CONDITIONS OF A SPORTING LIFESTYLE IN 20-75-YEAR-OLD POLISH WOMEN

Maria Nowak, Tadeusz Rynkiewicz, Mariola Radzińska and Włodzimierz Starosta

University School of Physical Education in Poznan, Faculty of Physical Culture in Gorzów Wlkp.

Original scientific paper

Abstract

The aim of the study was to find conditions of leading a sporting lifestyle by female inhabitants of big cities in Poland. It included 1104 women aged 20-75 participating in recreational activities. Depending on how long they had been active, they fell into four different groups: those who had been exercising for one year (G I); over a year, but shorter than four years (G II); at least four years, but under seven (G III); seven and over (G IV). In order to know their lifestyles, the diagnostic poll method was employed. Complementary techniques of survey study were verified in a pilot study. The research results were analyzed qualitatively and elaborated statistically (frequency of features, χ^2 test of independence). Conclusions: 1. Polish women's sporting lifestyle was conditioned by: age under 50, childlessness or having children over seven years of age, a secondary or higher education, employment, good material situation. 2. Satisfying and richer experiences with physical activity from their childhood and youth significantly influenced constancy of adult women's physical activity and their choice of a sporting lifestyle. 3. In the promotion of a sporting lifestyle among adult women, physical activity ought to be pictured not only in biological terms, but first of all in socio-demographic and cultural terms. 4. More intensive promotion of a sporting lifestyle and emphasizing its significance for health in physical education programs in schools would noticeably increase physical activity in Polish society.

Key words: conditions, woman, sporting lifestyle

Introduction

Regular physical activity has been gaining in significance in recent years in view of its noted decrease in societies of several countries. Exercise deficiency lowers the health level and causes numerous civilization diseases, including the rising number of people with obesity, which not only shortens people's average lifespan, but also increases their disability with age (Starosta 1995, 1999; Van Der Wilk and Jansen 2005). An increasing amount of research shows multidirectional beneficial effect of physical activity on the reducing of health threats, prolonging life and increasing its comfort.

Therefore, it becomes rational to undertake various actions toward the dissemination of a sporting lifestyle, especially among women. In comparison to men, women more rarely engage in physical activity (Doupona and Petrović 1999; Bruce and Katzmarzyk 2002; Drygas et al. 2002), participate in recreational activities with lower frequency (Steptoe et al. 1997), choose those forms of exercise which can be reconciled with their taking care of children or grandchildren and organizing the family life (Wearing 1996; Żukowska 1998). Physical recreation is part of the lives of those women who are better educated, have high economic status, and are in a favorable situation as far as career, family and

household are concerned (Charzewski 1997; McTiernan et al. 1998; State of health of the Polish population in 2004, 2006). In the strategy aimed at increasing physical activity in society, women's significant role in handing down the patterns of a physically active lifestyle is emphasized. Activation is necessary, especially of the group defined in physical recreation as weaker. At the same time there is lack of concrete tasks in physical education programs, which would facilitate achieving this goal. In the contemporary health-threatening development of civilization connected with the prevalence of jobrelated activities requiring no physical effort, it is important to educate children to be willing to choose a lifestyle in which engaging in physical activity in their free time plays a significant part.

For a rational form of women's participation in physical recreation to exist, i.e. for the realization of а sporting lifestyle, its repetitiveness and constancy are necessary. Such a lifestyle occurs in situations where conditions of alternative behaviors exist (Siciński 2002), in this case during free time. In a sporting lifestyle regular and daily repetitive behaviors are important, as well as their numerous conditions, with the possibility of making the choice of which type of physical activity to engage in.

A lifestyle can also be treated as a category of analysis of the results of the educational process and its boundaries determined socially and (Wiliński 1988). culturally Adult women's participation in various forms of physical recreation has also been used to evaluate the effects of the physical education process. Little has been discovered about factors influencing many-year physical activity in women of different ages. The available research results are rather related to benefits and barriers concerning physical activity, either subjectively perceived or objectively existing (Kloeze 1999; Azevedo 2007), observed by individuals with short exercise histories.

