

Analysis of the Relevant Factors for the Engaging Women in Various Sports in Croatia

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ABSTRACT

Goals of this research were to determine the correlations among the dimensions of relevant factors about engagement of women in sports, as well as to determine the differences in the dimensions of relevant factors about engagement of women in sports, according to several independent variables: type of sport, educational level, marital status and place of living. A total of 342 female athletes and other sport practitioners are examined, with the average age of 31.53 ± 13.92 years ($M \pm SD$) from several Croatian sport federations: judo, badminton, gymnastics, bowling, acrobatic rock'n roll, handball, sport fishing, Association of the deaf athletes, archery, chess and basketball. The results revealed that according to the type of sport, the differences are statistically significant for: negative environment, relaxation/fun and ambition/self-esteem motives; environmental, obligation and financial/traffic/rules barriers; indirect strategies and already present initiatives for including women in sports. According to the education level, the differences are statistically significant for: positive personal, negative environmental motives and ambition/self-esteem motives; obligations as the barriers; organization out-of-sport commitments and specific strategies for media. The differences in the marital status of participants are statistically significant for the variables: positive personal, negative environmental and ambition/self-esteem motives; environmental and obligation barriers; organization of out-of-sport commitments. At last, only two statistically significant differences are found according to the place of living: for indirect strategies for including women in sports and for the programs created only for women. The results provide the platform for developing programs and strategies for retaining and engaging women in particular sports in Croatia.

Key words: Barriers, commitments, motivation, retaining, strategies.

Introduction

The gender differences in physical activity begin to develop from early age and continue across the lifespan. Boys are physically more active than girls are, while men participate in sports club activities more than women do (Turpeinen, 2012). The Eurobarometer survey on sport and physical activity (2010) among 27 EU member states highlighted that the participation of girls and women in general is not at the same levels of participation as boys and men. Men play more different sports than women do and this disparity is particularly marked in 15-24 age group. The Olympic Charter (International Olympic Committee, 2014) states that one of the roles of the International Olympic Committee is to encourage and support the promotion of women in sport at all levels and in all structures, with a view to implementing the principle of equality of men and women. There is not a vast amount of literature available on the subject of women participating in sports and obstacle factors for their engaging. Furthermore, it is not easy to compare data, because of used methodology and considerable differences between countries. For example, 19% of Canadian women participated in sport, compared to 35% of men, and females comprised 39% of registered competitors (Johnstone & Millar, 2012). In Isla-

mic countries, there are much more tradition-related obstacles for women to participate in sport, which is generally considered a masculine domain (Contomichalos, 2010).

On the contrary, in western societies, having as much as possible equal number of the athletes or other roles in sporting field of both sexes, is one of the measures of progress. Three of the top five sports for both men and women in western countries are swimming, gym, fitness, and cycling. However, female participation in sports is heavily concentrated in swimming and fitness, while male participation is more widely spread across a range of different activities (Jones, Milward & Buriamo, 2011). Football and ice hockey are the examples of sports that have traditionally been men-oriented, but the number of female participants over the last years has increased in some countries, for example in Finland (Turpeinen, 2012). Contrary, in some sports exist almost equal interest between both sexes like in judo (Sindik et al., 2014). Jones et al. (2011) collected data about gender participation in different sports in England. Men have the prevalence of: 90.8% in football, 86% in golf, 71% in table tennis, 69% in cycling, 62% in climbing and mountaineering, 61% in tennis, 61% in badminton, 60% in jogging and bowling. There are some sports with equal sex proportion, like skiing, bowling and gym. In some sports is a greater women proportion, for

example swimming or diving (57% participants are women), ice skating (52% participants are women), aerobic and dance (76% participants) and yoga (82% participants) (Jones et al., 2011). According to the Great Britain (GB) trend analysis in women’s participation in sports activities from 2007-2011 (Women’s Sport and Fitness Foundation support NGBs, 2011) 12.4% of women and 20.5% of men in population weekly participate in a sports sessions of exercise. Top women sports are: keep fit or going to the gym (13.3%), swimming (8.2%), athletics (3.4%), cycling (2.1%), equestrian (1.2%) and there are sports with less than 1% participants (dance exercise, badminton, tennis, football, netball). In that period in GB the proportion of women active in sport has declined for 0.7%, while the male proportion has raised for 0.5% (Women’s Sport and Fitness Foundation support NGBs, 2011). Women (54.0%) are more likely than men (39.2%) not to participate in sport, roughly similar proportions of those who do not take part in sporting activities say that they would like to do sport or active recreation (men 43.8%, women 39.6%) (Jones & Millward, 2011). Some well-known barriers (Johnstone & Millar, 2012) are including: psychological barriers (e.g., lack of confidence or negative attitudes; concerns about body weight, poor body image and low self-esteem), time-based barriers (e.g., too much work or responsibilities to care for children or elderly parents), interpersonal barriers (e.g., low support women’s and girls’ physical activity engagement; family, partner or parental belief that sport is not as important for females as for males; concerns about being perceived as unfeminine), access and opportunity barriers

