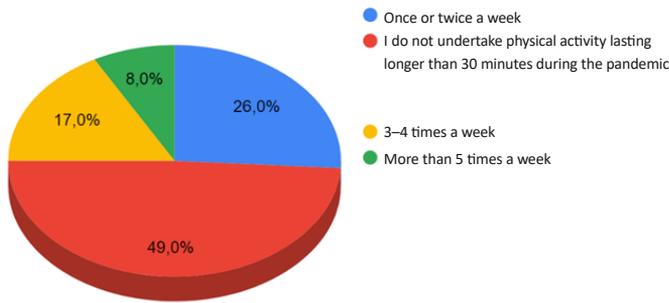


Figure 6. Percentage of the frequency of undertaking physical activity lasting longer than 30 minutes during the COVID-19 pandemic among Polish respondents



Figure 7. Percentage of the frequency of undertaking physical activity lasting longer than 30 minutes during the COVID-19 pandemic among German respondents

Less than half of the respondents from Poland, i.e. 49%, assessed their physical fitness as very good before the start of the COVID-19 pandemic. People who assessed their physical fitness as good before the pandemic account for 26%, while the number of people who described their physical fitness as average is 19%. The remaining 6% are people who, before the pandemic caused by the SARS-CoV-2 virus, assessed their physical fitness as excellent or poor. Among the Polish population, the answer describing physical fitness as very poor was not selected, and therefore it is not included in the pie chart. Respondents from Germany who rated their physical fitness as good before the COVID-19 pandemic amounted to 41%. People who assessed their physical fitness as average before the pandemic constitute 30%. The percentage of people who described their physical fitness as poor before the pandemic is 11%, and slightly less, i.e. 10%, are respondents who assessed their physical fitness as very good. Respondents who described their physical fitness as very poor before the COVID-19 pandemic constitute 6%, while the remaining 2% are people who assessed their physical fitness as excellent (Figure 8, 9).

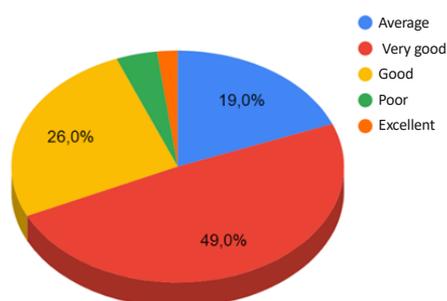


Figure 8. Percentage of the level of physical fitness before the COVID-19 pandemic among Polish respondents

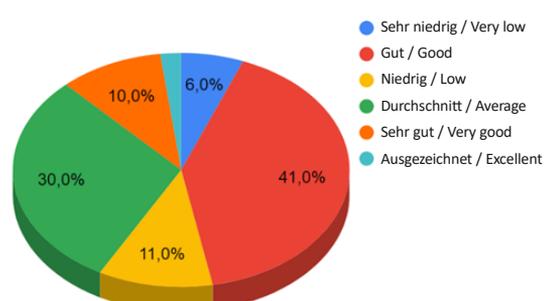
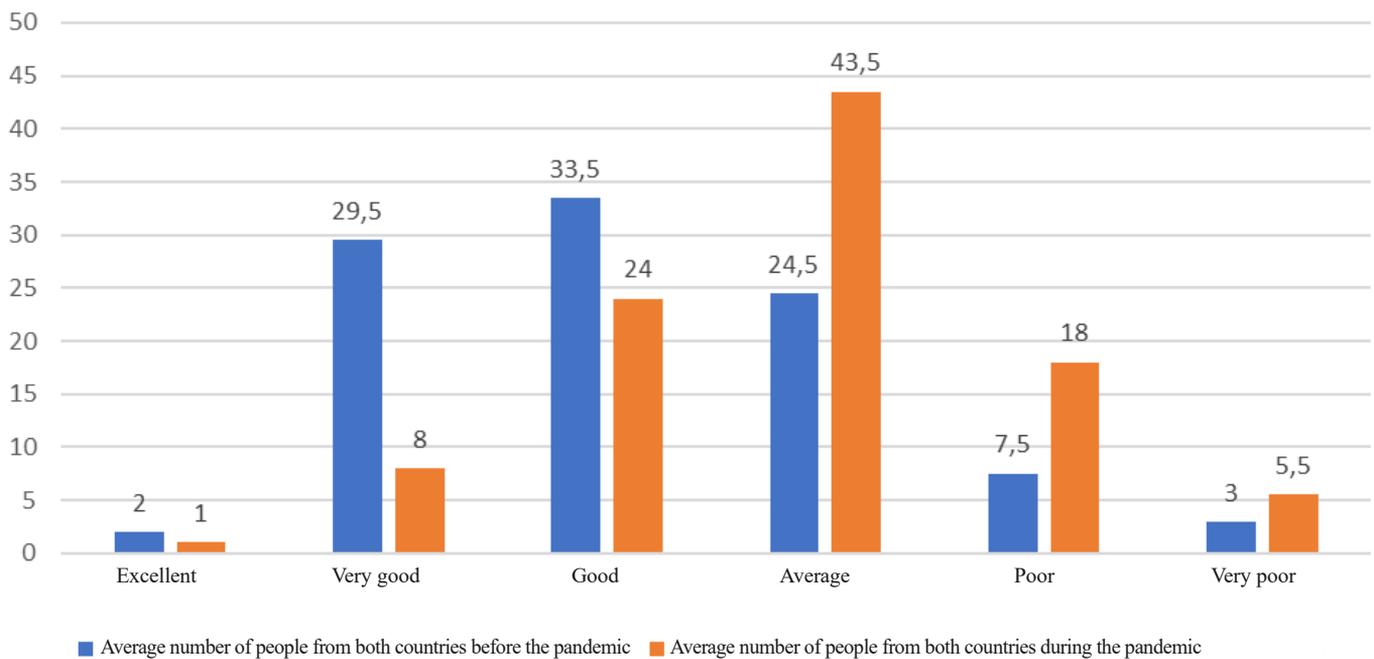


