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INFLUENCE OF FORMER PROFESSIONAL SPORTS CAREER ON PARTICIPATION OF MALE EX-ATHLETES IN PHYSICAL RECREATION ACTIVITIES

Key words: physical recreation, males, ex-athletes.

ABSTRACT

The aim of this study was to assess the influence of a former professional sports career on participation of male-ex-athletes in physical recreation activities (PRA). 175 male ex-athletes and 197 male subjects without professional sports history (non-athletes) were examined. The evaluation of participants' physical recreation activity involved its duration, frequency and forms. The course of sports career of the ex-athletes was characterized by duration of professional sports practice and the achieved sports class.

The ex-athletes were found to participate in PRA more frequently, for longer periods and with greater intensity than non-athletes of the same age group – irrespective of duration of their professional sports career and achieved sports class. The age of the ex-athletes does not affect significantly their recreational behaviour, whereas in the control group the intensity of physical recreation decreases significantly in the elderly men.

INTRODUCTION

Universal physical culture is one of important determinants of public health. One of its expressions is physical activity which enables to maintain and improve physical, mental and social health. At present, the lack of this activity is considered to be the main factor responsible for health deterioration and contributing to premature mortality [1].

The natural physical activity connected with work, daily routines and translocation is now dramatically limited due to mechanisation or even automation of many activities as well as wide availability of transport services. As a result of living in comfortable conditions and of insufficient physical activity, many people are currently

functioning below their biological health potential. These people see medical procedures and pharmaceutical products as the only means of health improvement. Health improvement is, however, predominantly connected with giving up bad habits and undertaking physical exercise, and exertions that harden the body and mind. Physical exercise, in order to be effective, has to be a discomfort for the body [6].

To compensate for deficit of health discomfort factors, such as physical activity leading to physical fatigue or climatic conditions that enforce thermoregulation, present-day people should intentionally and willingly increase physical activity at their leisure time (preferably outdoor), i.e. start regular physical recreation.

Physical recreation, also known as “movement recreation”, “mass sport”, “sport for everybody”, “active rest”, “mass physical culture” or even “sporting”, has to ensure biological fitness of the body and, at the same time, enhance mental and social functioning of individuals by widening their interests and abilities [13]. Physical recreation is defined as “...all activities that involve physical movement, sports or tourism, undertaken willingly in leisure time for relaxation, pleasure and personal development” [16].

In relation to generally sedentary lifestyle in the developed countries and its negative health consequences, some are of the opinion that physical recreation should not be considered merely a way to spend leisure time, but also a biological necessity – a debt that everybody has to pay to their health [6].

Health is a value enabling an individual or a group to accomplish their aspirations, to achieve satisfaction and to alter and manage the surrounding environment. For a society, health is one of “natural resources” that assures its social and economic development. Only a healthy society can develop and create material and cultural goods. Therefore, health is a mean to achieve better quality of life [3]. The authors of the Polish National Health Programme (NHP) for the years 1996-2005 see the greatest chance for improvement of public health condition in the increase of physical activity of the society. The increase of this activity has been accepted as the first of eighteen operational objectives of the NHP. It is assumed that within 10 years the participation of adult Poles in physical recreation would increase from 10% at the beginning of this period to 30% in 2005 [7].

As the period intended for realisation of this objective has elapsed, it is time to evaluate the programme results. The results representative for the entire adult Polish population have not been published as yet, but interim reports indicate that the probability of reaching the goal set for the programme is rather low, in particular in older age groups [2, 4].

Thus, the question arises whether any social groups have already realised the first objective of the NHP. And if yes, what characteristics of these groups favour their higher than population average physical activity? The awareness of these characteristics may be helpful in optimisation of methods leading to increased leisure time physical activity among adults.

The results of scarce reports on ex-athletes published to date [5, 8, 10, 11, 15] allow for assumption that participation in recreation physical activity is higher than average, although not universal, in this social group. However, this thesis needs to be statistically verified on the basis of studies involving control groups consisting of non-athletes (subjects not practicing professional sports, either at present or in the past).

