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## PHYSICAL ACTIVITY AMONG WOMEN AND MEN IN TIME OFF FROM WORK

**Abstract. Introduction.** Research on the literature shows different and sometimes contradictory data about the physical activities of women and men.

**Aim.** The goal of the research study is to compare selected aspects of physical activity in women and men.

**Material and methods.** 100 men and 100 women were selected and tested using the “pairing method” and examined in terms of four variables: place of residence, education, marital status and age. A specially prepared survey questionnaire was used.

**Results.** Men and women differ in terms of certain aspects of physical activity (especially its types), while their motivations and limitations only slightly differ.

**Conclusions.** Women significantly more often prefer walking as a physical activity, while men prefer running, swimming, and using the weight room and gym for team sports. On working days, women have significantly less free time than men. The only motivating factor for physical activity that differentiates both groups is the “beauty” motif that is more often present in women. The groups do not differ in terms of obstacles keeping them from undertaking physical activity, although women more often reported a lack of time.

**Keywords:** physical activity; motor activity; women; men.

### 1. INTRODUCTION

Systematic physical activity is a prerequisite for proper physical and mental development, as well as good overall health. It is an important aspect in preventing civilization diseases and an important element of disease therapy and disorders. Numerous studies also prove that proper physical activity

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is able to significantly reduce the negative impact of the aging process and helps us keep our physical, mental and social health as long as possible.<sup>1</sup> Taking up various forms of physical activity also gives us the opportunity to meet new people and thus increases our confidence through social contacts.<sup>2</sup>

According to the recommendations of the World Health Organization, healthy adults (aged 18 to 64) should undertake the following physical activities: moderate exercise (150 minutes/week), intensive exercise (75 min./week) or the equivalent of a combination of moderate and intensive efforts.<sup>3</sup> Despite the growing involvement of society in physical culture, statistics are still unsatisfactory. Only every seventh Pole (16.1%) aged 15–69 meets the standards regarding the level of physical activity during their leisure time as recommended by the World Health Organization. Among men (18.9%), the proportion of people meeting WHO recommendations is slightly higher than among women (13.4%).<sup>4</sup>

In many studies, it was emphasized that men more often engage in sports than women, although in many situations, women are more organized and systematic (for example, taking health tests) and generally take care of their health.<sup>5</sup> On the other hand, apart from their professional work, women are also busy with household duties. The growing awareness of the role of physical activity in preventing civilization diseases, as well as differences concerning health care based on gender, inspired us to undertake this research.

The aim of this article is to try to answer the question: do men and women differ in their physical activity during leisure time?

By specifying the problem, we can ask the following research questions:

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<sup>1</sup> Urszula KAŻMIERCZAK, Agnieszka RADZIWIŃSKA, Maciej DZIERŻANOWSKI, Irena BUŁATOWICZ, Katarzyna STROJEK, Grzegorz SROKOWSKI, Walerij ZUKOW, “Korzyści z podejmowania regularnej aktywności fizycznej przez osoby starsze,” *Journal of Education, Health and Sport* no. 5(1) (2015): 66.

<sup>2</sup> Aleksandra GÓRECZKA, Wojciech GARCZYŃSKI, “Motywy podejmowania aktywności fizycznej — przegląd literatury,” *Health and Sport* no. 7 (2017): 336.

<sup>3</sup> Cit. op.: *Poziom aktywności fizycznej Polaków*, KANTAR PUBLIC 2017, p. 4. Ministerstwo Sportu i Turystyki, <https://msit.gov.pl/download/1/13795/Analizawynikow2017.pdf> [10.04.2018].

<sup>4</sup> *Ibidem*, 4.

<sup>5</sup> *Sport i aktywność fizyczna*, Eurobarometr, Belgia 2010; Cf. Alicja STACHURA, Łucja PŁATEK, Adam BENEK, “Aktywność ruchowa kobiet i mężczyzn w różnym wieku,” in *Kultura fizyczna i zdrowotna współczesnego człowieka — teoretyczne podstawy i praktyczne implikacje*, ed. Arkadiusz Kazimierczak, Anna Maszorek-Szymala, Ewelina Dębowska (Łódź, 2008), 214–219; Maria CHUCHRA, Julia GORBANIUK, “Selected health behaviours in professionally active men and women,” *Polish Journal of Public Health* no. 2 (2017): 67–70; Julia GORBANIUK, Maria CHUCHRA, “Preferencje żywieniowe kobiet i mężczyzn aktywnych zawodowo,” *Roczniki Teologiczne* 64, no. 10 (2017): 161–164.