Figure 9. Percentage of the level of physical fitness before the COVID-19 pandemic among German respondents

The average number of respondents from both countries who rated their physical fitness as excellent before the COVID-19 pandemic is 2, while the average number of those who rated their physical fitness as excellent during the pandemic is 1.

The average number of people who assessed their physical fitness as very good has changed significantly, as evidenced by the average number of people from both countries amounting to 29.5 before the pandemic and over 3 times less, i.e. 8, during the pandemic. The average number of people who described their physical fitness as good before the pandemic is 33.5, and during the pandemic this number is 24. The average number of people, both from Poland and Germany, who assessed their physical fitness before the pandemic as average is 24.5, while the average number of people for the same criterion during the COVID-19 pandemic has increased significantly and amounts to 43.5. The average number of respondents who assessed their physical fitness as poor before the pandemic is 7.5, while the average number of people using the same criterion during the pandemic is more than twice as high and amounts to 18. The average number of respondents who described their physical fitness as very poor before the SARS-CoV-2 pandemic is 3, while the average number of respondents who meet the same criterion during the pandemic is 5.5 (Figure 10).



**Figure 10. The average number of people from Poland and Germany and the level of physical fitness before and during the COVID-19 pandemic**

Less than half of the respondents from Poland, i.e. 47%, feel a little fatigued during the COVID-19 pandemic while performing everyday activities. People who during the pandemic do not feel fatigued during everyday activities constitute 29% and this is a significant difference

compared to the results obtained among the Polish population and concerning the same criterion before the pandemic. The number of respondents who feel moderately fatigued during everyday activities during the COVID-19 pandemic is 16%. The respondents who during the pandemic feel very fatigued while performing everyday activities constitute 6%. The remaining 3% are people who, during the pandemic caused by the SARS-CoV-2 virus, feel very fatigued during everyday activities. Respondents from Germany who experience mild fatigue during the COVID-19 pandemic account for 27%, while slightly less, i.e. 25%, are respondents who experience moderate fatigue during the pandemic during everyday activities. Among the German population, 22% of respondents during the COVID-19 pandemic do not feel fatigued during everyday activities. The percentage of people who feel very fatigued during the pandemic during the performance of everyday activities is 14%, while slightly less, i.e. 12%, are people who feel very fatigued during the pandemic during the performance of everyday activities (Figures 11, 12, 13).