The aim of this study was to examine the current participation of ex-athletes in physical recreation activities and to find a possible relationship between the course of their professional sports career and their participation in physical recreation after the termination of their professional career.

Two research questions were formulated:

1. Are there any differences, with respect to participation in physical recreation activities, between ex-athletes and non-athletes?
2. Is there a relationship between the athlete's past sports class and duration of his professional sports career and his subsequent participation (as ex-athlete) in physical recreation activities?

Two research hypotheses were formulated:

1. Participation of ex-athletes in physical recreation activities differs from that of individuals who have never practiced any professional sports (non-athletes). Ex-athletes more frequently than non-athletes participate in physical recreation, spend more time on it and choose more intensive forms of recreation.
2. Participation of ex-athletes in physical recreation activities depends on the characteristics of their sports careers (achieved sports class, duration of professional sports career).

METHODS

The study was carried out from May to September in the years 1997-2002 and involved ex-athletes (EA-T; T – total) (n=175), and non-athletes (NA-T; T – total) (n=197). The samples were targeted according to the criterion of easy access [14]. Because of the wide age range in both groups, the subjects were divided into groups including 18-34 year-olds (early adulthood) and 31-51 year-olds (adulthood) [9]. These groups are further referred to as EA-J (ex-athletes – junior) and NA-J (non-athletes – junior), and EA-S (ex-athletes – senior) and NA-S (non-athletes – senior).

The diagnostic poll method was used to verify the research hypotheses. An anonymous questionnaire with categorised questions was used.

Each respondent completed the questionnaire individually and sent it back to the author of this study. The questionnaire contained 72 closed or semi-open questions concerning the subject's social status, the course of the professional sports career (ex-athletes only), health-related patterns of behaviour and attitude toward health issues, as well as the subject's health condition self-assessment. Only the study results connected with respondents' participation in physical recreation activities have been presented in this paper.

The following variables were analysed in both groups:

- frequency of participation and time spent on physical recreation within the week preceding the survey (questionnaire completion);
- forms of physical recreation practiced on the day preceding the survey (questionnaire completion).

The relationship between frequency of participation and forms of physical recreation and a) total duration of professional sports career in various sports, and b) sports level measured as sports class achieved in the past were analysed in the group of ex-athletes.

The statistical analysis of the results was performed using Statistica 6.0 PL software. Chi square test for independent variables was used in statistical analysis of relationships between qualitative characteristics. Statistical significance of a relationship between two parameters was determined at p-levels of ≤ 0.05 , ≤ 0.01 and ≤ 0.001 . The strength of the relationship between two variables was tested with the Cramer correlation coefficient (V). This coefficient assumes values from 0 (no relationship between variables) to 1 [12].

RESULTS

The study results concerning the frequency of undertaking physical recreation activities by respondents are presented in Table 1. A significant relationship between the weekly frequency of undertaking PRA and professional sports career in the past has been found, i.e. ex-athletes (EA-T) practiced physical recreation more frequently than the subjects from the control group (NA-T). This relationship was also visible when division into the age groups was taken into consideration. It was shown that both junior and senior ex-athletes undertook PRA significantly more frequently than individuals of the same age from the respective

control groups. Comparison of PRA frequency in junior (EA-J) and senior ex-athletes (EA-S) groups made it possible to demonstrate that the age of males with professional sports past did not affect the frequency of undertaking PRA. No relationship between age and exercise frequency was found in the control groups, either (Table 1).

The analysis of the results of time spent weekly by respondents on PRA confirms a significant correlation between time spent currently on PRA and the former professional sports career (Table 2). It was shown that ex-athletes, both in general and representing the junior and senior age groups, spent more time on PRA than subjects from the respective control groups. Most ex-athletes spent on PRA 3-4 hours a week, whereas most respondents from the control group 1-2 hours a week.

The percentage of men (in general and from the respective age groups) that did not undertake any PRA during the study week was higher in the control groups than in the respective ex-athletes groups (Table 2).

In the group of ex-athletes no relationship was observed between the time spent weekly on PRA and the age of ex-athletes, i.e. time spent on physical exercise at leisure time was similar for junior (EA-J) and senior (EA-S) ex-athlete groups. The same lack of correlation between age and time spent on PRA was also found in the non-athletes groups (NA-J and NA-S) (Table 2).