Which forms of physical activity are preferred by women and which by men? Do they have the same amount of free time?

Are there differences in terms of motives that determine physical activity?

Are there significant differences concerning the types of obstacles encountered by women and men who engage in physical activity?

## 2. GROUP DESCRIPTION AND RESEARCH TOOLS

In order to answer the research questions asked, 100 men and 100 women between 20 and 64 years of age were professionally examined. Demographic variables were controlled by selecting persons using the 'pairing method' in terms of four variables: place of residence, education, marital status and age. Village residents comprised 33% of women and men, while 67% came from cities. In the surveyed group, 10% of men and women declared basic vocational education, 9% had a basic education and 20% completed a vocational secondary education. Higher vocational education (a bachelor's degree) was completed by 18% of the men and women, and 43% finished higher education (a master's degree). 36% of unmarried men, 64% of married men, 32% of single women and 68% of women with families qualified for the research study.

The research was based on a survey questionnaire consisting of 4 parts (79 questions). This article only uses select questions from its third part concerning physical activity.

## 3. RESULTS

First of all, the studied people were asked about the type of physical activity they undertake during their free time. Among the proposed answers, the respondents could point to the presently popular forms of physical activity available both in the city and in greater rural communities, such as: walking, running, cycling, swimming, and group exercises such as aerobics, fitness, yoga, gymnastics and the like, weight training, team sports, tourism, dance, working in the garden and other activities. The results are shown in chart 1.