(e.g., cost, transportation, access to quality facilities) and programming barriers (e.g. lack of choice and variety). Similar, the data collected in national survey in Australia (Sparks, 2007) show that the most relevant barriers to women participating in sport are time related issues (family and work related), costs and lack of childcare. In some occasions, there are still some ideological reasons, for example, belief that heavier involvement in some sports diminishes femininity and leads to unattractive muscles (Sparks, 2007). Critical issues impacting women’s sport still have not been formally and systematically explored enough, but researchers found out that the women proportion has fallen more in lower social grades, neither those with children nor those without children in household, and the proportion decreases as the age group increases (Women’s Sport and Fitness Foundation, 2011).

In Croatia, there are lack of surveys about women sports engagement. One of recent studies aimed to determine the relevant factors about engagement of women in judo in relation to educational level, marital status, impulses to engage in judo, then depending are the women competitors or not, members of the Judo Board or not, trainers or not. In Croatia, there are 23% women of registered contestants in judo in all age groups. The results pointed that relatively older women have more obligations and more barriers that oppose to their engagement in judo. The other differences depending on examined independent variables were small (Sindik et al., 2014). What is the situation in other sports in Croatia?

Table 1. Number of male and female registered active athletes competitors according to their age group

Sport / Age group	younger cadets	cadets	younger juniors	juniors	younger seniors and seniors
badminton	F=73	F=39	F=35	F=17	F=73
	M=66	M=53	M=36	M=21	M=162
chess	F=165	F=139	F=0	F=44	F=128
	M=475	M=399	M=0	M=188	M=2243
skiing	F=262	F=84	F=36	F=21	F=35
	M=498	M=147	M=42	M=33	M=66
bowling	F=46	F=75	F=89	F=84	F=646
	M=106	M=81	M=108	M=108	M=2239
gymnastics	F=389	F=915	F=0	F=41	F=316
	M=201	M=592	M=0	M=38	M=186
archery	F=0	F=57	F=0	F=19	F=61
	M=0	M=98	M=0	M=42	M=307
sport fishing	F=95	F=0	F=0	F=45	F=120
	M=307	M=0	M=0	M=178	M=1091
distance swimming	F=15	F=0	F=0	F=11	F=4
	M=21	M=0	M=0	M=20	M=14
rock’n roll	F=0	F=0	F=0	F=103	F=408
	M=0	M=0	M=0	M=31	M=85
motorcycling	F=0	F=0	F=0	F=5	F=0
	M=0	M=0	M=0	M=29	M=366
judo	F=354	F=227	F=N/A	F=184	F=222
	M=988	M=676	M=N/A	M=530	M=905

Legend: M=male; F=female; Source: Croatian Olympic Committee (2015)

Table 1 shows female and male proportion of registered competitors in some sports, less popular comparing to football, which is traditionally masculine domain (Croatian Olympic Committee, 2015). According to the Table 1, the most popular sports for men are chess, bowling, sport fishing, archery and motorcycling what is particularly highlighted in chess, bowling and fishing in senior group, where are few times more male than female participants. Contrary, in rock’n roll and gymnastics participated much more women, what could be expected, based on the results from other countries (Women’s Sport and Fitness Foundation support NGBs, 2011). Proportion of women who are registered competitors in rock’n roll is 81.5%, and in gymnastics is 62% (Croatian Olympic Committee, 2015). Although in badminton and distance swimming are more male registered competitors there are quite similar proportion of female competitors. Situation in skiing depends on age and there

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are much more men competitors in younger age groups (cadets and younger cadets) while in other groups proportions are similar (Table 1).

The Croatian Olympic Committee (COC, 2012) had the goal of increasing the percentage of women participating in sports, recommended to all of its national governing body members, to increase the number of women in sports to at least 40% of women in all sports associations by the end of 2015 (Croatian Olympic Committee, 2012). Near to the end of 2015, this article explores how close or how far is Croatian sport to the goal of COC. Research is aimed to identify some factors for engaging women in sports in Croatia. Additionally, this study tried to define relevant factors to be addressed, that could encourage women's greater participation and engaging in sports.