Table 3 contains study results referring to PRA forms practiced by the respondents on the day preceding the questionnaire completion. A significant correlation was found between the age of non-athlete respondents and currently practiced PRA forms. NA-J more frequently practiced "sports for everybody", whereas NA-S preferred walking. In the ex-athlete group age did not affect PRA forms and both groups of ex-athletes practiced "sports for everybody" most frequently.

In each group, a significant percentage of men (about 24-43%) had no free time at all during the day preceding the questionnaire completion. This result was more prevalent among men aged 18-34 years in both groups (EA-J and NA-J) than among the older ones (EA-S and NA-S) (Table 3).

The relationship between PRA frequency and duration of professional career and sports class achieved in the past by ex-athletes was also analysed (Table 4). These variables were found independent in the study material.

Table 1. Frequency of undertaking physical recreation by the subjects during a week

Frequency of undertaking physical recreation during a week	Study Group											
	EA-T		NA-T		EA-J		NA-J		EA-S		NA-S	
	n	%	n	%	n	%	n	%	n	%	n	%
0	15	8.57	48	24.37	5	6.25	13	18.84	10	10.53	35	27.34
1-2	46	26.29	46	23.35	26	32.50	11	15.94	20	21.05	35	27.34
3-4	73	41.71	64	32.49	28	35.00	25	36.23	45	47.37	39	30.47
5-6	34	19.43	25	12.69	19	23.75	12	17.39	14	15.79	13	10.16
≥ 7 times a week	7	4.00	14	7.11	2	2.5	8	11.59	5	5.26	6	4.69
Total:	175	100.00	197	100.00	80.00	100.00	69	100.00	95	100.00	128	100.00
Independence test:	Groups:				Chi square:				Cramer's V test:			
	EA-T – NA-T				20.35***				0.23			
	EA-J – NA-J				14.25**				0.31			
	EA-S – NA-S				14.07**				0.25			
	EA-J – EA-S				6.93 n.s.				0.20			
	NA-J – NA-S				9.14 n.s.				0.22			

** statistical significance at $p \leq 0.01$; *** statistical significance at $p \leq 0.001$; n.s. – no statistical significance

Table 2. Time spent by subjects on physical recreation during a week

Time (hours) spent on physical recreation during a week	Study Group											
	EA-T		NA-T		EA-J		NA-J		EA-S		NA-S	
	n	%	n	%	n	%	n	%	n	%	n	%
0	15	8.57	47	23.98	5	6.25	12	17.39	10	10.53	35	27.56
1-2	29	16.57	62	31.63	14	17.50	20	28.99	15	15.79	42	33.07
3-4	69	39.43	39	19.90	29	36.25	14	20.29	40	42.11	25	19.69
5-6	34	19.43	25	12.76	17	21.25	10	14.49	17	17.89	15	11.81
> 6	28	16.00	23	11.73	15	18.75	13	18.84	13	13.68	10	7.87
Total:	175	100.00	196	100.00	80	100.00	69	100.00	95	100.00	127	100.00
Independence test:	Groups:				Chi square:				Cramer's V test:			
	EA-T – NA-T				37.34***				0.32			
	EA-J – NA-J				10.38**				0.26			
	EA-S – NA-S				26.60**				0.35			
	EA-J – EA-S				2.33 n.s.				0.12			
	NA-J – NA-S				7.01 n.s.				0.19			

** statistical significance at $p \leq 0.01$; *** statistical significance at $p \leq 0.001$; n.s. – no statistical significance

Table 3. Forms of physical recreation practiced by subjects on the day preceding the survey

