

Research Article
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Education as a Tool of Engagement in Sport and Physical Activity

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ABSTRACT

The paper deals with the issue of education and its relationship with sports and other physical activities among the Czech adult population.

The main goal of the paper is to find out if the level of reached education is related with attitudes towards sports and other physical activities and with their consequent realization as well.

The research was realized by the questionnaire SFSPA (Social Role of the Sport and Physical Activity) in the years 2019-2020. The research sample consisted of 1000 respondents (486 men and 514 women) from all over the Czech Republic. All respondents were questioned personally, their participation was voluntary, and all data were anonymized. For determination the research sample, we used a stratified quota selection with regards to sex, age and residence. The data were processed by using first and second level data sorting, specifically pivot tables. Furthermore, correlation analysis and statistical significance (χ^2) were used.

The results clearly testified that the grade of reached education has a positive connection with a relationship towards sports and other physical activities.

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Introduction

Sport and other physical activities bring numerous benefits for a human being. There are so many that only naming them all would exceed the possibilities of this article. We can selectively state only some of them as an example. Physical activity is one of the significant factors influencing human health, and is the preventive factor against obesity, stimulates metabolism and substance exchange, with the sufficient volume and intensity it can increase human physical fitness etc. For this reason, the World Health Organization (WHO) addresses appropriate volume and intensity of physical activity. It recommends to adults moderate-intensity exercise for at least 30 minutes at least 5 times a week [1].

The same topic was further addressed by Corbin et al, who recommend physical activity for a minimum of 3-4 hours per week [2]. In their case, it is an individual activity characteristic. Christiansen, Kahlmeier, & Racioppi, who deal with the implementation of European Union recommendations regarding health-oriented activities, base their recommendations on those of the WHO (see above) [3]. Similarly, Oja & Titze define the required volume of physical activity, also concurring with the WHO for adults in terms of a minimum of 30 minutes and a frequency of 5 times a week [4]. The recommendations of the United States Department of Health and Human Services (USDHHS) speak similarly [5].

The influence of physical activity on substance exchange is addressed, for example, by Booth, who found that in case of

insufficient movement, the body's ability to metabolize fats is lower, to break down certain harmful substances and free radicals is reduced, thereby the likelihood of decreased immunity is increased. Additionally, the quality of skin, nails, hair, etc., may deteriorate [6].

Among the additional benefits of sports and other physical activities, we can mention their psycho-relaxation function. Praško & Prašková state that during physical activity, there is an adjustment of heart rate, deepening of breathing, forgetting about the worries of everyday life, etc., which subsequently has a relaxing effect and serves as a prevention against mental stress and its consequences. Similarly, Mahindru, Patil & Agrawal suggest that physical activity is a significant determinant of mental health. Stackeová comprehensively addresses the health benefits of being physically active [7-9].

In the specific case of sports, many other benefits can be mentioned, originating from areas other than health or fitness. These include, for example, mental resilience, socialization, understanding and acceptance of rules, adopting the concept of fair play, establishing a regular daily routine, time management, etc.

From the above, it is obvious that physical activities are highly beneficial. However, their implementation depends not only on understanding their benefits but also on attitudes, motivation, individual values, life situations, current health, etc. Key factors can then be considered as attitudes and values, as they are relatively stable and long-term compared to other mentioned factors. Life situations or current health can change very rapidly, while

motivation can often reflect attitudes and values. A number of authors address attitudes towards physical activity or specifically sports. Jansa, Kotlík, & Němec state that attitudes of the inhabitants of the Czech Republic towards sports and physical activities are indeed positive; however, there are significant differences between various age groups as well as between genders [10]. With increasing age, positive attitudes towards physical activity weaken, with a noticeable decline occurring after the age of 60. In higher age, women tend to maintain more positive attitudes. Furthermore, Araújo & Dosil concluded, based on a research sample of 1129 respondents, that attitudes are one of the most significant factors influencing engagement in physical activities and sports, with significant differences existing between age groups, family background, etc. Swanepoel, Surujlal & Dhurup, specifically focused on university students and demonstrated that there is a statistically significant relationship between attitudes towards sports and other physical activities and life satisfaction [11,12].

Based on the above, it is evident that attitudes towards sports and other physical activities are an important factor for individual health and satisfaction. Regarding the above, the article focuses on the relationship between the reached education and attitudes towards physical activities and sports, as well as their actual implementation.