No results of research into Polish women participating in recreational activities over many years, i.e. leading a sporting lifestyle, have been traced. Research results have not been analyzed in relation to the length of their physical activity. The aim of the study was to find factors conditioning the leading of a sporting lifestyle by Polish women. The following hypotheses were assumed: Polish women's sporting lifestyle is determined by their socio-demographic situation (age, marital status, having children, children's employment, age, education, material richer situation).Satisfying and sporting experiences from their childhood and youth, influence constancy of women's physical activity in adult life.

Research Material and Methods

The study included 1104 Polish women who had been participating in recreational activities for at least one year. Examining such a group of subjects constituted a considerable limitation with the selection of the sample, but it created new possibilities for analysis. Depending on how long they had been active, the subjects fell into four different groups: there were 322 women who had been exercising for one year (G I); 307 with exercise histories of over a year, but shorter than four years (G II); 210 who had been participating in activities for at least four years, but under seven (G III); 265 who had been exercising for seven or more years (G IV). In G IV 30.2% of the subjects had exercise histories of 7-10 years; 47.9% - 11-20 years; 12.8% -21-30 years; 9.1% - 31-40 years. The examined women ranged in age from 20 to 75. Most of the physically active respondents were 30-49 years old (p=0.001). There were similar numbers of subjects from G I in each of the three age categories from 20 to 49 years old. In G II the women were most often aged between 30 and 49 (61,5%). The respondents from G III and G IV were mainly between 40 and 49 years old. In G IV the highest number of subjects were over 60 (Table 1).

Table 1. Socio-demographic factors determining women's physical activity (x2 test of independence)

Specification	Length of physical				Tot	p for	
	GΙ	GII	G III	G IV	n %		x2 test
Age (n=1104)							
20-29	22.4	12.7	15.7	12	176	15.9	p=0.001
30-39	27.6	30.9	20	13.6	262	23.8	
40-49	23.6	30.6	30	27.2	305	27.6	
50-59	12.7	13.4	15.7	18.1	163	14.8	
60-75	13.7	12.4	18.6	29.1	198	17.9	
Marital status (n=110	04)						
Spinster	19.6	14.1	14.3	15.1	176	15.9	p=0.010
Married	65.2	71.3	66.7	59.3	726	65.8	
Widow	8.7	7.8	11.4	15.8	118	10.7	
Divorced	6.5	6.8	7.6	9.8	84	7.6	
Having children and	childre	n's age	(n=1103	3)			
Childless	30.1	23.1	28.3	22.3	286	25.9	p=0.001
Aged under 7	14.9	8.2	6.7	11.7	118	10.7	
Aged 7-15	21.1	32.9	23.4	15.8	260	23.6	
Aged 16-26	17.4	17.9	18.2	19.6	201	18.2	
Aged over 26	16.5	17.9	23.4	30.6	238	21.6	
Education (n=1104)							
Pre-secondary	4.3	4.6	2.8	2.6	41	3.7	p=0.010
Secondary	40.7	33.5	26.2	27.2	361	32.7	
Post-secondary	55	61.9	71	70.2	702	63.6	
Employment (n=110	4)						
Employed	68	68.1	65.2	57.7	718	65	p=0.010
Temp. unemployed	9.9	10.1	7.2	7.6	98	8.9	
Perm. unemployed	22.1	21.8	27.6	34.7	288	26.1	
Material situation (n=	=1063)		•				
Excellent	5.6	7.4	6.3	8.6	74	7	p=0.050
Very good	31.2	35.5	32.5	32	349	32.8	
Good	50.5	49.3	54.4	47.3	533	50.1	
Satisfactory	11.1	7.8	5.3	9	91	8.6	
Poor and v. poor	1.6	0	1.5	3.1	16	1.5	

