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The Views of Women Practising Artistic Gymnastics, Rhythmic Gymnastics and Acrobatics Gymnastics on Their Disciplines

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A – Study Design
B – Data Collection
C – Statistical Analysis
D – Data Interpretation
E – Manuscript Preparation
F – Literature Search
G – Funds Collection

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Abstract

Background: Physical culture covers a number of forms of physical activity, with sport being the most specialized form of participation. Rapid development of sport in recent years has contributed not only to the rise in the level of competitive sport but it also made the processes of social transitions to be reflected on a wider scale. The goal of this study is to demonstrate the views on professional sports from two generations of women who have practiced gymnastics. The main focus was on the presentation of gymnastics in the perspective of other disciplines and its place in everyday life of the studied subjects.

Material/Methods: The study was carried out among a group of 482 athletes of two generations: gymnasts currently involved in sport and the former ones. Sociological research was the basic research method. A questionnaire survey and an interview questionnaire were the used research tools. The material was also subjected to statistical elaboration, using V-Cramer coefficient, which confirms statistically significant relationships.

Results: The results of the study revealed that during sport careers both the idea of professional sport activity and the importance of individual values of sport undergo considerable transformations at different phases of gymnasts' sport careers, which is proved by the differences in opinions between both the studied generations.

Conclusions: Attitudes of the two generations of gymnasts towards competitive sport, despite a number of similarities, also show some intergenerational disproportions.

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Introduction

Physical culture covers a number of forms of physical activity, with sport being the most specialized form of participation. It satisfies a natural human need for movement and forms proper attitudes and interests. It also promotes the development of intelligence, orientation, cognitive, motivational and volitional processes [1, 2, 3]. A rapid development of sport throughout recent decades has been followed not only by the rise in the level of competitive sport but it also made the processes of social transitions to be reflected on a wider scale [4]. In particular, this concerns gymnastics, which, due to specific features such as perfectionism in action, incessant rivalry, specialization, professionalization and juvenilization, adopts a very complex form. The most symptomatic manifestations of gymnastics are expressed in the views of athletes involved in this discipline.

The goal of this study is to present female gymnasts' views on the discipline practiced by them by showing the opinion of two generations of women practicing gymnastics now and in the past.

Research questions:

1. What is the importance of gymnastics in the lives of the past and present women athletes?
2. Does practising a time-consuming and physically-demanding sports discipline make athletes of particular gymnastic disciplines tend to change to another sport?
3. Which aspects of gymnastics are the most valued ones by the athletes, in terms of age and competitive experience?
4. Are the opinions on these matters fundamentally different between the two generations of gymnasts?

Material and Methods

The test group comprised 482 athletes who practice three gymnastic disciplines on a competitive level: artistic gymnastics (N=133, rhythmic gymnastics (N=216) and acrobatic gymnastics (N=143), and who represent 53 sport clubs located in Poland. Empirical research covered 272 female gymnasts who are currently involved in sport (current, generation A) and 210 women who have already ended their professional careers (former, generation B).

The studied women were divided into three sports levels: lower, including athletes of the second sports class (N=124); average – the first sport class (N=180), and higher – the national champion class and the international champion class (N=178). Three categories of competitive experience were also distinguished within the study: shorter – from 2 to 5 years (N=79), longer – 6 to 9 years (N=230) and the longest one – 10 years and more (N=173).

The basic research method was the method of sociological research. A fundamental technique of collecting empirical material was an in-depth sociological interview and a questionnaire. A questionnaire survey and an interview questionnaire were the research tools. The material was also subjected to statistical elaboration using V-Cramer coefficient, which confirms statistically significant relationships.

In responses to the questions, individual percentages do not total 100% because respondents could give more than one answer. The study presents selected results.

Gymnastics is a sport which puts a considerable strain in terms of temporal structure, which is suggested by the results presented in Tables 1 and 2. The tables show that the majority of female gymnasts are involved in 4 to 5 training sessions a week (with the duration of 4 to 5 hours each).

Tab. 1. Weekly load according to the sports level (%)

Training sessions a week	Sports level			Total
	lower	average	higher	
3	5.6	7.2	5.1	5.9
4-5	91.1	88.9	84.8	88.2
6 <	3.2	3.9	10.1	5.7

Tab. 2. Daily load according to the sports level (%)

Training hours	Sports level			Total
	lower	average	higher	
> 2	14.5	25	24.1	21.2
3-4	65.3	59.4	51.7	58.8
5 <	20.1	15.5	25.1	20.2

Results

Because sport activities take so much time, these girls usually do not think about the differences between gymnastics and other sports. They find their sport to be difficult yet spectacular and incomparable to any other sport.