Materials and Methods Goal

The main aim of our research study is to determine whether, and if so, how education, or rather its level, influences attitudes towards sports and other physical activities, as well as their subsequent implementation.

Research Questions

Based on the set goal, the following research questions have been formulated:

- What is the relationship to sports and physical activities among the adult population of the Czech Republic?
- Do the residents of the Czech Republic engage in sports and other physical activities in accordance with their declared attitudes?
- Does the level of attained education correlate with attitudes towards sports and other physical activities?
- Does the level of attained education correlate with one's own participation in sports or other physical activities?

Methods

Instrument

The data was collected through the SFSPA questionnaire as part of a broader survey involving residents of the Czech Republic. The questionnaire itself was created by Jansa in 1999 with the purpose of the implementation of a nationwide representative research survey focused on the relationship and attitudes of the residents of the Czech Republic to physical activities and sports, their daily routines, lifestyle, and personal participation in sports [10]. The overall reliability of the questionnaire is 0.77 for Cronbach's alpha (α) and 0.84 for Guttman's split-half coefficient (SHC). For the dimensions presented in this text, the reliability for attitude and relationship towards sports and physical activities was 0.77 (α) and 0.79 (SHC); for one's own participation in physical and sports activities, the reliability was 0.77 (α) and 0.78 (SHC).

Research Sample

The research sample was selected through stratified quota sampling, with publicly available data provided by the Czech

Statistical Office serving as the fundamental basis [13]. From these demographic data, we created a proportional representation of the population of each region of the Czech Republic, as well as the Czech Republic as a whole. Proportionality was calculated based on gender, age, and size of the residential area, up to the year 2019. The total number of respondents for the Czech Republic was 1000 individuals, comprising 486 men and 516 women. The research survey was conducted at the end of 2019 and the beginning of 2020.

All respondents were interviewed in person, face to face, with participation strictly voluntary and entirely anonymous. In case of refusal by the approached respondent, another person was contacted according to the sampling key. The overall refusal rate was approximately 14%.

Data Processing

The collected data underwent statistical classification of the first and second degree, utilizing the statistical program NCSS (version 19.0.1) and MS Excel (Office365 version). Specifically, we have used frequency tables, contingency tables, statistical significance (χ^2), and correlation analysis.

Results

The first item assessed was the relationship to sports and other physical activities, or the perception of the subjective importance of these activities to the respondents. Generally, we can state (see Figure 1) that respondents mostly indicate that sports and other physical activities are important to them, with a positive attitude ranging from 80.37% of men with primary education to 95.83% of men with tertiary education. Despite the generally positive results, there is a noticeable trend where the prevalence of the importance of sports and other physical activities among the population of the Czech Republic increases with higher education. This trend ranges from 80.53% to 92.45% among women and from 80.37% to 95.83% among men. Within individual educational categories, no statistically significant differences were found between men and women.

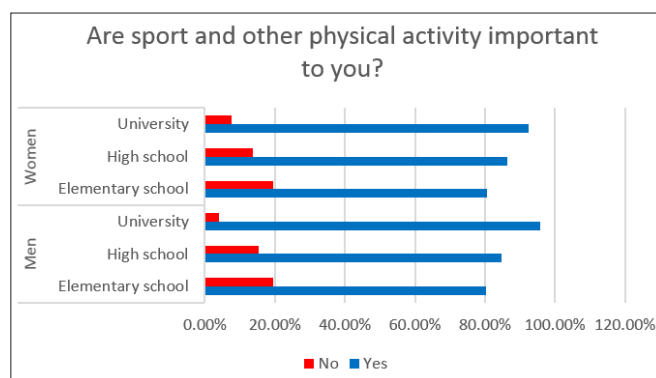


Figure 1: Declared Importance of Sports and Other Physical Activities (source: author)

Similarly to the subjective importance of sports and other physical activities, the results regarding the incorporation of these activities into lifestyle are generally positive, however, to a lesser extent (see Figure 2). Women with primary education consider sports and other physical activities as part of their lifestyle least frequently (66.37%), while men with tertiary education consider these activities as part of their lifestyle most frequently (93.06%). No statistically significant differences were found between men and women in individual educational categories in this case either.