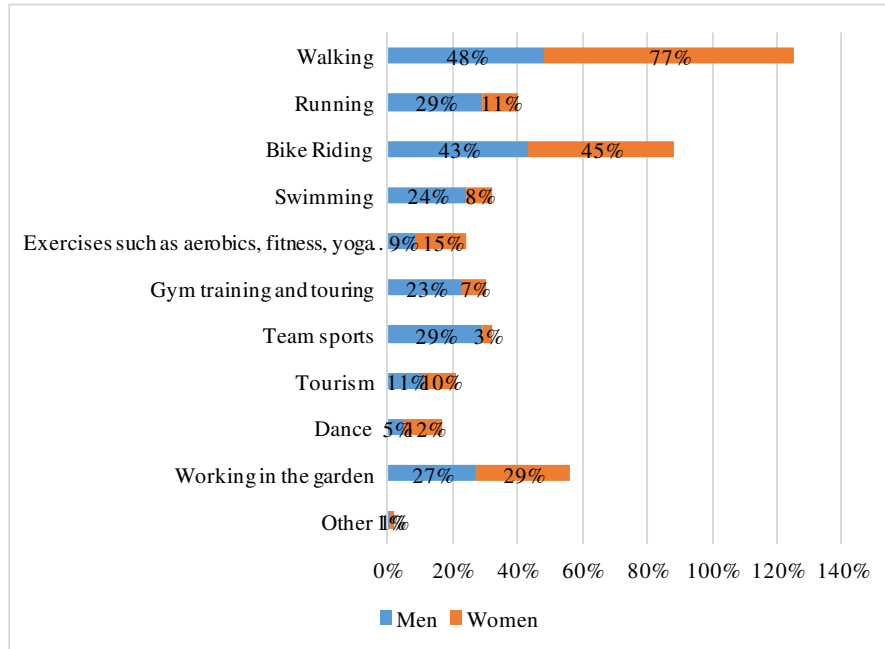


Chart 1. Forms of physical activity undertaken by women and men

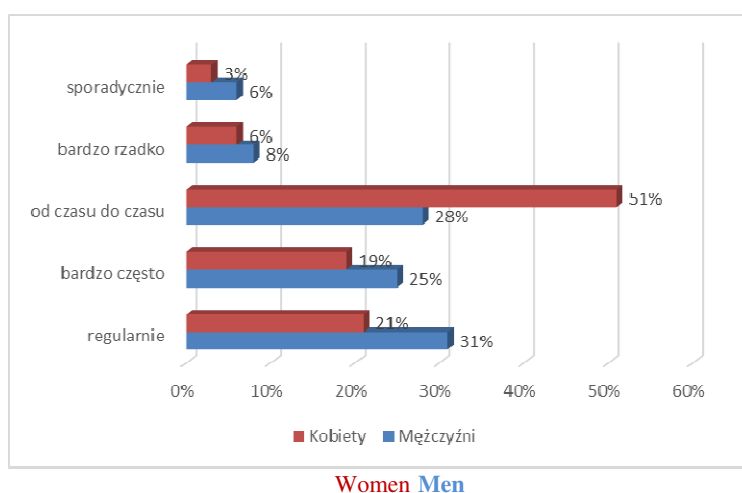
In comparing the forms of physical activity undertaken by women and men, we can see that walking is the most popular activity in both gender groups, whereas women prefer to be active much more often than men (women 77%, men 48%,  $p = 0.001$ ). Cycling takes second place ( $w = 45%$ ,  $m = 43%$ ), and it is similarly preferred by both women and men. Analyzing the data on the basis of the age of the respondents, it should be pointed out that the average age of the men who are “cyclists” is 49 years old, while the average age of the women is 33. A statistically significant difference was found between the two groups in undertaking activities such as running ( $W = 11%$ ,  $M = 29%$ ,  $p = 0.001$ ). The results of the study indicate that both the women and men who prefer this type of activity are rather young (the women are not yet 32 years old, while the men most often represent the age range of 20–27 years old). Other age ranges among the men are based on individual cases, while the oldest runner was 67 years old.

Analyzing the other forms of physical activity, we can notice that some are specific to men, and these activities are much less frequently chosen by women. Three times more men than women declared using the swimming pool ( $W = 8%$ ,  $M = 24%$ ,  $p = 0.001$ ). Similar statistically significant differences among the men

were observed in the frequency of going to the gym (W = 7%, M = 23%,  $p = 0.001$ ) and centers for team sports (W = 3%, M = 29%,  $p = 0.001$ ). These include physical activities that require regular training and considerable physical effort, and they are preferred by men up to 47 years old. However, the women who chose these types of physical activities did not exceed 30 years of age (team sports and gyms). In turn, swimming was equally represented by women in all age categories. The physical activity which is more often preferred by women than men is dance classes. 12% of women and 5% of men take part in these and they are young people not older than 26 years of age.

The remaining physical activities chosen by both men and women include tourism (W = 10%, M = 11%), working in the garden (W = 29%, M = 27%) and training exercises improving their overall physical condition, such as: gymnastics, fitness, aerobics and other training (W = 15%, M = 9%). The respondents also sporadically (just one percent) pointed to other physical activities, like competitive performances (boxing, dirt track motorcycle, fencing) and seasonal recreational sports (skiing, sailing, diving).

In order to specify how often the respondents use selected forms of physical activity, we proposed using the 5-point scale, where the value of 1 means sporadically, while the value of 5 means regularly. Chart 2 presents the results of our analyses.

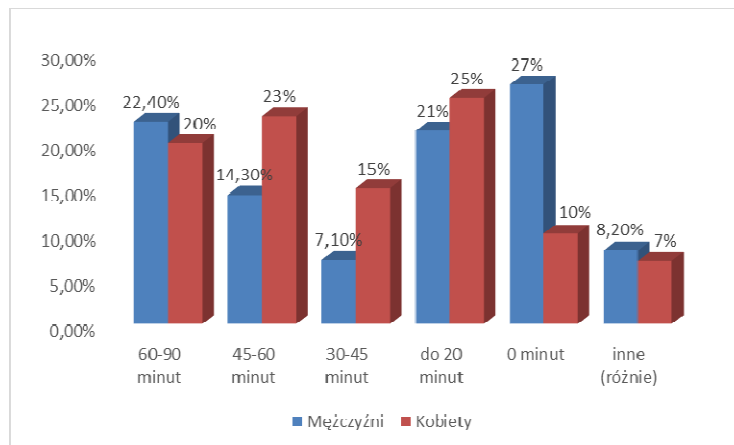


sporadycznie—Sporadically; bardzo rzadko—Very Rarely; od czasu do czasu—From time to time; bardzo często—Very often; regularnie—Regularly

Chart 2. The frequency of selected forms of physical activity by women and men

Among those undertaking various forms of physical activity, the largest group are women who from time to time become motivated to do sports (51%). On the other hand, over half the men (56%) indicated that they regularly (31%) or very often (25%) take up different forms of physical activity, which in relation to women equals 40% of the respondents. The people who declared very rare or sporadic use of any form of activity included 9% of the women and 14% of the men, and this especially applies to elderly people living in cities.