Most often the respondents participated in exercise twice a week. The most commonly practiced forms of physical activity were gymnastics in its contemporary and traditional varieties (aerobics in classic and contemporary forms, step-aerobics, stretching, yoga, callanetics and supercallanetics, strength and dance exercise with apparatus, fitness exercise), gymnastics with rehabilitation elements, and swimming. In the study the diagnostic poll method was employed, which is especially useful in finding opinions, beliefs, behavior patterns, attitudes, motives and values, of dynamic character. In order to determine physically active women's lifestyles in relation to their situation in terms of employment, family, household and age, various survey techniques were used (questionnaire , interview, scale of pro-health attitudes).

The complementary techniques of survey study ("Me – my – health – sport" – a survey developed in the Department of Humanities at the University of Physical Education in Warsaw and the survey "Woman – physical activity – lifestyle"- own development) used in the present study were verified in a pilot study (Nowak 2008). The research results were analyzed qualitatively and elaborated statistically (frequency of features, χ^2 test of independence).

The marital status of the examined reflected the current situation in Poland. Most women were married, and their number was smaller in the groups with longer physical activity histories. With age the problems of widowhood and family disintegration occurred, which to the greatest extent concerned the subjects who had been participating in recreational activities for the longest period of time, and the oldest ones (p=0.05) (Tab. 1). One of the reasons for a relatively large number of single women (spinsters) was their young age; another was the preference to stay in free relationships observed in recent years. Females regularly engaging in physical activity most often had one (30.4%) or two children (37.9%). Subjects with three children constituted 5.8% of the total sample. Women with a larger number of children were also included in this group. Eight subjects had four children and two had five. Women from G I more often had preschool children in comparison with women from the other groups; Subjects from G II – school-age children (7-16 years old).

Respondents from G III had children at school age and beyond. Subjects from G IV had children mainly over 26 years of age (p=0.001). Childless subjects participating in physical recreation constituted 26% of all the examined women. The length of the subjects' physical activity increased with the level of their education (p=0.001). Women with a pre-secondary education more often had shorter exercise histories, and those with a higher education had been engaging in physical activity for many years. Most of the subjects had jobs (65%); there were fewer workers in G IV, where there was the largest number of permanently jobless subjects (34.7%) (p=0.01). Women from G I and G II were slightly more often on child-raising leave, not working or looking for jobs (about 10%).

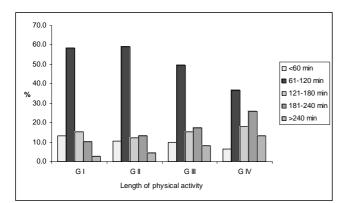


Fig.1. Differences in exercise time in a typical week for women in each group (n=1104) (x2 test of independence, p=0.0001)

The subjects evaluated their material situation as good (50.1%), very good (32.8%) or excellent (7%). Satisfactory material conditions were reported by about 10% of the women. Almost 90% of the subjects participating in exercise had good or very good material conditions (p=0.05). Respondents devoted different amounts of time to participation in exercise (Figure 1). Most of them engaged in recreational activities for 61-120 min.; The largest number of them were in the groups with shorter physical activity histories (G I; G II). Women from G III devoted three or more hours a week to participation in recreational activities more often than subjects from G I and G II. Respondents with the longest physical activity devoted to them the most time weekly (G IV) (p=0.001).Many-year participation in physical recreation fostered the increase in weekly exercise time. Physical activity was continued by subjects who had some past experiences, from e.g. positive attitude toward physical education classes. Physically active women had attended them more willingly (77.3%). Those who had participated in physical education classes out of obligation or compulsion made up 20.4%, and those who had been exempted due to poor state of health 2.3%. Subjects from G III and G IV had less often used medical certificates allowing them not to take part in physical education classes, but the differences were not statistically significant (Figure 2).