Tab. 3. Comparison with other disciplines according to generations (%)

Opinion	Categories of athletes		Total	V Cramer
	current	former		
It is one of the most difficult disciplines	11.4	20	15.1	0.345**
It is a very spectacular discipline	5.9	17.1	10.8	0.131*
It is a specific sport, incomparable with other sports	5.9	157	10.1	0.180**
It is little popular	5.9	13.8	9.3	0.161**
It is one of the most immeasurable sports	2.9	5.7	4.1	0.135*
I have never thought about it	72.1	37.6	57.1	0.069

*Significant differences ($p < 0.05$), **Significant differences ($p < 0.001$)

Tab. 4. Comparison with other disciplines according to sports level (%)

Opinion	Level categories			Total	V Cramer
	lower	average	higher		
It is one of the most difficult disciplines	11.3	13.9	19.1	15.1	0.076
It is a very spectacular discipline	6.4	11.1	13.4	10.8	0.089
It is a specific sport, incomparable with other sports	6.4	10.6	12.4	10.1	0.077
It is little popular	4.0	10.0	12.4	9.3	0.113*
It is one of the most immeasurable sports	4.9	2.0	5.7	4.1	0.076
I have never thought about it	72.6	56.1	47.1	57.1	0.200**

*Significant differences ($p < 0.05$), **Significant differences ($p < 0.001$)

Although gymnastics is a very difficult sport that makes great demands on athletes, not only in terms of time but also sufficient physical and technical preparation, the girls practice it with pleasure, forgetting about the hardship of everyday training. This is also reflected in Tables 5 and 6, which show that the hedonistic role of sport is predominant.

Tab. 5. Importance of competitive sport according to generations (%)

Role of sport	Categories of athletes		Total	V Cramer
	current	former		
Sport is a pastime, pleasure	54.4	49.5	52.3	0.049
Sport is the sense of life	21.7	43.8	31.3	0.236**
Sport is very heavy, exhausting work	34.6	26.7	31.1	0.085
Sport is an obligation	13.6	16.7	14.9	0.043
Other reasons	1.8	4.7	3.1	0.083

** Significant differences ($p < 0.001$)

Tab. 6. Importance of competitive sport according to the type of sport (%)

Role of sport	Type of sport			Total	V Cramer
	artistic gymnastic	rhythmic gymnastic	acrobatic gymnastic		
Sport is a pastime, pleasure	45.9	52.4	58.0	52.3	0.092
Sport is the sense of life	27.8	28.6	38.4	31.3	0.100
Sport is very heavy, exhausting work	36.8	33.5	22.4	31.1	0.126*
Sport is an obligation	22.5	13.6	9.8	14.9	0.139*
Other reasons	2.6	2.3	4.2	3.1	0.043

*Significant differences ($p < 0.05$)

Although almost one third of the respondents compared gymnastics to hard work, they were unwilling to change it to another sport. Even if such a thought occurred to them for a while, it was usually because the gymnasts wanted to familiarize with other sports or had difficulties with accepting the incommensurable system of scoring in gymnastics.

Tab. 7. Willingness to change gymnastics to another discipline according to age category (%)

Reasons for possible change in discipline	Age categories				Total	V Cramer
	current		former			
	lower	higher	lower	higher		
No, I have never wanted a change	80.3	65.4	81.4	93.1	80.1	0.198**
Yes, I wanted to learn something new	4.8	7.4	7.8	6.8	6.4	0.055
Yes, I wanted a more measurable discipline	4.8	12.3	6.4	6.1	6.1	0.137*
Yes, I was tired of gymnastics	5.8	9.9	-	-	3.9	0.194**
Yes, because of bad atmosphere	4.2	2.5	2.5	-	3.1	0.084
Yes, because of lack of good results	2.1	6.2	2.1	-	2.5	0.117

*Significant differences ($p < 0.05$), ** Significant differences ($p < 0.001$)

Tab. 8. Willingness to change gymnastics to another discipline according to competitive experience (%)

Reasons for possible change in discipline	Competitive experience			Total	V Cramer
	2-5 years	6-9 years	10 and more		
No, I have never wanted a change	83.3	78.7	80.3	80.1	0.043
Yes, I wanted to learn something new	2.5	5.6	9.2	6.4	0.097
Yes, I wanted a more measurable discipline	7.6	5.6	5.8	6.1	0.029
Yes, I was tired of gymnastics	3.8	3.5	4.6	3.9	0.017
Yes, because of bad atmosphere	2.5	4.8	1.1	3.1	0.096
Yes, because of lack of good results	1.3	3.9	1.1	2.5	0.087

No statistically significant differences

The duties connected with performing a variety of social roles simultaneously, including the role of a student, an employee, a member of family and an athlete, do not adversely affect the perception of gymnastics by the athletes involved in sport. Everyday physical strain and time pressure connected with regular training regimes, competitions and training camps do not exclude this sport from the respondents' areas of interest.