However, it can be noted that men in all educational categories consider sports and other physical activities as part of their lifestyle more frequently than women. Above all, it is important to highlight the very clear trend of increasing incorporation of sports and other physical activities into lifestyle with higher education.

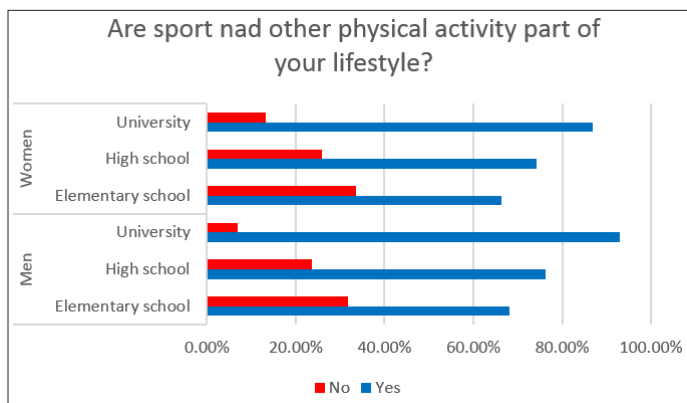


Figure 2: Sports and Other Physical Activities as Part of Lifestyle (source: author)

Another evaluated aspect of attitudes towards sports and other physical activities was whether these activities have a stable place in the respondents' lives. The motivation for asking this question was partly to verify and validate the previous two statements, but also to determine potential differences in the attitudinal and conative components. Figure 3 indicates that respondents answer overall consistently, with a clear predominance of positive responses, that means that sports and other physical activities have a stable place in their lives, as well as a trend of increasing frequency of positive responses with increasing levels of education. Women with primary education least frequently incorporate sports and other physical activities into their lives (73.45% of respondents), while men with tertiary education do so most frequently (95.83% of respondents). Furthermore, in this question, they completely agree with their responses on the importance of sports and physical activities (see Figure 1, also 95.83%). Similarly, in this case, no statistically significant differences between genders were found within individual educational categories.

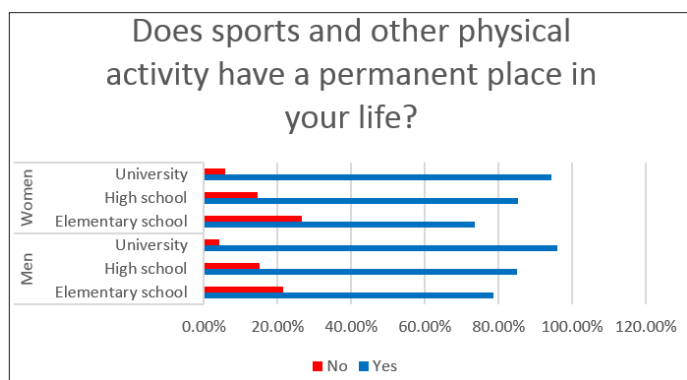


Figure 3: Place of Sports and Other Physical Activities in Respondent's Lives (source: author)

Another area of our interest was whether respondents engage in sports or other physical activities. This topic is addressed in Figure 4. In this case as well, the proportions of those who engage in sports or other physical activities mirror the level of reached education, as follows. The group of women with primary education engages in sports least frequently (72.57%),

followed by men with primary education (75.05%). In the case of individuals with secondary education, both women (81.23%) and men (83.00%) have participation rates above 80%. For those with tertiary education, their participation rates exceed 90% in both cases (women 91.51%, men 94.44%). Another finding is that despite the generally positive results, the proportion of those who engage in sports or other physical activities slightly decreases compared to the overall number of respondents who indicated that these activities are important to them. Again, there are no statistically significant differences between genders within individual educational categories.