Next, the subjects were asked about the average amount of time spent during one session of physical exercise (Chart 3). Our analysis of the obtained data showed the existence of a statistically significant difference ( $p = 0.05$ ) between both groups. Women as a significant majority (around 90%) pointed to doing physical activity for different lengths of time, whereas only two-thirds of men indicated that they try to perform more or less intense physical exercises. The difference between the two groups is around 17%. Intense efforts for around 60–90 minute intervals are made by a similar number of women and men ( $W = 20\%$ ,  $M = 22.4\%$ ). Training for 45–60 minutes ( $W = 23\%$ ,  $M = 14.3\%$ ) and 30–45 minutes ( $W = 15\%$ ,  $M = 7\%$ ) is more often preferred by women. On the other hand, short efforts (up to 20 minutes) are to a similar extent undertaken by representatives of both sexes ( $W = 25\%$ ,  $M = 21\%$ ). Also, about 10% of women and men, depending on external and internal factors, do physical activities for different lengths of time.



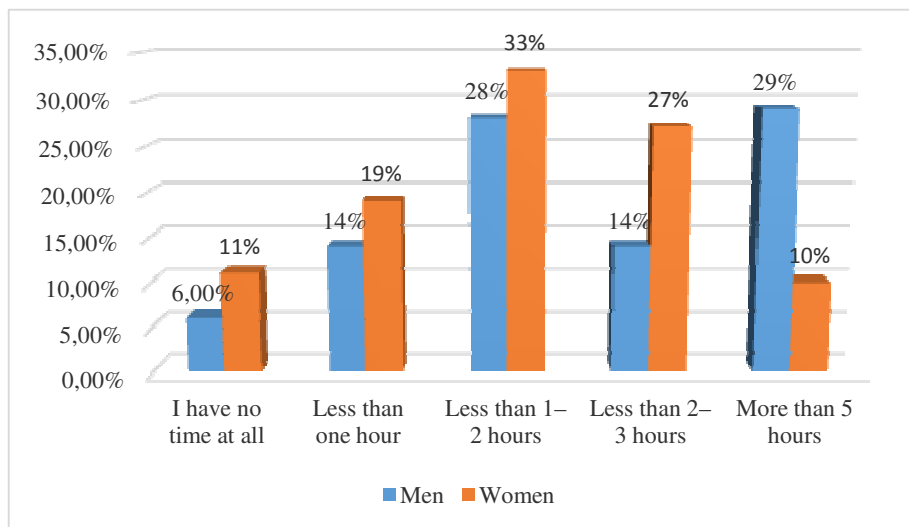
Men Women

60–90 minutes; 45–60 minutes; 30–45 minutes; up to 20 minutes; 0 minutes; other  
(Chi-square = 12.705, df = 4,  $p = 0.021$ )

Chart 3. The time spent during one session of physical training by women and men

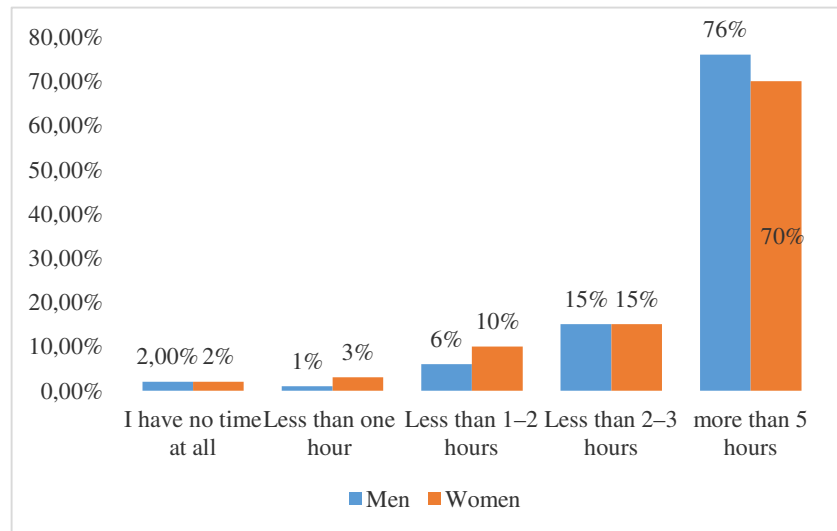
When analyzing factors most harmful to the health of respondents, among many other factors, both women and men mentioned the lack of physical activity (24% of women and 18% of men). Seeking the reasons for this state of affairs, respondents were asked about the amount of free time they spend exercising on business days and work-free days. The obtained results are presented in chart 4 and chart 5.