Main goal of this study was to identify reasons and factors of practicing sports in Croatian women, barriers that they perceive disturbing for their continued engagement in sports, either as competitors or as sport employees. Moreover, we have wanted to determine what are the important issues to be addressed that could encourage greater participation of women in sports, which are specific strategies to encourage retaining women in sports and to improve the media coverage of women in sports in general. Specific goals of this research were to determine the correlations among the dimensions of relevant factors about engagement of women in sports (1) and to determine the differences in the dimensions of relevant factors about engagement of women in sports, according to several independent variables: type of sport, educational level, marital status and place of living (2).

Materials and Methods

Participants

Female sport competitors and employees were surveyed. The questionnaires were distributed by email from December 2014 to the end of April 2015, with the aid of the Croatian

Olympic Committee. The questionnaires were also returned to the researchers by email, signed by the surveyed sport practitioners (N=342) to give their informed consent to participate in the research. The average age of the surveyed female sport practitioners was 31.53±13.92 years (M±SD), a range from 14 to 74 years, their average work experience in years is 7.09±10.16, a range from 0 to 42 years and their average years spent practicing their sport is 15.18±10.48, a range from 1 to 55. Sports included in this survey are: judo 50 participants (14.6%), badminton 18 participants (5.3%), gymnastics 24 participants (7%), bowling 16 participants (4.7%), acrobatic rock'n&roll 56 participants (16.4%), handball 26 participants (7.6%), sport fishing 50 participants (14.6%), Association of the deaf athletes 14 participants (4.1%), archery 25 participants (7.3%), chess 22 participants (6.4%) and basketball 41 participant (12%). Zagreb has the largest frequency of surveyed participants (140 women in sport which is 79.1%). Only 73 (21.7%) of the surveyed practitioners have not won a medal in a national level championship, while 264 (78.3%) of them have. Hundred and eighty-four (56.1%) of the surveyed female sport practitioners have won a medal at an international level, while 144 (43.9%) of them have not. Before stating this sport 158 (52.7%) of them did not practice any sport and 141 (47.3%) were involved in some other sport before this one. As far as education is concerned, 56 (16.5%) surveyed female sport practitioners have only finished primary school, 128 (37.8%) of them have only a high school diploma, 41 (12.1%) of them have finished post-secondary schools other than college, and 98 (28.9%) of them have finished college without enrolling into a postgraduate program. Only 16 (4.7%) have a postgraduate academic degree. As far as their marital status is concerned, 206 (60.8%) of them are unmarried, 105 (31%) are married, 17 (5%) of them are divorced and 11 of them are widows. Two hundred and twenty two (65.3%) surveyed female sport practitioners do not have children, while 44 (12.9%) have one child, 54 (15.9%) of them have two, 19 (5.6%) of them has three children and only one of them (0.3%) has four or more children.

Table 2. Correlations (Pearson) between the dimensions of relevant factors about engagement of women in sports

Dimension	Environmental	Obligations	Financial rules	Organization sport	Organization out-sport	Media strategies	Indirectly in sport	Directly in sport	Already present initiatives
Positive personal motives	-0.04	-0.05	0.04	0.19**	0.15**	0.20**	0.13*	0.04	0.19**
Negative environment motives	0.36**	0.17**	0.24**	0.04	0.08	0.05	0.16**	0.17**	0.12*
Social motives	0.05	-0.04	0.09	0.29**	0.28**	0.37**	0.08	0.06	0.14*
Relaxation, fun	-0.09	0.01	0.08	0.27**	0.17**	0.32**	0.08	-0.00	-0.02
Ambition and self-esteem	-0.11	-0.12*	0.09	0.41**	0.25**	0.39**	0.09	0.05	0.06
Environmental barriers	1	0.36**	0.52**	-0.08	0.02	-0.09	0.11	0.05	0.10
Obligations as barriers		1	0.38**	0.09	0.08	0.04	0.16**	0.16**	0.15*
Financial, rules, traffic barriers			1	0.03	0.12*	0.02	0.24**	0.18**	0.17**
Organization of women sport commitments				1	0.47**	0.46**	0.12*	0.10	0.11
Organization of women outsport commitments					1	0.51**	0.21**	0.18**	0.23**
Specific strategies media						1	0.17**	0.20**	0.11
Indirectly - sport official							1	0.65**	0.25**
Directly in sport								1	0.22**
Already present initiatives									1

Legend: * Correlation significant with p<0.05 (two-tailed); ** Correlation significant with p<0.01 (two-tailed)