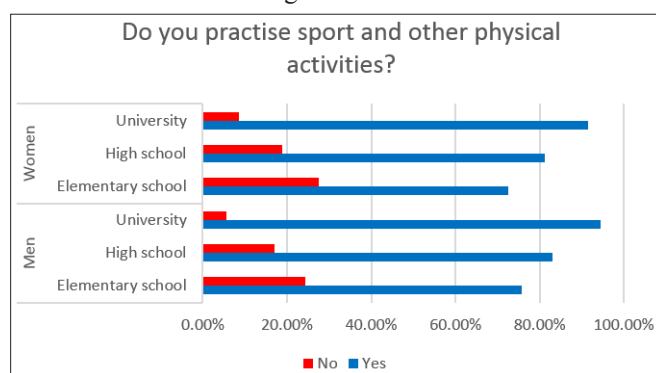


Figure 4: Real Engagement in Sport and Other Physical Activities (source: author)

The questions regarding whether respondents engage in sports or other physical activities were further expanded by asking how much time per week respondents spend on moderate-intensity physical activity for at least 20 minutes continuously. This topic is addressed in Figure 5. It is evident that the results are again consistent with previous findings in terms of correlation with the level of attained education. More than 2 hours per week are spent on sports and other physical activities of intensity and duration corresponding to WHO recommendations in over 40% of all observed categories. However, differences are also noticeable not only between educational categories but also between genders. In the case of women, the category with the least compliance with WHO recommendations is those with secondary education, at 41.64%, followed by women with primary education (52.68%) and women with tertiary education (57.55%). For men, the situation is as follows: those with primary education engage in sports and other physical activities of moderate intensity for at least 20 minutes less frequently, but in the overall weekly volume of more than 2 hours, they surpass those with primary education (50.47%), followed by men with secondary education (53.67%) and men with tertiary education (61.11%). A statistically significant difference was found between men and women with secondary education, at a significance level of $p=0.05$.

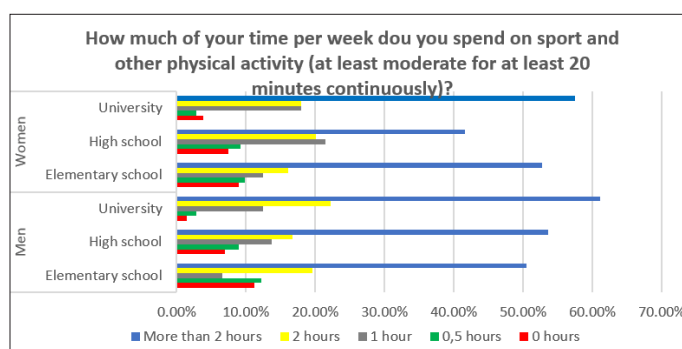


Figure 5: The Amount of Time Spent on Sports and Other Physical Activities (source: author)

To examine the relationship between attitudes towards sports and other physical activities, their engagement, and the level of reached education, as well as the consistency of declared attitudes, a correlation analysis was conducted using Pearson's correlation coefficient. Table 1 presents the correlation matrix of items assessing the attitudes of adult residents of the Czech Republic towards sports and other physical activities. Among the individual items, moderate to strong relationships are found, with individual correlation coefficients ranging from 0.45 (in the case of the relationship between the weekly volume of activities performed and the subjective significance attributed by respondents to sports and other physical activities) to 0.71 (in the case of perceiving sports and other physical activities as part of lifestyle and simultaneously evaluating whether sports and other physical activities hold a firm place in the lives of respondents).

Table 1: Correlation Matrix – Correlations Among Declared Attitude Items

	Importance	Part of lifestyle	Stable place	Real practice	Amount of practice
Importance	1	0,641577	0,582997	0,496543	0,449198
Part of lifestyle	0,641577	1	0,712814	0,642582	0,59818
Stable place	0,582997	0,712814	1	0,645465	0,52346
Real practice	0,496543	0,642582	0,645465	1	0,56746
Amount of practice	0,449198	0,59818	0,52346	0,56746	1

Cronbach's Alpha = 0,866567

Source: author

A similar situation arises when evaluating the correlation between the level of attained education and the domain of attitudes, or the actual engagement in sports and other physical activities (Table 2). Here, we find moderately strong to strong relationships ranging from 0.49 (weekly sports volume) to 0.67 (position of sports and other physical activities in the lives of respondents).

Table 2: Correlation Matrix – Correlations Among the Level of Education and Attitudes/Practice

	The level of reached education
Importance	0,61892
Part of lifestyle	0,659952
Stable place	0,666994
Real practice	0,552099
Amount of practice	0,495367

Cronbach's Alpha = 0,821132

Source: author

Discussion

The paper addresses the potential relationship between the education level of the adult population of the Czech Republic and their attitudes towards sports and other physical activities, as well as their subsequent engagement in them.

The obtained results enable us to answer the research questions as follows:

- What is the relationship to sports and physical activities among the adult population of the Czech Republic?