The female gymnasts stress a number of advantages of competitive sports, with the major values of gymnastics being, according to the respondents, the fact that this sport is spectacular and provides opportunities for improving physical fitness and general health.

Tab. 9. The appreciated aspects of gymnastics according to age category (%)

Aspects	Age category				Total	V Cramer
	current		former			
	lower	higher	lower	higher		
Opportunities for building health, physical fitness and slim body build	63.3	54.3	40.7	35.6	51.1	0.226**
Specific nature of the discipline: dance, music, spectacular character	39.7	48.1	60	65.7	50.8	0.210**
Opportunities to travel	48.9	58.1	34.3	35.6	44.2	0.181**
Drive for rivalry, emotions connected with competing	41.5	30.7	54.3	39.7	43.1	0.162*
Need for being distinguished	23.9	14.8	40	34.2	28.6	0.202**
Social values of sports life	34.1	48.1	14.3	10.1	27.2	0.302**
Specific atmosphere during competitions and in the club	14.5	19.7	6.4	17.8	13.5	0.144*
Others	4.8	3.7	3.6	4.1	4.1	0.027

*Significant differences ($p < 0.05$), ** Significant differences ($p < 0.001$)

Tab. 10. The appreciated aspects of gymnastics according to competitive experience (%)

Aspects	Competitive experience			Total	V Cramer
	2–5 years	6–9 years	10 and more		
Opportunities for building health, physical fitness and slim body build	53.1	56.9	42.2	51.1	0.135*
Specific nature of the discipline: dance, music, spectacular character	44.3	45.6	60.7	50.8	0.148*
Opportunities to travel	35.4	46.5	45.6	44.2	0.078
Drive for rivalry, emotions connected with competing	50.6	38.7	45.7	43.1	0.092
Need for being distinguished	26.6	29.13	28.9	28.6	0.020
Social values of sports life	31.6	31.3	19.6	27.2	0.127*
Specific atmosphere during competitions and in the club	13.9	13.5	13.3	13.5	0.006
Others	3.8	5.2	2.9	4.1	0.053

*Significant differences ($p < 0.05$)

Discussion

An analysis of the study results allowed for drawing conclusions that athletes who practice gymnastic sports are subject to considerable psychophysical load, as 90% of the current and 80% of the former athletes practice sport from 4 to 6 days a week with an average training session lasting 3 to 4 hours. In exceptional situations, this time extended to even 6–8 hours.

In view of this high involvement in professional sport activity, the question arises if they had any time for reflection or thinking about the practiced sport discipline? It also seems interesting to familiarize with gymnasts' idea of gymnastics against the background of other disciplines being a source of success.

Therefore, the respondents were asked: Have you thought about the difference between gymnastics and other disciplines? This question was answered negatively by nearly 3/4 of current athletes and 1/3 of the former ones, who claimed that they have never thought about distinguishing features of gymnastic sports. A relatively high percentage of indecisive persons among the population of current athletes is not surprising since gymnastics has become the first and the only sports discipline they have ever practiced. This is because gymnastics belongs to those sports where early participation in competitive sport activity is a precondition to achieve high form [5, 6, 7].

Among other answers, opinions which emphasized difficulty and a spectacular character of gymnastic sports dominated, with more frequent observations of these specific features demonstrated by older athletes who did not participate in competitive sport (Cramer's V amounts to: 0.131 for generation variable at $p=0.016$; 0.119 for age at $p=0.035$ and 0.115 for the type of discipline at $p=0.013$).

It is also remarkable that nearly every tenth gymnast indicated low popularity of this discipline in mass media. Although the low level of popularization of gymnastics was perceived by the athletes who practiced sport the longest, it was mentioned the most frequently by the representatives of generation of former athletes (Cramer's V coefficient amounts to: 0.135 for generation variable at $p=0.003$ and 0.146 for experience at $p=0.006$) Respondents also drew attention to the fact that gymnastics is an incomparable sport, in which the outcome determines the appearance of the sport, and above all a relevant figure [8].

Although gymnastics belongs to considerably time-consuming sport disciplines (and, according to the studied persons, a difficult and little popular discipline of sport), one would expect that the athletes are troubled by tiredness of regular activity. However, participation in this sport gives a lot of satisfaction, which is confirmed by the statements which relate to the role of sport in the studied subjects' everyday activity.