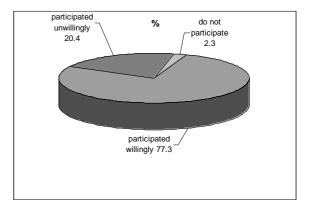
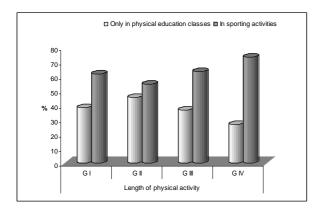
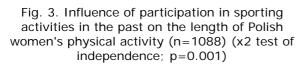


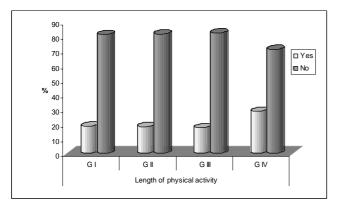
Fig. 2. Polish women's attitudes toward participation in physical education classes in the past (n=1104)

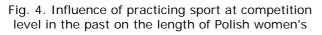
Apart from the subjects' obligatory attendance at physical education classes in the past, they had also taken part in other sporting activities (Figure 3). There were 684 (62.9%) presently exercising women who declared previous involvement in sporting activities (out-of-class optional school activities out-of-school activities and of recreational and sporting character, as well as sports practicing at competition level). Respondents from G IV had more often engaged in out-of-class and out-of-school recreational activities as well as in activities organized by sports clubs apart from the participation in physical education classes (p=0.001).





Women who had previously participated only in physical education classes and had not practiced any sports constituted 36.8%. The largest number of them were in G II. In the results analysis an attempt was also made to determine whether practicing sport at competition level in the past influenced recreational physical activity of adult women. As many as 225 subjects (20.7%) declared having practiced sports at competition level. The largest number of them were in G IV, characterized by the longest physical activity histories (respectively: G I: 18.6%; G II: 18.3%; G III: 17.5%; G IV: 28,7%) (p=0.01 for the $\chi 2$ test) (Fig. 4).





Discussion

The problem of constancy of society's involvement in physical activity, which has long been raised by physical education theorists, teachers, sociologists and doctors, is connected with educating children to have healthy and creative lives, and preparing them for a sporting lifestyle in their youth and adulthood. In the shaping of such a lifestyle, it is important to hand down patterns of physical activity to the next generation, especially to girls, who less often participate in different forms of physical education once they have grown up.

A sporting lifestyle was characteristic of women who were educated, employed, in a good material situation, under 50 years of age. These results confirm previously observed tendencies (Polish people's participation in sport and physical recreation, 2000; Rütten et al 2001; State of health of the Polish population in 2004, 2006). Women's involvement in physical recreation depended on being married. On the one hand, starting a family increases the woman's duties and limits her free time (Charzewski 1997; Parnicka 2005). On the other hand, many-year physical activity is possible to achieve by women who reconcile their careers and their family and household roles owing to choices they make, but probably also owing to their families' support (Deem and Gilroy 1998; Eyler et al 1999; Kafatos et al 1999; Ståhl et al 2001). In the light of the present study, marriage was not an obstacle to participation in physical activity. Maintaining a sporting lifestyle over many years was limited by the studied women's children's age the most. Subjects from G I had pre-school children more often; women from the other groups had older children.

Having small children requires concentrating on numerous caring responsibilities and performing everyday household chores entailed in raising children. Short physical activity histories in women from G I stemmed mainly from the great burden of working at jobs and time-consuming care of pre-school children. The achieved results are borne out by other authors' data (Doupona Petrović 1999; Parnicka 2003). and The hypothesis about the influence of sociodemographic factors (age, marital status, children's age, level of education, employment, good material situation) on the choice of a sporting lifestyle found partial confirmation. No negative effect of getting married or having a particular number of children on assuming a sporting lifestyle by women was observed.