Our results indicate that the lack of regularity and sporadic physical activity among women (in comparison to men) may result from a lack of free time during working days. Significantly more than half of the women (66%) indicated that they had up to 2 hours of free time during the work week, while 48% of men had the same amount of free time. In turn, 29% of men and only 10% of women claimed to have over 5 hours a day of free time. The observed differences between these two groups in the area of free time for their own needs are statistically significant ( $p = 0.01$ ). However, on non-working days, both women and men have about the same amount of free time.



(Chi-square = 7.831, df = 4,  $p = 0.01$ )

Chart 4. The average amount of free time on working days



(Chi-square = 2.247, df = 4, p = 0.346)

Chart 5. The average amount of free time on non-working days

During the next stage of the research, respondents were asked to mention what motives them to take up physical activity (Table 1). They were offered a wide range of responses and could also choose the “other” category.

The vast majority of women and men alike gave similar motives for taking up various forms of physical activity. The most common of these is caring for one's health (W—42%, M—40%). Almost half of the respondents are greatly aware of the need for physical effort in order to maintain good health. In addition, about 20% of these men and women would like to maintain a good physical condition for as long as possible.

In addition to health reasons, almost one-third of the respondents (W—33%, M—35%) undertake physical activity for pleasure, because they need to move around (W—31%, M—24%) or need social contacts (W—10%, M—5%). Statistically significant differences were found only in the “for beauty” category (p = 0.1). A healthy lifestyle was the main motivation for their physical activity, and this response was chosen by a small part of the study group.



Table 1. The main motives for physical activity by women and men

Motivation for undertaking physical activity	Men	Women	<i>Chi-square</i>	<i>df</i>	<i>p</i>
For my health	40%	42%	0.083 <sup>a</sup>	1	0.387
To be beautiful	3%	14%	7.779	1	0.01
To improve my physical condition	23%	21%	0.117 <sup>a</sup>	1	0.366
For pleasure	35%	33%	0.089	1	0.380
For social contacts	10%	5%	1.802 <sup>a</sup>	1	0.089
I need movement	24%	31%	1.229 <sup>a</sup>	1	0.134
A healthy lifestyle	2%	0%	2.02	1	0.076

In the next question, respondents were asked to mention the obstacles for not taking up motor activity. The results obtained are presented in Table 2.

A comparison of the results in this respect between the two groups did not reveal statistically significant differences. Women somewhat more frequently point to the lack of free time due to their professional and family duties (W = 33.5%, M = 26.4%) and the lack of a strong will required for regular physical exercises (W = 37%, M = 35%). Only about 4% of the women and men think that physical activity is not important in maintaining good health and a proper physical condition. Other obstacles, such as: lack of access or difficult access to equipment at sports and recreation facilities, lack of financial means for gym passes or buying equipment in the surveyed group only concerned a small number people (from 3 to 13%).

Table 2. Barriers to physical activity by women and men

Obstacles in undertaking physical activity	Men	Women	<i>Chi-square</i>	<i>df</i>	<i>p</i>
Lack of free time due to responsibilities	26.4%	33.5%	3.148 <sup>a</sup>	1	0.076
Lack of access to equipment / sports centers	9.3%	13%	0.687 <sup>a</sup>	1	0.407
Lack of will power	35.10%	37.00%	0.081	1	0.776

No faith in the positive effects of physical activity	4.10%	4.00%	0.002 <sup>a</sup>	1	0.965
Lack of financial means	3.10%	8.00%	2.249 <sup>a</sup>	1	0.134
Individual obstacles	3.10%	37.00%	0.081 <sup>a</sup>	1	0.776

A significant number of respondents, both women and men, named several individual obstacles that block their undertaking physical activity. Among these, the most frequently mentioned are: more urgent matters to deal with, health restrictions, fatigue due to strenuous work, and sore muscles and joints after strenuous efforts at the gym. Women also more often pointed to the lack of friends who motivate them to regularly undertake physical training, while men indicated the lack of will power and sufficient motivation for undertaking additional effort.