Forms of physical recreation practiced by subjects	Study Group											
	EA-T		NA-T		EA-J		NA-J		EA-S		NA-S	
	n	%	n	%	n	%	n	%	n	%	n	%
No leisure time	59	33.71	60	30.46	29	36.25	29	42.65	30	31.58	31	24.03
I do not practice recreation	12	6.86	19	9.64	6	7.50	5	7.35	6	6.32	14	10.85
Walking	39	22.29	60	30.46	12	15.00	7	10.29	27	28.42	53	41.09
Sports	59	33.71	50	25.38	30	37.50	24	35.29	29	30.53	26	20.16
Other responses	6	3.43	8	4.06	3	3.75	3	4.41	3	3.16	5	3.88
Total:	175	100.00	197	100.00	80	100.00	68	100.00	95	100.00	129	100.00
Independence test:	Groups:				Chi square:				Cramer's V test:			
	EA-T – NA-T				6.36 n.s.				0.13			
	EA-J – NA-J				1.11 n.s.				0.09			
	EA-S – NA-S				7.34 n.s.				0.18			
	EA-J – EA-S				4.55 n.s.				0.16			
	NA-J – NA-S				23.55***				0.35			

*** statistical significance at $p \leq 0.001$; n.s. – no statistical significance**Table 4.** Sports career characteristics versus frequency of ex-athletes participation in physical recreation activities

No.	Sports career characteristics	Frequency of ex-athletes participation in physical recreation activities (times per week)											
		0		1 – 2		3 – 4		5 – 6		≥ 7		Total	
		n	%	n	%	n	%	n	%	n	%	n	%
1.	Career duration (years):												
	1-6	3	11.11	7	25.93	8	29.63	7	25.93	2	7.41	27	100.00
	7-12	8	8.79	27	29.67	36	39.56	16	17.58	4	4.40	91	100.00
	13-18	59	33.71	50	25.38	30	37.50	24	35.29	29	30.53	26	100.00
	Chi square (Cramer's V test):	5.84 n.s. (0.13)											
2.	Sports class:												
	II and I	13	8.84	37	25.17	61	41.50	31	21.09	5	3.40	147	100.00
	n.c. and i.c.	2	7.41	9	33.33	11	40.74	3	11.11	2	7.41	27	100.00
	Chi square (Cramer's V test):	2.70 n.s. (0.12)											

n.c. – national champion; i.c. – international champion; n.s. – no statistical significance

Table 5. Sports career characteristics versus forms of ex-athletes participation in physical recreation activities

No.	Sports career characteristics	Frequency of ex-athletes participation in physical recreation activities (times per week)											
		No time		I do not practice recreation		Walking		Sports		Other responses		Total	
		n	%	n	%	n	%	n	%	n	%	n	%
1.	Career duration (years):												
	1-6	9	33.33	2	7.41	5	18.52	10	37.04	1	3.70	27	100.00
	7-12	33	36.26	2	2.20	16	17.58	37	40.66	3	3.30	91	100.00
	13-18	17	29.82	8	14.08	18	31.58	12	21.05	2	3.51	57	100.00
	Chi square (Cramer's V test):	15.00 n.s. (0.21)											
2.	Sports class:												
	II and I	51	34.69	8	5.44	30	20.41	53	36.05	5	3.40	147	100.00
	n.c. and i.c.	7	25.93	4	14.81	9	33.33	6	22.22	1	3.70	27	100.00
	Chi square (Cramer's V test):	6.42 n.s. (0.19)											

n.c. – national champion; i.c. – international champion; n.s. – no statistical significance

In the studied group of ex-athletes no significant correlation between current PRA forms and duration of professional career and sports class achieved in the past was demonstrated (Table 5).

None of the analysed characteristics of the course of ex-athletes' professional sports career was related to their subsequent participation in physical recreation. Their significantly more frequent and longer, and in the senior age group also more intensive (as compared to the control group) PRA, were related merely to the fact that they had been professional athletes in the past.

DISCUSSION

In 1996, the Polish Central Statistical Office included almost 20 thousand households (inhabited by nearly 63 thousand people) into a population health condition study. The results of this study are representative both for the entire country and for particular regions. The study evaluated, among other things, some aspects of the lifestyle, considered significant determinants of health condition. It showed that 31% of adult Poles spent their leisure time in a passive manner, slightly higher rates (e.g. 35% of male population combined passive rest with some low-activity recreation forms (e.g. walking) and only 16% of Polish males added some activities requiring more intensive exercise (e.g. cycling,

jogging, gardening or sports). 2.6% of adults practiced sports. Active forms of recreation were mainly found in younger age groups and the rates of people preferring passive rest increased with age. The percentage of males aged 15-59, 60-64 and 80 years and above who rested passively was 29%, 33% and 52%, respectively [4].