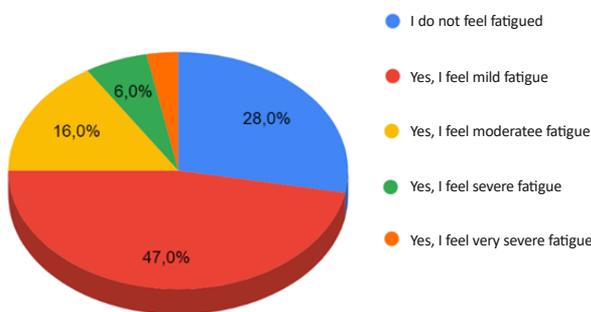


Figure 11. Percentage of the level of fatigue during everyday activities during the COVID-19 pandemic among Polish respondents

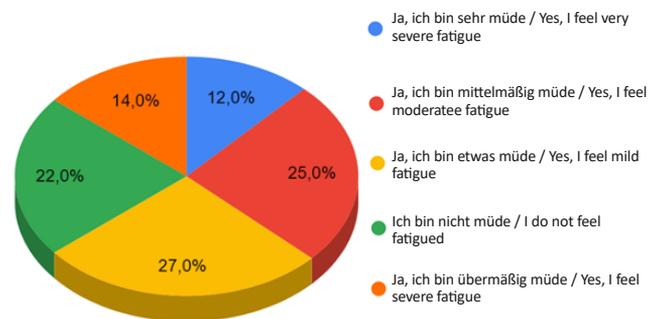