#### 4. DISCUSSION

Seeking answers to the first research question regarding the forms of motor activity preferred by men and women, it should be stated that the most popular form of motor activity in both research groups is taking walks, however, women do so much more often. Over three-quarters of the women surveyed like to walk, but slightly less than half of the men do so. The fact that the most popular form of activity, especially among women, is walking can be found in many research reports.<sup>6</sup>

The second significant difference concerns activities like running. Running is much more often preferred by men. It is taken up primarily by young people. Most often they are women under 32 years of age and men who are 20 to 27 years old. These results are only partly relevant to those obtained in the CBOS studies. The agreement only concerns their age, but it is not restricted to gender, because both men and women practiced jogging just as often.<sup>7</sup>

Three times more men than women declared that they went to swimming pools and gyms. Almost ten times more men go to gyms designed for team sports. In turn, according to the CBOS study in 2013, 10% of respondents trained in the gym, twice more men than women. Swimming, however, took second place in the ranking and was also more often the domain of men

<sup>6</sup> Barbara DUDA, "Charakterystyka aktywności fizycznej osób dorosłych," *Medycyna Sportowa* no. 6 (2006): 329–332; Aleksandra SŁOPIECKA, Elżbieta KAMUSIŃSKA, "Formy wypoczynku preferowane przez kobiety," *Medycyna Ogólna i Nauki o Zdrowiu* 18, no. 1 (2012): 5.

<sup>7</sup> *Aktywność fizyczna Polaków*, CBOS, Warszawa 2013, p. 2.

(33%) than women (24%).<sup>8</sup> On the other hand, according to the Central Statistical Office, the most popular forms of physical recreation activities are cycling (67.2%) and swimming (37.8%).<sup>9</sup>

Both men and women choose cycling in the summertime as an active way of spending time in the open air. This sports activity takes second place after walking. The average age for amateur “cyclists” among women is 33, and for men it was 49 years old. These obtained results confirm the results of other researchers who showed that walking and cycling are the most popular activities among Poles.<sup>10</sup>

In turn, one of the latest reports, the TNS Kantar, states that Poles most often ride bikes and run.<sup>11</sup> Women more often than men attend dance classes. However, this applies to young people under 26 years of age. This is confirmed by the results of the CBOS studies.<sup>12</sup> Other forms of sports activities mentioned by both women and men include working in the garden, tourism and various forms of training, as well as simply improving one’s overall physical condition (gymnastics, fitness, aerobics). According to CBOS, gymnastics, fitness and aerobics training were performed by 13% of respondents, mainly women, during the last year (2013), and these disciplines ranked fifth in popularity.<sup>13</sup>

In order to be satisfied with the results of motor activity, a person should perform it regularly and over a certain period of time for an optimal amount of time. This often depends, among others, on the amount of free time. Analyzing the regularity of the activities undertaken by the respondents, it turns out that the most numerous group are women who are motivated from time to time (51%), next are men who regularly (31%) or very often (25%) participate in various forms of physical activity (56% in total). According to the CBOS research, 40% of Poles undertake physical activity regularly, and 26% sporadically.<sup>14</sup>

Also, significantly more diversified among women is the time devoted to one-time motor activities. Lack of regularity and consistency in undertaking such activities among women may to a certain extent be caused by less free time

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<sup>8</sup> Ibidem.

<sup>9</sup> *Uczestnictwo Polaków w sporcie i rekreacji ruchowej w 2012 r.*, GUS, Warszawa 2013, p. 41.

<sup>10</sup> Maria ZAPAŁA, Bożena KOWALCZYK, Bogumiła LUBIŃSKA-ŻADŁO, “Aktywność fizyczna a styl życia kobiet w wieku produkcyjnym,” *Medycyna Ogólna i Nauki o Zdrowiu* 21, no. 4 (2015): 396; *Aktywność fizyczna Polaków*, CBOS, p. 3.