The mentioned socio-demographic conditions of a sporting lifestyle are not the only ones which influence the length of women's physical activity. Using retrospective evaluation it was found that women who were now physically active had mostly had positive attitudes toward participation in physical education classes. Unpleasant experiences drawn from them resulted in their negative evaluation. Similar results were shown by other researchers. More negative opinions were recorded among women who did not like the atmosphere in the classes (Taylor et al. 1999). It was confirmed that physically passive girls aged 10 did not engage in physical activity in adult life (McTiernan et al. 1998), and reluctance to exercise or practice sport was often formed as early as at school age (Deem and Gilroy 1998).

Women presently involved in physical activity had rarely used medical certificates in the past in order to be exempted from physical education classes, which contrasts with the poor 94% attendance of schoolchildren today (State of health of the Polish population in 2004, 2006). Practicing sports in the past significantly influenced adult women's physical activity. Most presently exercising women (62.2%) declared previous participation in broadly understood sport (out-of-class optional school activities and out-of-school activities, taking place both on and off school premises, in sports clubs); 1/3 of them described it as competition level. The largest number of subjects who reported that they had practiced recreational sport, as well as sport at competition level, belonged to G IV, with the length of physical recreation of over 7 years. Subjects who had pursued their sporting interests out of their physical education classes, more often engaged in exercise in adult life, and maintained that activity for the longest period of time (G IV). Such a tendency was found in the present study. This means that schools do not properly prepare children for physical activity in adult life, and the existing differences between the assumed and the actual functions of physical education provide evidence for that (Bukowiec Hodaň and Żukowska 1996). 1990; The relationship between satisfying early sporting experiences and engagement in physical activity in adulthood has been previously confirmed (Nowak 1997; Trudeau et al. 1999; Tammelin et al. 2003). Research conducted over several years in Sweden showed that earlv sportina experiences influence mental readiness for physical activity later in life, which is also affected by current sporting experiences, present living situation and environmental conditions (Engström 2000).

In the present research it was also found that women's choice of a sporting lifestyle is determined both by early sporting experiences and a favorable socio-demographic situation.

Conclusions

Polish women's sporting lifestyle is conditioned by: age under 50, childlessness or having children over seven years of age, a secondary or higher education, employment, good material situation. Reported former positive experiences drawn from satisfying participation in physical education classes, out-of-class and out-of-school sporting activities, as well as sports at competition level prove the relationship between early experiences of physical activity and its constancy in adult women.

Females who had pursued their sporting interests also out of their physical education classes, participating in out-of-class or out-of-school activities or practicing sports at competition level, more often engaged in physical activity after finishing school and maintained that activity, leading a sporting lifestyle. In the promotion of a sporting lifestyle among adult women, physical activity ought to be pictured not only in biological terms, with roles traditionally associated with this sex, but first of all in terms of socio-demographic and cultural conditions.

More intensive promotion of a sporting lifestyle in physical education programs in schools, through creating the awareness of benefits of engaging in regular physical exercise, and forming a system of values in which physical activity plays a significant role, would noticeably increase physical activity in Polish society.

Literature

Azevedo, M.R. (2007) Gender differences in leisure-time physical activity. Int J Public Health, 52:8-15.

- Bruce, M.J., & Katzmarzyk, P.T. (2002) Canadian population trends in leisure-time physical activity levels: 1981-1998. Can. J. Appl. Physiol., 27(6):681-690.
- Bukowiec, M. (1990) Postulowane, założone i rzeczywiste funkcje wychowania fizycznego w przygotowaniu do uczestnictwa w kulturze fizycznej /In Polish/. Kraków: AWF Kraków.

Charzewski, J. (1997) Aktywność sportowa Polaków / In Polish/. Warszawa: AWF Warszawa.