Figure 12 Percentage of the level of fatigue during everyday activities during the COVID-19 pandemic among German respondents

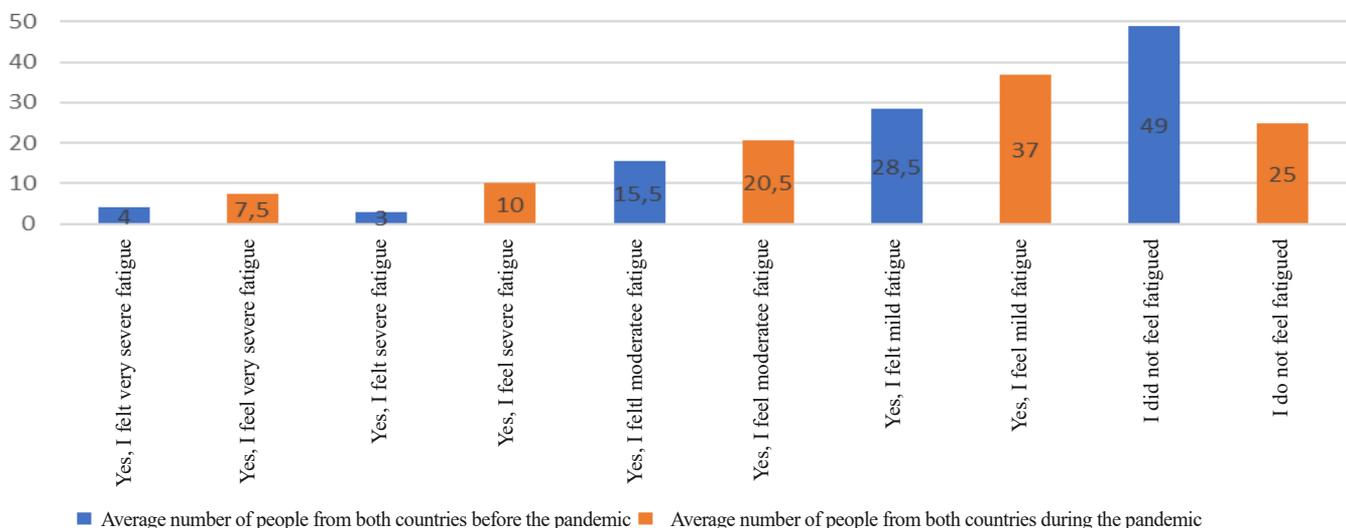
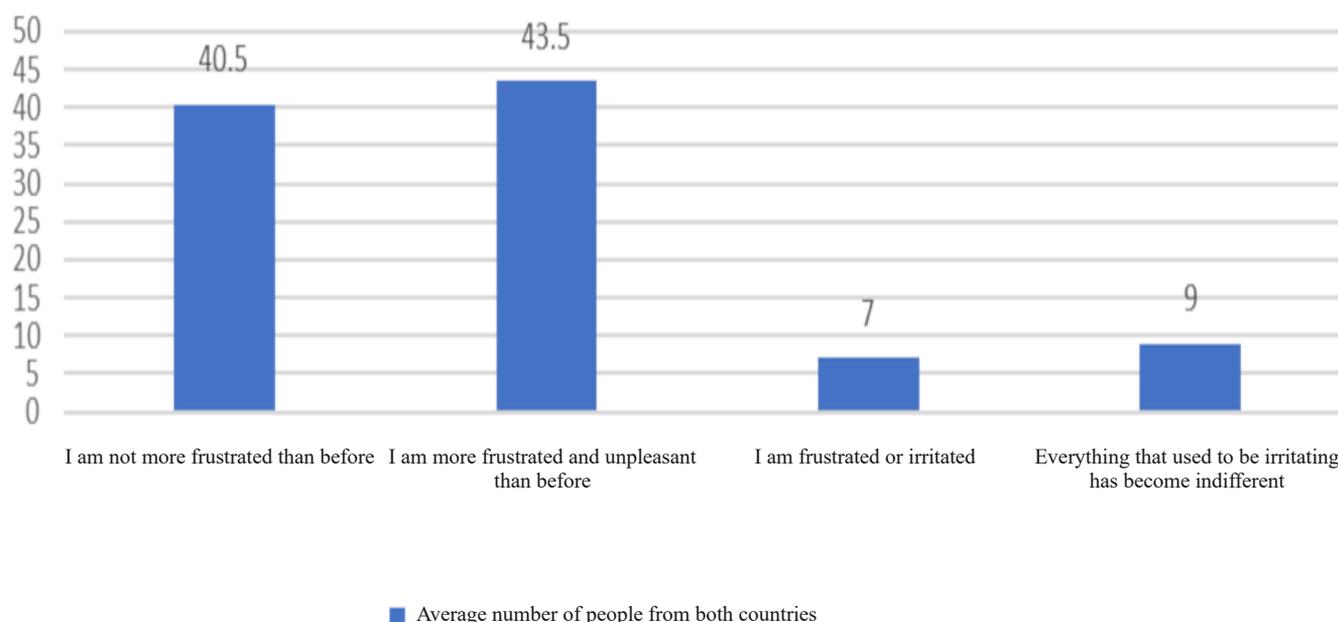