Table 3a. Differences between the dimensions of relevant factors about engagement of women in sports according to the type of sport

Dimension	Sport	Mean	Std. Deviation	Kruskal-Wallis test (p)
positive personal motives	judo	1.64	0.31	0.00**
	badminton	1.78	0.17	
	gymnastics	1.71	0.22	
	bowling	1.70	0.19	
	acrobatic rock'n&roll	1.75	0.16	
	handball	1.74	0.21	
	sport fishing	1.64	0.32	
	Association of the deaf athletes	1.82	0.15	
	archery	1.55	0.35	
	chess	1.65	0.28	
	basketball	1.60	0.20	
negative environment motives	judo	0.34	0.38	0.00**
	badminton	0.29	0.31	
	gymnastics	0.33	0.29	
	bowling	0.43	0.36	
	acrobatic rock'n&roll	0.32	0.36	
	handball	0.44	0.27	
	sport fishing	0.55	0.43	
	Association of the deaf athletes	0.68	0.23	
	archery	0.28	0.33	
	chess	0.64	0.62	
	basketball	0.53	0.43	
social motives	judo	1.07	0.55	0.14
	badminton	1.29	0.60	
	gymnastics	1.24	0.45	
	bowling	1.13	0.57	
	acrobatic rock'n&roll	1.24	0.52	
	handball	1.19	0.58	
	sport fishing	1.02	0.49	
	Association of the deaf athletes	1.43	0.52	
	archery	0.98	0.54	
	chess	0.96	0.49	
	basketball	1.12	0.55	
relaxation and fun motives	judo	1.57	0.53	0.00**
	badminton	1.96	0.11	
	gymnastics	1.70	0.44	
	bowling	1.69	0.37	
	acrobatic rock'n&roll	1.84	0.29	
	handball	1.59	0.41	
	sport fishing	1.52	0.49	
	Association of the deaf athletes	1.72	0.31	
	archery	1.87	0.22	
	chess	1.60	0.43	
	basketball	1.70	0.42	
ambition and self esteem	judo	1.61	0.43	0.00**
	badminton	1.72	0.32	
	gymnastics	1.52	0.40	
	bowling	1.57	.310	
	acrobatic rock'n&roll	1.69	.282	
	handball	1.64	0.33	
	sport fishing	1.28	0.48	
	Association of the deaf athletes	1.83	0.27	
	archery	1.61	0.33	
	chess	1.45	0.59	
	basketball	1.47	0.43	

Legend: * difference significant at $p < 0.05$; ** difference significant at $p < 0.01$; the highest and lowest values of means are bolded

Table 3b. Differences between the dimensions of relevant factors about engagement of women in sports according to the type of sport

Dimension	Sport	Mean	Std. Deviation	Kruskal-Wallis test (p)
environmental barriers	judo	0.17	0.34	0.00**
	badminton	0.09	0.15	
	gymnastics	0.20	0.34	
	bowling	0.19	0.30	
	acrobatic rock'n&roll	0.13	0.23	
	handball	0.25	0.36	
	sport fishing	0.43	0.51	
	Association of the deaf athletes	0.48	0.47	
	archery	0.13	0.24	
	chess	0.44	0.52	
	basketball	0.33	0.50	
obligation barriers	judo	0.64	0.46	0.00**
	badminton	0.85	0.55	
	gymnastics	0.80	0.58	
	bowling	0.76	0.48	
	acrobatic rock'n&roll	0.51	0.43	
	handball	0.85	0.47	
	sport fishing	0.90	0.62	
	Association of the deaf athletes	0.88	0.52	
	archery	0.72	0.57	
	chess	1.10	0.56	
	basketball	0.62	0.51	
financial, traffic and rules barriers	judo	0.29	0.40	0.00**
	badminton	0.37	0.25	
	gymnastics	0.39	0.43	
	bowling	0.19	0.38	
	acrobatic rock'n&roll	0.47	0.36	
	handball	0.53	0.46	
	sport fishing	0.54	0.53	
	Association of the deaf athletes	0.74	0.51	
	archery	0.48	0.53	
	chess	0.68	0.59	
	basketball	0.45	0.45	
organization of sport commitments	judo	3.97	0.85	0.37
	badminton	4.09	0.65	
	gymnastics	3.94	0.62	
	bowling	4.08	0.55	
	acrobatic rock'n&roll	3.90	0.80	
	handball	4.22	0.72	
	sport fishing	3.69	0.93	
	Association of the deaf athletes	4.17	0.70	
	archery	4.19	0.59	
	chess	4.08	0.82	
	basketball	3.91	0.73	
organization out of sport commitments	judo	2.60	0.99	0.07
	badminton	2.94	0.43	
	gymnastics	3.24	0.82	
	bowling	3.31	0.92	
	acrobatic rock'n&roll	2.99	0.94	
	handball	3.27	0.89	
	sport fishing	2.85	0.97	
	Association of the deaf athletes	3.49	0.83	
	archery	3.04	0.70	
	chess	3.17	0.90	
	basketball	2.85	0.93	