The attitudes of adult residents of the Czech Republic towards sports and other physical activities are very positive; however, differences have been identified concerning the level of reached education. Respondents with lower levels of education have weaker attitudes towards sports and other physical activities in all areas of assessed attitudes (attributed significance, incorporation into their own lifestyle, and the position of sports and other physical activities in their lives) compared to individuals with higher levels of education. This applies to differences between primary and secondary education as well as differences between secondary and tertiary education.

- Do the residents of the Czech Republic engage in sports and other physical activities in accordance with their declared attitudes?

In the case of this research question, we arrive at the same conclusions as in the case of respondents' attitudes towards sports and other physical activities. Regarding the question of whether respondents engage in sports or other physical activities, the structure of responses is similar to that of attitudes. Therefore, it can be stated that the residents of the Czech Republic engage in sports and other physical activities in accordance with their attitudes. However, slightly different results are obtained when examining the extent to which respondents engage in their sports or other physical activities (at least moderate intensity and minimum duration of 20 minutes). In this case, the group of women with secondary education achieved the lowest score in engaging in sports and other physical activities in accordance with WHO recommendations. Furthermore, it can be noted that a statistically significant difference was found between women and men with secondary education, at the level of $p=0.05$. A negative finding is that only about half of the respondents meet the WHO recommendations in all categories.

- Does the level of attained education correlate with attitudes towards sports and other physical activities?

Based on the correlation analysis, the question can be answered positively. The level of attained education by respondents exhibits strong correlations with specific items focusing on the attitudes of the Czech adult population towards sports and other physical activities. Additionally, individual items also show very similar

relationships among themselves, indicating that respondents are consistent in their attitudes.

- Does the level of attained education correlate with one's own participation in sports or other physical activities?

Like the previous research question, based on the correlation analysis, we find relationships here as well, which we assess as moderately strong. Therefore, it can be stated that there is a correlation between the level of attained education and the subsequent engagement in physical activity. However, this relationship is weaker than in the case of declared attitudes. Thus, it can be inferred that the attitudinal component is weaker than the conative component.

The findings from previous research studies present different information regarding our study. Fojtík & Mitáš in their study conducted on a specific population in the Moravian-Silesian region (a strongly urbanized area with significant representation of heavy industry, especially metallurgy), concluded that the varying levels of education in the region did not correlate with physical activity [14]. Furthermore, Vašíčková, Roberson, & Frömel even reached the conclusion that individuals with higher education levels engage in less physical activity than others [15].

On the other hand, Špaček states that individuals with higher education exhibit significantly higher levels of physical activity than those with primary or secondary education, which aligns with our findings. Similarly, Kari et al also conclude that higher education levels positively correlate with engagement in physical activity (in this regard, actual engagement can be considered as an expressed attitude) [16,17]. The authors even argue that each additional year of education leads to a statistically significant increase in the volume of physical activity undertaken. Agreement with the results of our research is also found in the study by Droomers, Schrijvers, & Mackenbach who claim that lower levels of education are statistically significantly associated with a higher likelihood of reduced physical activity. Schnohr, Højbjerg, & Riegels also conclude that lower education is associated with a higher prevalence of physical inactivity. Similarly, we agree with other reviewed studies [18-20]. For the relationship between attitudes and the level of attained education, due to the limited number of reference studies, we can only infer indirectly.

Limits and Strong Points of the Study

A limitation of the study may be the limited number of questions dedicated to specific topics. A higher number could help uncover further internal connections and relationships. However, the research tool used did not allow for its expansion.

As a strong point of the study, we consider the selection method, which allows for generalization to the adult population of the Czech Republic, as well as the mutual consistency of individual results. Another strong point is the method of questionnaire distribution (in-person, face-to-face).

Conclusion

The main findings of our study indicate that attitudes towards sports and other physical activities, as well as their actual engagement, correlate with the level of attained education across all evaluated areas. Both in terms of attitudes and engagement in sports and other physical activities, the population with secondary education consistently shows more positive results than those with only primary education. Similarly, when comparing respondents with secondary and tertiary education, those with completed higher

education consistently fare better. The only exception to the above is the actual engagement in sports and physical activities, where women with secondary education show lower levels of positive responses than women with only primary education.

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Declaration of Conflicting Interests

The author declares no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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