<sup>11</sup> *Aktywność fizyczna Polaków 2017*, <https://sponsoring sport.pl/raport-aktywnosc-fizyczna-polakow-2017>.

<sup>12</sup> *Aktywność fizyczna Polaków*, CBOS, p. 4.

<sup>13</sup> Ibidem, p. 3.

<sup>14</sup> Ibidem.

during business days. According to the study, men have more free time to spend than women. The lack of time was the most common obstacle preventing them from being more involved in sports activities, and this is also mentioned by women in other studies.<sup>15</sup> Professional work and household duties do not allow women to systematically do sports and recreation. Only a few women do so. Also, studies carried out in the EU show that men more often play sports than women, which is particularly evident among young people.<sup>16</sup>

Our analysis of motivations for physical activity showed only one statistically significant difference. For women, improving one's good looks is a much more important goal that motivates them to be physically fit, therefore, most of them were motivated "to be beautiful" ( $p = 0.01$ ). This aspect has also been stated in other studies.<sup>17</sup> Choosing other motifs is similar. The first is health, second pleasure, and finally the need for movement. Health was the main motive of physical activity and in the majority of studies it takes first place, which is well illustrated in research studies by A. Góreczno and W. Garczyński,<sup>18</sup> including CBOS research.<sup>19</sup> A slim, healthy silhouette took first place in only one research study in which women participated (out of 14 analyzed research results). In the others, it is usually health or health-related motives, such as well-being, fitness, a good physical and psychological condition.<sup>20</sup>

A lack of significant differences was also found in relation to obstacles hindering recreational sports activities. Women slightly more often emphasized that they do not have time due to family and professional duties and lack a strong will to do so.

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<sup>15</sup> ZAPAŁA, KOWALCZYK, LUBIŃSKA-ŻADŁO, "Aktywność fizyczna a styl życia kobiet w wieku produkcyjnym," 396; Barbara WILK, Anna WALENTUKIEWICZ, Maria FALL-ŁAWRYNIUK, "Aktywność fizyczna w świadomości i sposobie życia kobiet—uczestniczek klubów fitness w Trójmieście," *Nowiny Lekarskie* 72, no. 2 (2003): 108–110.

<sup>16</sup> *Sport i aktywność fizyczna*, Eurobarometr, Belgia 2010.

<sup>17</sup> 28% of women stated "for beauty/good looks," 19% were men. *Aktywność fizyczna Polaków*, CBOS, p. 4; Cf. *Czy jesteśmy zadowoleni ze swojego wyglądu?* CBOS, Warszawa 2017.

<sup>18</sup> "Motywy podejmowania aktywności fizycznej—przegląd literatury," *Journal of Education, Health and Sport* no. 7 (2017): 326–328.

<sup>19</sup> According to these, 70% do physical activities for health. *Aktywność fizyczna Polaków*, CBOS, p. 5.

<sup>20</sup> Katarzyna WLEKŁAK, Jarosław JANOWSKI, Ewa BRESIŃSKA-KRAWIEC, Jan KONARSKI, Małgorzata LIBERKA, Krzysztof KARPOWICZ, Joanna APOLINARSKA, "Porównanie motywów uczestnictwa kobiet w różnych formach aktywności fizycznej typu aerobik i aqua—aerobik," *Aktywność ruchowa ludzi w różnym wieku* 17, no. 1 (2013): 65–75.

The described research results show that motor activities among men and women, despite the changes taking place, are not satisfactory. It is important to understand the benefits of regular physical activity and to promote a healthy lifestyle.

## 5. CONCLUSIONS

1. Women significantly more often than men prefer walking as a motor activity, while men choose running, swimming, going to the weight room and gym for team sports.

2. On working days, women have significantly less free time than men, while they should spend more time on physical activity.

3. The only motivating factor for physical activity that differentiates both groups is the “beauty” motif that is much more common among women.

4. Both groups do not differ on the basis of obstacles hindering them from undertaking physical activity, although women often complain about lack of time.