Legend: * difference significant at $p < 0.05$; ** difference significant at $p < 0.01$; the highest and lowest values of means are bolded

Table 3c. Differences between the dimensions of relevant factors about engagement of women in sports according to the type of sport

Dimension	Sport	Mean	Std. Deviation	Kruskal-Wallis test (p)
specific strategies for media	judo	3.64	1.16	0.06
	badminton	3.72	0.69	
	gymnastics	3.97	0.76	
	bowling	3.98	0.86	
	acrobatic rock'n&roll	3.67	0.77	
	handball	4.02	0.69	
	sport fishing	3.32	1.00	
	Association of the deaf athletes	4.10	0.82	
	archery	3.82	0.73	
	chess	3.79	0.70	
	basketball	3.58	0.87	
indirect strategies for including women	judo	0.65	0.49	0.00**
	badminton	0.60	0.55	
	gymnastics	0.66	0.44	
	bowling	0.85	0.49	
	acrobatic rock'n&roll	0.88	0.52	
	handball	0.98	0.40	
	sport fishing	0.89	0.64	
	Association of the deaf athletes	1.23	0.62	
	archery	0.70	0.55	
	chess	1.11	0.59	
	basketball	0.78	0.49	
direct strategies for including women	judo	0.71	0.69	0.08
	badminton	0.46	0.59	
	gymnastics	0.70	0.61	
	bowling	0.86	0.57	
	acrobatic rock'n&roll	0.60	0.54	
	handball	0.77	0.57	
	sport fishing	0.84	0.74	
	Association of the deaf athletes	0.97	0.73	
	archery	0.82	0.63	
	chess	1.11	0.64	
	basketball	0.75	0.56	
already present initiatives	judo	0.39	0.43	0.00**
	badminton	0.27	0.43	
	gymnastics	0.61	0.54	
	bowling	0.71	0.50	
	acrobatic rock'n&roll	0.81	0.52	
	handball	0.72	0.39	
	sport fishing	0.70	0.45	
	Association of the deaf athletes	1.42	0.50	
	archery	0.32	0.38	
	chess	0.80	0.50	
	basketball	0.52	0.54	

Legend: * difference significant at $p < 0.05$; ** difference significant at $p < 0.01$; the highest and lowest values of means are bolded

Measuring instruments

The set of questionnaires was disseminated by belonging Croatian sport associations to female active sport competitors: the reasons for practicing certain sport, positive and negative aspects of this sport, involvement in other sports and how much time certain sport takes away from other obligations. In this research, modified items are back-translated from the following questionnaires: 'Attitudes towards women in sports' and 'Obstacles for women in sports' (Khan et al., 2012); 'Obstacles for women in sports'; 'Promoting greater involvement of women in sports'; 'Media coverage of female sports' (Sparks, 2007); 'Motivation for participation in sports' (Sports and Physical Activity, 2010). The items in all the questionnaires can be

seen in previous articles about retaining of women in judo (Rendulić, Sindik and Čorak, 2013; Rendulić, Sindik and Čorak, 2014; Sindik, Rendulić, Čorak and Perinić-Lewis, 2014). All seven questionnaires used to explore women engagement in Croatian judo showed moderate to high satisfactory reliability and good construct validity, in 15 latent dimensions that are revealed (Sindik et al., 2014). In this research, the reliabilities type internal consistency for the dimensions of the questionnaires: Positive personal motives ($\alpha=0.55$); Negative environment motives ($\alpha=0.60$); Social motives ($\alpha=0.79$); Relaxation and fun ($\alpha=0.63$); Ambition and self-esteem ($\alpha=0.69$); Environmental barriers ($\alpha=0.70$); Obligations as barriers ($\alpha=0.64$); Financial rules, traffic barriers ($\alpha=0.59$); Organization of sport commitments for women ($\alpha=0.61$); Organization of out-sport commit-

ments for women ($\alpha=0.63$); Specific strategies for media to improve coverage of women in sports ($\alpha=0.86$); Specific strategies to encourage women to be engaged in sports – indirectly (officials; $\alpha=0.77$); Specific strategies to encourage women to be engaged in sports – directly (competitors; $\alpha=0.76$); Already present initiatives to encourage women to be engaged in sports ($\alpha=0.83$). Except abovementioned variables, sexual abusing defined as binary variable (yes/no) was analyzed, too.