- Deem R., & Gilroy, S. (1998) Physical activity, life-long learning and empowerment situating sport an women's leisure. Sport Educ. Soc., 3(1):89-104.
- Doupona, M. (2001) Influence of some aspects of parental socio-economic status on the attitude towards sports. Kinesiol., 33(1):94-104.
- Doupona, M., & Petrović, K. (1999) Sport activity of women and men regarding their family status. In: V. Strojnik, A. Ušaj (eds.), Proceedings of the 6th Sport Kinetics Conference. Ljubljana, pp.114-117.

Drygas, W., Bielecki, W., & Puška P. (2002) Ocena aktywności fizycznej mieszkańców sześciu krajów europejskich /In Polish/. Med. Sport., 18(5):169-174.

Engström, L.M. (2000) Sport and social distinction. In: J. Avela, P.A. Komi, J., & Komulainen (eds.), Proceedings of the 5th Annual Congress of the European College of Sport Science. Jyväskylä. pp. 234.

Hodaň, B., & Żukowska, Z. (1996) *Nauczyciel wychowania fizycznego i jego społeczno-wychowawcze funkcje* /In Polish/. Warszawa: AWF Warszawa.

- Kafatos, A., Manios, J., Markatji, I., Giachetti, I., Vaz de Almeida, M.D., & Engström L.M. (1999) Regional, demographic and national influences on attitudes and beliefs with regard to physical activity, body weight and health in a nationally representative sample in the European Union. *Publ. Health Nutr., vol. 2*(1A):87-95.
- Kloeze, J.W. (1999) Family and leisure: between harmony and conflict. *World Leisure Recreation*, *41*(4):4-10.
- McTiernan, A., Stanford, J.L., Daling, J.R., & Voight, L.F. (1998) Prevalence and correlates of recreational physical activity in women aged 50-64 year. *Menopause. J. Nort. Am. Menopause Soc.*, *5*(2):95-101.
- Nowak, M. (1997) Motor activity in women versus their sports past. In: *Sport Kinetics'*97, *Hamburg*, 2:62-66.
- Nowak, M. (2008) Aktywność fizyczna w prozdrowotnym stylu życia kobiet /In Polish/. Poznań: AWF Poznań.
- Parnicka, U. (2003) Aktywność ruchowa matek dzieci w wieku przedszkolnym /In Polish/. Warszawa: AWF Warszawa.
- Parnicka, U. (2005) Effects of marriage on practicing motor activities by professionally active women. *Wych. Fiz. Sport, 49*(3):187-193.
- Rütten, A., Abel, T., Kannas, S., von Lengerke, T., Lüschen, G., & Rodriguez, D.J. (2001) Self reported physical activity, public health, and perceived environment: results from a comparative European study. *J Epidemiol Com. Health*, *55*:139-146.
- Sicinski, A. (2002). Styl życia. Kultura. Wybór /In Polish/. Warszawa.
- Ståhl, T., Rüten, A., Nutbeam, D., Bauman, A., Kannas, L., Abel, T., Lüschen, G., Rodriquez, D.J., Vinck, J., & Van der Zee, J. (2001) The importance of the social environment for physically active lifestyle. *Soc. Sci. Med.*, *52*:1-10.
- Starosta, W. (1995) Znaczenie aktywności fizycznej w zachowaniu i polepszaniu zdrowia człowieka. *Prom. Zdr.* 2(5-6):74-87.
- Starosta, W. (1999) Movement in human life and its importance for health. In: *Kinesiology for the 21 st. century. Faculty of Physical Education University of Zagreb*, pp.29-40.
- Steptoe, A., Wardle, J., Fuller, J., Holte, A., Justo, J., Sanderman, R., & Wichstrøm, L. (1997) Leisure time physical exercise. Prevalence, attitudinal correlates, and behavioral correlates among young Europeans from 21 countries. *Prev. Med.*, *26*(6):845-854.
- Tammelin, R., Yang, X., Viikari, J., Välimäki, I., Wanne, O., & Raitakari O. (2005). Physical activity from childhood to adulthood a 21-year tracking study. *Am J Prev. Med.*, *28*(3):267-273.
- Taylor, W.C., Blair, S.N., Cummings, S.S., & Wun, C.C. (1999) Childhood and adolescent physical activity patterns and adult physical activity. *Med. Sci. Sports Exerc.*, *31*(1):118-123.
- Trudeau, F., Laurencelle, L., Tremblay, J., Rajic, M., & Shephard, R.J. (1999) Daily primary school physical education: effects on physical activity during adult life. *Med. Sci. Sports Exerc.*, *31*(31):111-117.
- Van Der Wilk, E.A., & Jansen, J. (2005) Lifestyle-related risks. Are trends in Europe converging. *Public Health*, *119*:55-66.
- Wearing, B. (1996) Grandmotherhood as leisure? World, Leisure Recreation, 38(4):15-19.
- Wiliński, P. (1988) O przydatności pojęcia "styl życia" w badaniach pedagogicznych /In Polish/. *Ruch. Pedag.*, *3-4*:86-97.
- Żukowska, Z. (1998) Kobieta kreatorką aktywności sportowej w rodzinie. W: Z. Żukowska (ed.) Kobieta kreatorką aktywności sportowej w rodzinie /In Polish/. Warszawa, pp.20-24.
- * * * (2000) Uczestnictwo Polaków w sporcie i rekreacji ruchowej /In Polish/. Warszawa: GUS.
- * * * (2006) Stan zdrowia ludności Polski w 2004 roku /In Polish/. Warszawa: GUS.