Figure 13. The average number of people from Poland and Germany and the level of fatigue during everyday activities before and during the COVID-19 pandemic

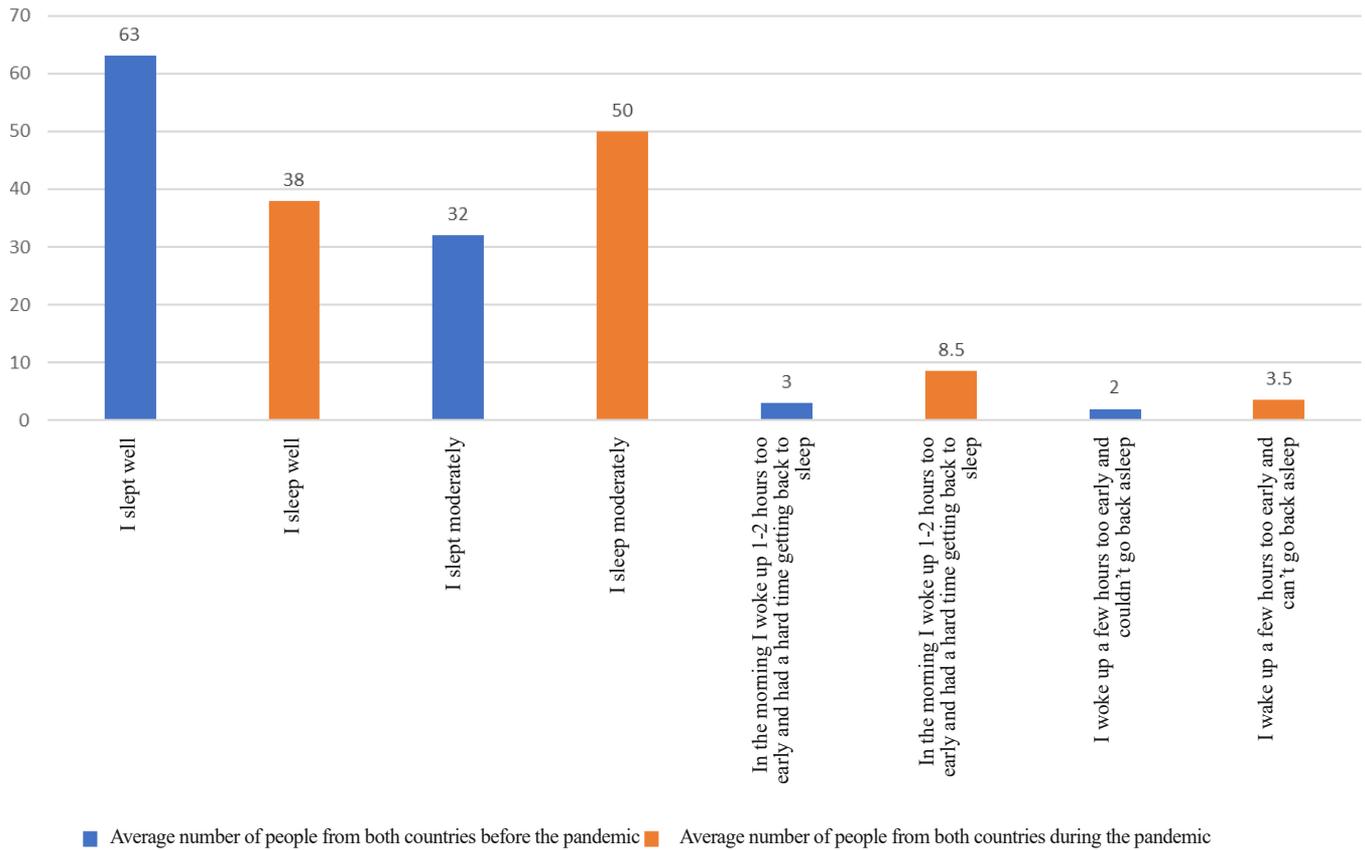
More than half of the respondents from Poland, i.e. 55%, declared that they were more frustrated and unpleasant than before the COVID-19 pandemic. 37% are currently not more frustrated than before the pandemic.