Statistical Analyses

In the statistical analyses of the data, the software package SPSS 20.0 is used. For determining construct validity of the questionnaires, Principal Components Analysis with (or without, in one-component solutions) Varimax Rotation are used. The results in extracted principal components (factors) in certain questionnaires are expressed as the simple linear combinations, and then used in further analysis (differences and correlations). The reliability type internal consistency for all dimensions (components) of relevant factors about engagement of women in sports revealed was determined using Cronbach’s alpha coefficients of internal consistency. The correlation analyses were performed using Pearson correlation coefficients. To determine the differences between each two

groups of participants, the t-test for independent samples is used, while in case of several groups of participants, the Kruskal-Wallis test or ANOVA are used. To determine the differences in sexual abusing, Chi square (χ^2) test was used. The significance of all differences and correlations are commented on the probability level of $p < 0.05$.

Results

Correlations among the variables in the research

In following two analyses we have used obtained latent dimensions, expressed in linear combinations, to calculate the correlations among these latent dimensions (Table 2). Out of 81 correlations between all the dimensions in all questionnaires, 43 were statistically significant and very low to low size (all except one were in the positive direction). Environmental barriers showed the least number of statistically significant correlations with other variables, while Specific strategies to improve media coverage of women in sport, Organization of women sport commitments and Organization of women outsport commitments showed the highest number of statistically significant correlations with other variables (seven).

Table 4a. Differences between the dimensions of relevant factors about engagement of women in sports according to the educational level

Dimension	Education level	Mean	Std. Deviation	Kruskal-Wallis test (p)
positive personal motives	elementary school	1.70	0.20	0.00**
	high school	1.65	0.32	
	college (BA, BS)	1.69	0.23	
	university	1.69	0.21	
	postgraduates (PhD, MS)	1.66	0.22	
negative environment motives	elementary school	0.42	0.43	0.05*
	high school	0.42	0.39	
	college (BA, BS)	0.43	0.30	
	university	0.45	0.43	
	postgraduates (PhD, MS)	0.38	0.43	
social motives	elementary school	1.14	0.57	0.75
	high school	1.07	0.52	
	college (BA, BS)	1.32	0.52	
	university	1.13	0.54	
	postgraduates (PhD, MS)	1.12	0.55	
relaxation and fun motives	elementary school	1.71	0.42	0.59
	high school	1.63	0.46	
	college (BA, BS)	1.76	0.31	
	university	1.72	0.41	
	postgraduates (PhD, MS)	1.80	0.35	
ambition and self esteem	elementary school	1.65	0.30	0.01**
	high school	1.52	0.47	
	college (BA, BS)	1.63	0.40	
	university	1.53	0.41	
	postgraduates (PhD, MS)	1.70	0.35	
environmental barriers	elementary school	0.24	0.42	0.41
	high school	0.20	0.36	
	college (BA, BS)	0.27	0.39	
	university	0.30	0.44	
	postgraduates (PhD, MS)	0.29	0.38	
obligation barriers	elementary school	0.48	0.38	0.00**
	high school	0.66	0.51	
	college (BA, BS)	0.75	0.49	
	university	0.97	0.56	
	postgraduates (PhD, MS)	1.04	0.59	

Legend: * difference significant at $p < 0.05$; ** difference significant at $p < 0.01$; the highest and lowest values of means are bolded

Table 4b. Differences between the dimensions of relevant factors about engagement of women in sports according to the educational level