UVJETI SPORTSKOG NAČINA ŽIVOTA KOD 20-75-GODIŠNJIH ŽENA U POLJSKOJ

Sažetak

Cilj ovog istraživanja je bio pronalaženje uvjeta vođenaj sportskog načina života građanki većih gradova u Poljskoj. Bilo je uključeno 1104 osoba ženskog spola uzrasta 20-75 godina koje sudjeluju u rekraecijskim aktivnostima. Ovisno o trajanju njihove aktivnosti, podijeljene su u četiri grupe: one koje se bave vježbanjem jednu godinu (G I); dulje od godinu dana ali kraće od četiri godine (G II); najmanje četiri ali manje od sedam godina (G III); sedam godina i više (G IV). Primjenjena je dijagnostička anketna metoda u skladu s poznavanjem životnog stila ispitanica. Dodatno, tehnika elaborate je verificirana pilot istraživanjem. Rezultati I straživanja su analizirani kvalitativno I statistički elabororani (učestalost obilježja, x2 test neovisnosti). Zaključci: 1. Sportski način života žena u Poljskoj su uvjetovani s: 1. Uzrast ispod 50, bez djece ili s djecom iznad 7 godina, srednja škola ili više obrazovanje, zaposlenost, dobra materijalna situacija. 2. Zadovoljavajuće ili bogato iskustvo u tjelesnom vježbanju od djetinjstva i u mladenaštvu konstantan značajan utjecaj tjelesnog vježbanja starijih žena i njihov izbor sportskog načina života. 3. U promidžbi sportskog načina života među starijim ženama, tjelesna aktivnost nije samo oslikana u biološkim, već prije svega u sociodemografskim i kulturološkim terminima. 4. Intenzivnija promidžba sportskog načina života i naglašavanje njegovog značenja za zdravlje u školskim edukacijskim programima pojačava tjelesnu aktivnost u poljskom društvu.

Ključne riječi: uvjeti, žene, sportski način života

Received: July 2, 2009. Accepted: October 4. 2009. Correspondence to: Prof. Włodzimierz Starosta, Ph.D. University School of Physical Education in Poznan Faculty of Physical Culture in Gorzów Wlkp. Królowej Jadwigi 27/39, 61-871 Poznañ, Poland Phone: +48 (61) 852 67 67 E-mail: wlodzimierz.starosta@insp.waw.pl