As can be easily perceived, specific for the two studied generations is the view which assigns this sport the features of a pastime and pleasure. Over half of the respondents have assumed that despite a number of obligations connected with performing the role of a competitor and the load they experience, active participation in sports life gives them a lot of satisfaction and happiness. The sports activity taken up by young female gymnasts does not cause the sense of conflict resulting from performing the role of both a student and a sportswoman [9].

This notion gains particular importance in contemporary competitive sport, where sport activity has symptoms of professionalisms, abandoning its recreational functions. It is considerably important among the sports of early specialization where the competitive career starts at a very young age, thus in the period when playing is a fundamental form of human activity. While playing, children learn how to coexist in a group; they must subordinate to the rules and develop their social feelings. Experiencing pleasant sensations and a feeling of satisfaction from the achieved goals, young people improve a number of physical and psychological functions [10]. Sport is a way of enjoying life [11 p. 84, 12]. Therefore, one can propose a thesis that nowadays early sport specialization raises general concerns with attributing a hedonistic function to this sport; the assessment of two generations of gymnasts places this discipline in the group of optimal sports for girls.

Although in both categories of the studied gymnasts, hedonistic views took a typically foreground position, in generation A it was connected with opinions among the athletes of the younger age category, whereas in generation B this was the case of the older category (60% and 70%, respectively). In consideration of this situation, one should expect that young women associate sport careers with a pleasant competition, interesting trips, social meetings and opportunities of attractively spending free time. However, with the course of time, when they become more involved in competitive activities, the satisfaction is derived from the obtained results. The older athletes from the population of former gymnasts approached past competitive sport with a touch of nostalgia and idealization, recalling that time with pleasure.

The age variable differentiated the studied population also in the case of the answer which took the second position in generation A. Although the athletes practice the sport with pleasure, due to a strain they are subjected to, one third of them compare competitive gymnastics to hard work (Cramer's V coefficient amounts to 0.166 for the age variable at $p=0.004$, 0.126 for the type of discipline at $p=0.022$). The tasks which are performed by an athlete make the systematic competitive activity adopt a character of work which is oriented at achieving the results comparable with success in the area of professional activities [13]. Hedonistic values are moved to the background and although gymnastics does not entirely lack properties of pastime, i.e. a voluntary and spontaneous (although within some rules and standards) activity being a source of happiness and departure from ordinary life, it adopts the features of work, i.e. an activity oriented towards achievement of a useful, socially expected value, which is a sport result [14].

Female athletes from the generation of former athletes treated their sport careers extraordinarily seriously, attributing considerable resources of strengths, measures and time to it. For this reason, over 40% of a general population gave high importance to this activity, defining this sport as a 'sense of life' (for comparison, this view was over twice more seldom among current athletes) (Cramer's V coefficient for the generation variable amounts to 0.236). It therefore confirms the statement that sport becomes a part of human lifestyle [15].

Data contained in Table 4 provide information that the sport adopted symptoms of a serious obligation compared with work; did they intend to abandon it then? In the case of the answer to the question: 'Have you ever thought about changing gymnastics to another discipline?', as many as 80% of respondents denied it, expressing their opinion that gymnastics is a dream sport for girls. Contact with this discipline has become a source of professional satisfaction for them, thus they have never intended to change it into another domain of sport.

Although in both generations of women this opinion turned out to be a dominant one and it became typical of younger gymnasts of generation A and generation B, the generation variable points to a clear advantage among the athletes who have already ended their competitive sport activity. This is also illustrated by the value of Cramer's V coefficient for the generation variable 0.134 at $p=0.003$, 0.198 for the age variable at $p=0.000$.

Despite large approval of gymnastic sports, each fifth person intended to give up gymnastics for other forms of competitive or recreational sport. Among the reasons for possible changes, generation B was dominated by cognitive aspects; in generation A, they included tiredness of the discipline and negative experiences resulting from a subjective criterion of assessment in this immeasurable discipline of sport. However, it should be emphasized that a change in the discipline of sport as a result of tiredness was declared exclusively by the current gymnasts, which can be explained by the contemporary concept of gymnastic sports, characterized by increased, compared to the previous years, physical and psychical strain (Cramer's V coefficient amounts to 0.178 for the generation variable and 0.194 for the age coefficient).