Dimension	Education level	Mean	Std. Deviation	Kruskal-Wallis test (p)
financial, traffic and rules barriers	elementary school	0.39	0.36	0.90
	high school	0.46	0.48	
	college (BA, BS)	0.56	0.53	
	university	0.46	0.47	
	postgraduates (PhD, MS)	0.42	0.41	
organization of sport commitments	elementary school	3.97	0.64	0.18
	high school	3.84	0.90	
	college (BA, BS)	4.06	0.81	
	university	4.08	0.65	
	postgraduates (PhD, MS)	4.29	0.64	
organization out of sport commitments	elementary school	2.75	0.91	0.01**
	high school	2.85	1.01	
	college (BA, BS)	3.25	0.92	
	university	3.13	0.75	
	postgraduates (PhD, MS)	3.38	0.69	
specific strategies for media	elementary school	3.54	0.69	0.05*
	high school	3.57	1.02	
	college (BA, BS)	3.87	0.84	
	university	3.82	0.79	
	postgraduates (PhD, MS)	4.28	0.82	
indirect strategies for including women	elementary school	0.90	0.50	0.70
	high school	0.79	0.55	
	college (BA, BS)	0.78	0.56	
	university	0.85	0.55	
	postgraduates (PhD, MS)	0.95	0.63	
direct strategies for including women	elementary school	0.75	0.51	0.19
	high school	0.71	0.63	
	college (BA, BS)	0.76	0.67	
	university	0.86	0.70	
	postgraduates (PhD, MS)	0.56	0.65	
already present initiatives	elementary school	0.79	0.45	0.25
	high school	0.60	0.51	
	college (BA, BS)	0.60	0.51	
	university	0.64	0.59	
	postgraduates (PhD, MS)	0.68	0.50	

Legend: * difference significant at $p < 0.05$; ** difference significant at $p < 0.01$; the highest and lowest values of means are bolded

Differences in the (latent) variables of the research

Statistically significant differences in the frequency of sexual disturbing are found according to the educational level (Chi square(χ^2)=11.921; $df=4$; $p < 0.05$), marital status ($\chi^2 = 12.093$; $df=2$; $p < 0.01$), type of sport ($\chi^2 = 18.920$; $df=9$; $p < 0.05$). More often are sexually disturbed women with college, university or postgraduate educational degrees, as compared with those with high school or elementary school level. More often are sexually disturbed women who are divorced/widow, than those who are single. The most often are sexually disturbed women athletes from chess, while the least often disturbed were those from archery, acrobatic rock'n roll and badminton. The differences among participants in the frequency of sexual disturbing were not statistically significant for: place of living ($\chi^2 = 0.086$; $df=1$; $p > 0.20$), number of children ($\chi^2 = 4.162$; $df=4$; $p > 0.20$), medals won on state championships ($\chi^2 = 0.865$; $df=1$; $p > 0.20$), medals won on international championships ($\chi^2 = 0.291$; $df=1$; $p > 0.20$), still active competitor ($\chi^2 = 0.192$; $df=1$; $p > 0.20$), member of the club board ($\chi^2 = 5.250$; $df=1$; $p > 0.05$), president of the club ($\chi^2 = 0.780$; $df=1$; $p > 0.20$), administrative employee ($\chi^2 = 3.084$; $df=1$; $p > 0.05$) and official ($\chi^2 = 0.005$; $df=1$; $p > 0.20$).

In Table 3 are showed the differences between the dimensions of relevant factors about engagement of women in sports according to the *type of sport*. The differences are statistically

significant for: negative environment motives (the largest difference /highest-lowest/ is found between the association of the deaf athletes and archery); in relaxation and fun motives (the largest difference is found between the judo and badminton); in ambition and self-esteem motives (the largest difference is found between the association of the deaf athletes and sport fishing); environmental barriers (the largest difference is found between the association of the deaf athletes and badminton); obligation barriers (the largest difference is found between the chess and acrobatic rock'n roll); finance, traffic and rules as a barrier (the largest difference is found between the association of the deaf athletes and bowling); indirect strategies for including women (the largest difference is found between the association of the deaf athletes and badminton); already present initiatives (the largest difference is found between the association of the deaf athletes and badminton). In all categories which include association of the deaf athletes, they have the highest means in belonging relevant factors about engagement of women in sports.

Differences between the dimensions of relevant factors about engagement of women in sports according to the *education level* are calculated (Table 4). Several statistically significant differences are found. The differences are statistically significant for: positive personal motives (the largest difference

/highest-lowest/ is found between the participants with elementary school and high school); negative environment motives (the largest difference is found between the university degree and postgraduates (PhD, MS)); ambition/ self-esteem motives (the largest difference is found between the postgraduates (PhD, MS) and high school); obligations as the barriers (the lar-

gest difference is found between the postgraduates (PhD, MS) and elementary school); organization out of sport commitments (the largest difference is found between the postgraduates (PhD, MS) and elementary school); specific strategies for media (the largest difference is found between the postgraduates (PhD, MS) and elementary school).