A pivotal nationwide study to evaluate sports activity of the Polish population was carried out by Charzewski [2] who demonstrated that 24% of males aged 25 practiced walking, 9% participated regularly in organised sports activities (4.5% of them less frequently than once a week), 30% practiced some forms of exercise once a week and 26% at least four times a week. Of the above mentioned subjects reporting regular physical exercise, 64% spent 1-2 hours weekly on these activities. Sports games (football in particular) and bodybuilding are the most frequently chosen activities. For 45% of the questioned 25-year olds, the reason to practice mass sports activities is pleasure and for 20% the willingness to preserve good health. 35% of the 35-years old males declare lack of time for exercise, 8% practice some forms of sports activities and 18% go for walks. A typical frequency of sports activities is once a week, and typical duration is 1-2 hours. Sports games are the preferred form of activity. Also in this group, the main reason to practice sports is pleasure and less

frequently improvement of health and physical condition.

In my study, among the males aged 18-34 from the control group, similarly to the nationwide study, percentages of respondents declaring lack of leisure time, significantly lower percentages of respondents going for walks and higher percentages (up to 35%) of respondents practicing PRA have been found (Tab. 3). This difference most probably reflects the fact that my study evaluated participation both in spontaneous and organised forms of PRA, whereas Charzewski [2] included only participation of subjects in the organised recreation forms.

As it has been documented in the nationwide study [2], 21% of males aged 50 years have no time for physical exercise, whereas in this study it is the case for 32% of ex-athletes and for 24% of non-athletes (age range of 35-50). Among those who can find time for recreation activities, 27% of respondents in the nationwide study [2], 28% of ex-athletes and 41% of subjects from the control group confirm going for walks. Comparability of the studies on participation in mass sports activities is limited because of different construction of questions. Charzewski [2] evaluated participation of 50-year olds in organised sports activities and has shown that only 6% of the subjects participated. My study evaluated general recreation activities (irrespective of its organisational aspects) and yielded more favourable results. Namely, 30.5% in the group of ex-athletes and 20.2% in the control group declared practicing of recreation activities (Tab. 3). These better results must have also been affected by the younger age of respondents in this study (ranging from 35 to 51), as compared to the study of Charzewski [2] who evaluated subjects aged 50 years.

As demonstrated in the studies of Charzewski [2] and Kuciarska [4], the percentage of males participating in recreational activities is low and further decreases significantly in older age groups. A trend towards decreased sports participation rates in the older age group, as compared with the younger one, was also demonstrated in this study with respect to non-athletes ($p \leq 0.001$), but it was not found in the ex-athletes group.

The results from my study show that walking is the most popular form of physical recreation only among men aged 35-51 years from the control group, but practicing sports was the most frequently indicated form of recreation among the ex-athletes (both age categories) and among the subjects from

the junior control group (30.5-37.5% of the respondents) (Tab. 3).

In relation to the first objective of the National Health Programme, which was regular physical activities practiced by 30% of the adult Polish population by the year 2005 [7], it can be stated that the men aged 18-34 years from the control group and the ex-athletes aged 18-51 years have already achieved the target percentage of men practicing PRA set for 2005. On the contrary, this target has not been reached by the subjects from the control group aged 35-51 years.

Higher participation of older ex-athletes in the PRA (as compared to the general population) observed in this study is confirmed by the results obtained by other authors, e.g. Sarna [10, 11] in his study of elite Finnish athletes. A study on Polish ex-athletes with at least sports class II also confirmed that the majority of them (66%) continued to be physically active [5]. Results available from a study of 240 Polish Olympians (mainly males aged 23-83 years, mean age – 40.6 years) show that the majority of them, after termination of the professional sports career, include physical exercise into their daily routine (usually general development exercises), and 71% practiced active physical recreation daily. As a form of weekly recreation 4.2% reported tourism and 17.5% recreation sports activities. However, for the Olympians physical exercise is not a method of relaxation or spending leisure time, but it is an activity related to health and hygiene [8].