Since both studied populations, despite a considerable load, appreciated participation in this beautiful and spectacular discipline, one should rethink what is attractive for them in gymnastic sports. According to the studied women, among the most appreciated aspects of gymnastics one can notice quite unexpected intergenerational differentiation. A high location of 'opportunities for building health, physical fitness and slim body build' was particularly surprising. This was specific for over 60% of the athletes of category A and barely for 39% from the generation of former athletes, particularly those from the lower age category (Cramer's V amounts to 0.219 for the generation variable and 0.226 for the age one). This situation indicates that health-related values of gymnastic sport have gained importance throughout recent decades in the hierarchy of values among gymnasts [16,17,18].

Younger gymnasts might relate to health and physical fitness in a rational manner, treating it not only as a condition but also as a purpose of participation in contemporary competitive sport, where chasing records overshadows overall development and the health function of sport [3, 19,20]. On the other hand, older athletes appreciated health and fitness values due to the benefits they brought into their adult lives.

In generation A, the emphasis should be put on the role of trips, mainly abroad, whose importance was stressed by over half of the respondents (51.2%) who currently practice gymnastics (Cramer's V for the generation variable was 0.175 and 0.181 for the age one). Such high recognition of this aspect of practicing gymnastics becomes clear in view of the fact that the majority of the girls come from environments of modest means, and attractive trips are the only opportunity for them to see the world. Furthermore, an increased load of sport-related and school duties cause that they do not have time for other forms of travelling. Sport was for them a kind of "window on the world" [21].

At the same time, in the group of former gymnasts, typically of the highest sports level and representing the longest competitive experience, top position is taken by the aspects of an emotional character, emphasizing the joy of opportunities for participating in a very spectacular sport (62%) and of rivalry and pleasure connected with sport competition (49%) (Cramer's V amounts to 0.096

for the generation variable and 0.162 for the age one). Participation in this discipline provides women with opportunities for improvement and satisfies their perfectionist needs. Striving for perfection, which in the case of gymnastics means striving towards aesthetics and the ideal beauty, is undoubtedly connected with rivalry. Although perfectionism might seem a purely abstract rivalry, it is characteristic of gymnastic sports, becoming immanent in competitive efforts [22]. The coexistence of competition and improvement is confirmed by the results of this study, presenting this values in top positions.

Clear intergenerational differentiation can be also perceived in relation to other values of sport. Gymnasts of category A highly appreciated 'values of social life' (38% vs. 13%), which might result from the youngest gymnasts' striving for friendship, liking, kindness and making friends [23, 24] (Cramer's V amounts to 0.273 for the generation variable, 0.302 for the age one, 0.149 for the sports level and 0.127 for competitive experience). It should also be emphasized, with particular focus on female teams, that social ties made in the course of sports life become one of the most fundamental conditions for effective cooperation of the whole team and individual gymnasts. On the other hand, stressing of this aspect by a threefold higher percentage of younger gymnasts with shorter experience might confirm that the sport activity initiated in early childhood absorbed them so much that training, competitions and camps have become the only chance for social meetings and an opportunity to make friends (Cramer's V amounts to 0.273 for the generation variable and 0.303 for the age one).

In the case of 'a need for being distinguished among others', one can emphasize a twice more frequent selection of this factor by the women who have already ended their competitive sport careers. A clear intergenerational relationship means that, particularly in the case of former athletes, apart from satisfaction derived from sport activity itself, the gymnasts feel satisfaction whose source lies in an opportunity to present themselves in this activity (Cramer's V coefficient amounts to 0.194 for the generation variable and 0.202 for the age one). Since sport activities are constantly accompanied by strong emotional experiences, connected with e.g. aesthetic aspects of gymnasts' activities, one can assume that this discipline satisfies a need typical of women, i.e. the need for being distinguished, becoming in result a motivation for improvement and perfectionist overcoming one's own limits [20, 25].

To sum up, one can observe that the importance of individual values of sport in the studied population has been transformed at different phases of gymnasts' sport careers. This is confirmed by the differences between both generations. The aspects such as health-related values or benefits from international trips are losing their importance, whereas the role of participation in this spectacular discipline and experiencing emotions is increasing.

Conclusions

The results obtained in the course of the study allow for drawing several conclusions and reflections:

1. Attitudes of the two generations of gymnasts towards competitive sport, despite a number of similarities, also show some intergenerational disproportions.
2. According to the studied women, gymnastics belongs to very spectacular sports, however less popular.
3. Gymnasts practice a discipline which is very time-consuming and demanding, but they derive a lot of satisfaction from it.
4. Nowadays that early beginnings of competitive careers raise general concerns, attributing a hedonistic function to gymnastics, according to current and former gymnasts, places this discipline in the group of sports which are optimal for girls.
5. In the course of competitive sport careers, the appreciated aspects of gymnastic sports change, i.e. health values and positive aspects of international trips are devaluated in favour of emotions experienced when participating in this spectacular discipline of sport.

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