## BIBLIOGRAPHY

- Aktywność fizyczna Polaków* [Physical activity among Poles], CBOS, Warsaw 2013.
- Aktywność fizyczna Polaków 2017*, <https://sponsoringsport.pl/raport-aktywnosc-fizyczna-polakow-2017> (10.04.2018).
- CHUCHRA, Maria, Julia GORBANIUK. “Selected health behaviours in professionally active men and women,” *Polish Journal of Public Health* no. 2 (2017): 67–70.
- DUDA, Barbara. “Charakterystyka aktywności fizycznej osób dorosłych” [Characteristics of physical activity in adults]. *Medycyna Sportowa* no. 6 (2006): 329–332.
- GORBANIUK, Julia, Maria CHUCHRA. “Preferencje żywieniowe kobiet i mężczyzn aktywnych zawodowo” [Nutritional preferences among professionally active women and men]. *Roczniki Teologiczne* 64, no. 10 (2017): 161–164.
- GÓRECZKA, Aleksandra, Wojciech GARCZYŃSKI. “Motywy podejmowania aktywności fizycznej—przeгляд literatury” [Motifs for undertaking physical activity. A review of the literature]. *Health and Sport* no. 7 (2017): 322–337.
- KAŹMIERCZAK, Urszula, Agnieszka RADZIMIŃSKA, Maciej DZIERŻANOWSKI, Irena BUŁATOWICZ, Katarzyna STROJEK, Grzegorz SROKOWSKI, Walerij ZUKOW. “Korzyści z podejmowania regularnej aktywności fizycznej przez osoby starsze” [Benefits of regular physical activity among the elderly]. *Journal of Education, Health and Sport* no. 5(1) (2015): 56–68.
- Poziom aktywności fizycznej Polaków* [The level of physical activity of Poles], KANTAR PUBLIC 2017 pp. 4. Ministerstwo Sportu i Turystyki, [https://msit.gov.pl/download/1/13795/Analiza\\_wynikow2017.pdf](https://msit.gov.pl/download/1/13795/Analiza_wynikow2017.pdf) [10.05.2018].

- SŁOPIECKA, Aleksandra, Elżbieta KAMUSIŃSKA. "Formy wypoczynku preferowane przez kobiety" [Forms of recreation preferred by women]. *Medycyna Ogólna i Nauki o Zdrowiu* 18, no. 1 (2012):1–7.
- Sport i aktywność fizyczna* [Sport and physical activity], Eurobarometr (no. 3.334), Belgia, 2010.
- STACHURA, Alicja, Łucja PŁATEK, Adam BENEK. "Aktywność ruchowa kobiet i mężczyzn w różnym wieku." In *Kultura fizyczna i zdrowotna współczesnego człowieka—teoretyczne podstawy i praktyczne implikacje*, [Movement activity of women and men at different ages, in: Physical and health culture of contemporary man—theoretical foundations and practical implications], edited by Arkadiusz Kazimierzczak, Anna Maszorek-Szymala, Ewelina Dębowska, 214–219. Łódź, 2008.
- Uczestnictwo Polaków w sporcie i rekreacji ruchowej w 2012 r.* [Poles Participating in sports and physical recreation in 2012], GUS, Warszawa, 2013.
- WLEKLAK, Katarzyna, Jarosław JANOWSKI, Ewa BRESIŃSKA-KRAWIEC, Jan KONARSKI, Małgorzata LIBERKA, Krzysztof KARPOWICZ, Joanna APOLINARSKA. "Porównanie motywów uczestnictwa kobiet w różnych formach aktywności fizycznej typu aerobik i aqua—aerobik." [Comparison of motifs of women's participation in various forms of physical activity such as aerobics and aqua—aerobics, "The motor activity of people of all ages"]. *Aktywność ruchowa ludzi w różnym wieku* 17, no. 1 (2013): 65–75.
- Maria ZAPAŁA, Bożena KOWALCZYK, Bogumiła LUBIŃSKA-ŻADŁO, "Aktywność fizyczna a styl życia kobiet w wieku produkcyjnym" [Physical activity and the lifestyles of women in their productive time]. *Medycyna Ogólna i Nauki o Zdrowiu* 21, no. 4 (2015): 391–397.

*Translated by Jan Kobyłecki*



The preparation of the English version of *Roczniki Teologiczne (Annals of Theology)* and its publication in electronic databases was financed under contract no. 836/P–DUN/2018 from the resources of the Minister of Science and Higher Education for the popularization of science.