The remaining 8% are respondents who declared that everything that used to make them irritated has become indifferent or that they are constantly frustrated or irritated. Less than half of the respondents from Germany, i.e. 44%, declared that they were not more frustrated than before the COVID-19 pandemic. Respondents who are now more frustrated and unpleasant than before constitute 32%. Among the respondents, 15% declared that everything that used to be irritating has now become indifferent, while 9% are people who are constantly frustrated or irritated (Figure 14).



**Figure 14. Average number of people from Poland and Germany and the level of frustration caused by the ongoing COVID-19 pandemic**

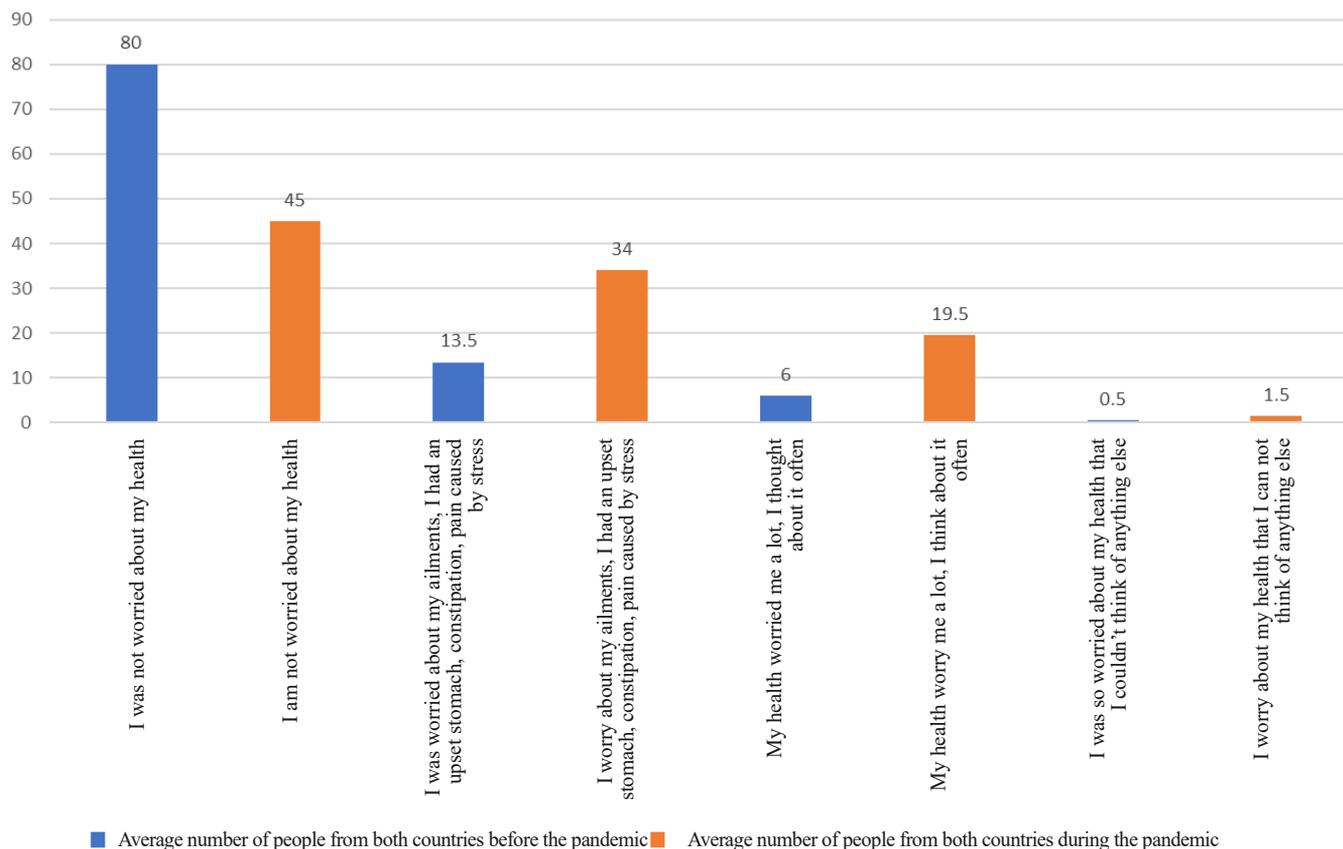
The majority of Polish respondents, i.e. 62%, sleep moderately during the COVID-19 pandemic. The percentage of people who sleep moderately during the COVID-19 pandemic is 33%, while the remaining 5% are people who wake up 1–2 hours too early in the morning during the COVID-19 pandemic and find it difficult to go back asleep or they wake up a few hours too early and cannot go back to sleep. The percentage of respondents from Germany who sleep well during the COVID-19 pandemic is 43%. Slightly fewer respondents, i.e. 38%, sleep moderately during the pandemic. People who wake up 1–2 hours too early during the pandemic and find it difficult to go back to sleep account for 14%. The remaining 5% are people who, during the pandemic caused by the SARS-CoV-2 virus, wake up a few hours too early and cannot go back asleep (Figure 15).



**Figure 15. The average number of people from Poland and Germany and sleep quality before and during the COVID-19 pandemic**

Over half of the respondents from Poland, i.e. 51%, are worried about their ailments during the COVID-19 pandemic, have an upset stomach, constipation, pain caused by stress. Compared to the result obtained from people from Poland before the pandemic, the percentage for the same criterion increased almost six times. People who do not worry about their health during the pandemic constitute 38%.

The number of people who are very worried about their health during the COVID-19 pandemic and often think about it is 10%. The remaining 1% are people who, during the pandemic caused by the SARS-CoV-2 virus, are so worried about their health that they can't think about anything else. Contrary to the results obtained from Polish respondents, 52% of German respondents do not worry about their health during the pandemic. People who are very worried about their health during the pandemic and think about it often constitute 29%. The percentage of respondents who worry about their ailments during the COVID-19 pandemic, have an upset stomach, constipation, pain caused by stress, is 17%. The remaining 2% are people who, during the pandemic caused by the SARS-CoV-2 virus, are so worried about their health that they can't think about anything else (Figure 16).



**Figure 16. The average number of people from Poland and Germany and the level of interest in their health before and during the COVID-19 pandemic**

### Discussion

The COVID-19 pandemic resulted in the introduction of restrictions in many countries that forced or encouraged citizens to stay isolated, preferably at home. In many countries, employers sent employees to work remotely. In turn, gyms and other sports and recreation facilities were closed by government decisions. All this meant that citizens had few opportunities and incentives for physical activity [12]. In addition, according to many authors, persistent post-covid symptoms significantly limited the ability to perform any activities [13, 14, 15, 16].