The significantly higher, as compared to the control group, frequency and duration of PRA in the group of ex-athletes cannot be, however, satisfactory, because approximately 47.5% of junior and about 41% of senior respondents do not practice any physical recreation. Kudelski [5] obtained similar, disappointing results; namely 34% of ex-athletes (aged 36-45 years) questioned by this author abandoned any physical recreation activity. This percentage decreased slightly (to 28.8%) for the age range 46-55 years, to drop in the subsequent age decades to 16.7%, 4.5% and ultimately to 3% among men over 75 years. Similar results have been obtained in my study. The percentage of men practicing sports or walks was lower in the group of junior ex-athletes (52.5%) than in the group of senior ex-athletes (59%) (Tab. 3).

The results of this study as well as of Kudelski [5], Pawlak [8] show (Tab. 1, 2), that the significant increasing trend in the percentage of physically active males in older age groups is

typical for ex-athletes. However, it is absent in the group of non-athletes for whom, typically, in the older age groups, a significant decrease in the percentages of men practicing physical exercise is observed [2].

Frequent causes of abandonment of physical activity in the group of ex-athletes are lack of time, necessity to take on extra jobs, surfeit of sport during professional career, permanent injuries (joint injuries in particular) or even psychological traumas [5]. These causes seem to disappear with age due to the fact that older men complain less frequently about the shortage of leisure time (Table 3), they have paid their expenses for children's upbringing and education, they have reached professional stability (thus the need for extra jobs is less urgent), the time that had elapsed alleviated the experienced surfeit of sport and old injuries have been (partly) cured. Furthermore, first symptoms of involution appear in men from the older age group, thus becoming an important motivating factor for the ex-athletes to undertake physical exercise in order to prevent these changes.

Outstanding athletes claim that their well-being is the result of their professional sports career which had a favorable influence on their immunity and physical efficiency and that, in turn, is the cause of the fact that they surpass their non-athlete peers with respect to physical efficiency [8]. When the causes of physical inactivity subside (time shortage) and the first ageing symptoms appear, the ex-athletes seem to return to young age experiences and to re-introduce the former "imprinted" sports lifestyle habits into daily routine.

In the studied groups of junior and senior ex-athletes of different sports, no influence of sports career duration and achieved sports level on subsequent physical activity was found (Tab. 4, 5). Also in a study of track and field ex-athletes no relationship was found between the duration of their professional sports career and undertaking of physical recreation after professional career termination [5].

Thus, it seems that the mere fact of sports professional career in the past is the factor determining higher percentages of ex-athletes, as compared with non-athletes, practicing PRA. The past professional sports career enhances individuals' awareness of the manifold roles physical activity plays in human life [8]. However, professional sports experience becomes particularly important at an older age. Higher, as compared with non-athletes, participation of ex-athletes in physical

recreation activities significantly improves their comfort of life and prevents diseases typical of the older age, and makes life creative, independent and satisfying. A long-term professional sports career and abilities acquired during this period are a priceless capital used and multiplied by ex-athletes after sports career termination.

Therefore, it can be assumed that the popularisation of participation in long-term, regular professional sports activities of different levels will encourage more people to appreciate the significance of physical activity in human life. This rise in the social awareness will lead, in turn, to popularisation of physical recreation activities among adults.

On the basis of the described results of the study, the following conclusions can be drawn:

1. Male ex-athletes participate in physical recreation activities more frequently and spend more time on them than non-athletes of the same age.
2. Frequency, duration and forms of physical recreation do not differ significantly between junior and senior ex-athletes, but in the group of non-athletes an older age is significantly correlated with decreased participation in intensive recreation forms.
3. Participation of male ex-athletes in physical recreation activities is independent of professional sports career duration and achieved sports class.
4. Past professional sports career contributes significantly to increased participation of men in physical recreation activities after career termination, although it does not guarantee this participation.

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