The results of studies indicate a change in the frequency of undertaking physical activity lasting longer than 30 minutes among the Polish population. The number of respondents undertaking physical activity for more than 30 minutes has significantly decreased, while the respondents who did not undertake physical activity for more than 30 minutes during the pandemic constitute almost half of the respondents from Poland. The situation in Germany is completely different, as the number of people undertaking and not undertaking physical activity lasting longer than 30 minutes did not change significantly. As a result of the pandemic caused by the SARS-CoV-2 virus, almost half of the respondents from Poland began to feel a little fatigued while performing everyday

activities, while the level of fatigue of the German respondents did not change significantly and oscillates around the same limits as before the pandemic. More than half of the respondents from Poland declared that as a result of the COVID-19 pandemic they are more frustrated and unpleasant than before, while the second largest group are people who are not more frustrated than before. In the case of respondents from Germany, the situation is different, i.e. less than half declared that they are not more frustrated than before, while the second largest group are people who are more frustrated and unpleasant than before the pandemic. This may indicate that the German population coped with their emotions slightly better than the Polish population.

As a result of the COVID-19 pandemic, the quality of sleep among Polish respondents has definitely decreased from good to moderate, while among German respondents there is no significant decrease in sleep quality.

The study conducted by the authors [17] on physical activity during the pandemic showed that more than half of the respondents continued regular physical activity, and among this group, the respondents most willingly did online training. Subsequently, the same percentage was obtained by answers suggesting undertaking physical activity in parks, outdoor gyms and using home equipment. The smallest group are the respondents undertaking physical activity at a friend's house/basement/attic. The authors also point to a decrease in the frequency of undertaking physical activity during the COVID-19 pandemic. The quoted results partially coincide with the results presented in this study, because among the group of respondents from Poland and Germany, a decrease in the frequency of undertaking physical activity is also observed, but people who exercise prefer to be active outdoors.

Research conducted by other researchers [18] showed that the COVID-19 pandemic did not affect the approach to health and lifestyle for almost half of the respondents. The results in many aspects, to varying degrees, do not coincide with the results presented in this study. The negative impact of the pandemic caused by the SARS-CoV-2 virus on the Polish population was recorded in terms of the level of frustration, well-being, sleep quality and care for one's health.

On the other hand, almost half of the respondents in Germany are not more frustrated than before, and the level of interest in their own health has slightly increased. There is no significant change in the level of well-being and sleep quality in the German population.

The juxtaposition of results from two countries allows us to look at the problem from a broader perspective and shows the differences and similarities in functioning in everyday life and in physical and mental health that occurred as a result of the pandemic caused by the SARS-CoV-2 virus. The study covered a large group, therefore the obtained results can be applied to the general population of Poland and Germany.

The study did not take into account the assessment of the impact of the pandemic on individual age groups or a given gender, which would allow to obtain knowledge about a more specific research group, e.g. about people in a specific age

range or professionally active. The questionnaire contained only closed questions suggesting an answer, while open-ended questions added to the questionnaire would allow researchers to better understand the respondents' point of view on the research problem.

### Conclusions

1. The COVID-19 pandemic had a negative impact on the mental health of the Polish population to a large extent, while the negative impact of the SARS-CoV-2 virus pandemic on the German population is observed to a much lesser extent.
2. The pandemic situation contributed to a significant deterioration in the quality of life in the case of the Polish population, while in the case of the German population, no significant deterioration in the overall quality of life caused by the COVID-19 pandemic was documented.
3. The COVID-19 pandemic caused a significant decrease in the level of physical fitness and the frequency of undertaking physical activity in the Polish population, while in the case of the German population, the level of physical fitness slightly deteriorated, but no significant decrease in the frequency of undertaking physical activity was observed during the pandemic caused by the SARS-CoV-2 virus.
4. Among the Polish population, the general well-being has clearly deteriorated, however, in the case of the German population, there is no significant decrease in well-being caused by the ongoing COVID-19 pandemic.

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# XV MDR międzynarodowe dni rehabilitacji

JUBILEUSZOWE potrzeby i standardy współczesnej rehabilitacji

Rzeszów 16-17 lutego 2023r.

## Konferencja online

### STRESZCZENIA I REJESTRACJA

**Uczestnictwo czynne:** Kartę zgłoszenia + Streszczenie przygotowane zgodnie z wymogami należy przesać do dnia **15 stycznia 2023r.** na adres: [konferencjamdr@ur.edu.pl](mailto:konferencjamdr@ur.edu.pl)

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