Table 5. Differences between the dimensions of relevant factors about engagement of women in sports according to the education level according to the marital status

Dimension	Marital status	Mean	Std. Dev.	95% Confidence Interval for Mean		F (df=2, 330)
				Lower Bound	Upper Bound	
positive personal motives	single	1.70	0.26	1.66	1.74	3.18**
	married	1.62	0.24	1.58	1.67	
	divorce/widow	1.71	0.28	1.60	1.83	
negative environment motives	single	0.38	0.39	0.33	0.44	3.64*
	married	0.47	0.36	0.40	0.54	
	divorce/widow	0.57	0.55	0.34	0.79	
social motives	single	1.13	0.55	1.06	1.21	0.02
	married	1.13	0.53	1.02	1.23	
	divorce/widow	1.15	0.49	0.94	1.35	
relaxation and fun motives	single	1.72	0.39	1.67	1.77	1.50
	married	1.63	0.49	1.53	1.73	
	divorce/widow	1.69	0.35	1.55	1.84	
ambition and self esteem	single	1.63	0.37	1.57	1.68	6.63**
	married	1.46	0.46	1.36	1.55	
	divorce/widow	1.43	0.47	1.24	1.63	
environmental barriers	single	0.22	0.34	0.17	0.26	3.80*
	married	0.27	0.42	0.19	0.35	
	divorce/widow	0.44	0.61	0.19	0.68	
obligation barriers	single	0.66	0.49	0.59	0.73	7.38**
	married	0.90	0.54	0.80	1.01	
	divorce/widow	0.76	0.68	0.48	1.04	
financial, traffic and rules barriers	single	0.44	0.41	0.39	0.50	0.41
	married	0.47	0.53	0.37	0.57	
	divorce/widow	0.53	0.55	0.30	0.75	
organization of sport commitments	single	3.94	0.78	3.83	4.05	1.43
	married	4.07	0.74	3.93	4.22	
	divorce/widow	3.84	0.85	3.50	4.18	
organization out of sport commitments	single	2.88	0.91	2.76	3.01	5.71**
	married	3.23	0.89	3.06	3.40	
	divorce/widow	2.78	0.90	2.40	3.16	
specific strategies for media	single	3.66	0.85	3.54	3.78	1.21
	married	3.82	0.95	3.64	4.01	
	divorce/widow	3.63	0.98	3.24	4.02	
indirect strategies for including women	single	0.82	0.52	0.74	0.89	0.33
	married	0.85	0.56	0.74	0.96	
	divorce/widow	0.91	0.69	0.62	1.20	
direct strategies for including women	single	0.71	0.62	0.62	0.80	1.92
	married	0.82	0.64	0.70	0.95	
	divorce/widow	0.92	0.73	0.62	1.22	
already present initiatives	single	0.66	0.52	0.58	0.74	0.93
	married	0.59	0.53	0.48	0.71	
	divorce/widow	0.75	0.50	0.53	0.96	

Legend: * difference significant at $p < 0.05$; ** difference significant at $p < 0.01$; the highest and lowest values of means are bolded

When testing the differences among three categories of the *marital status* of participants (Table 5), it appeared that statistical significant differences are found in the variables: positive personal motives (the largest difference /highest-lowest/ is

found between the participants who are divorced/widow and married); negative environment motives (the largest difference is found between the participants who are divorced/widow and single); ambition/ self-esteem motives (the largest difference is

found between the participants who are single and divorced/widow); environmental barriers (the largest difference is found between the participants who are divorced/widow and single); obligation barriers (the largest difference is found between the participants who are married and single); organization out of sport commitments (the largest difference is found between the participants who are married and divorced/widow).

When testing the differences among participants according to their *place of living* (in Zagreb and in other cities) in Croatia (Table 6), only two statistically significant differences are found. The differences are statistically significant for: indirect strategies for including women in sports (higher mean for the participants from Zagreb) and for programs created only for women (higher mean for the participants from Zagreb, too).

Table 6. Differences between the dimensions of relevant factors about engagement of women in sports according to the education level according to the place of living

Dimension	Place of living	Mean	Std. Deviation	t-test
positive personal motives	Zagreb	1.69	0.30	0.58
	Other places	1.66	0.19	
negative environment motives	Zagreb	0.41	0.38	0.71
	Other places	0.36	0.38	
social motives	Zagreb	1.19	0.53	1.05
	Other places	1.09	0.55	
relaxation and fun motives	Zagreb	1.75	0.38	2.14
	Other places	1.59	0.51	
ambition and self esteem	Zagreb	1.62	0.38	-0.11
	Other places	1.63	0.41	
environmental barriers	Zagreb	0.22	0.37	0.13
	Other places	0.21	0.40	
obligation barriers	Zagreb	0.77	0.54	0.51
	Other places	0.72	0.45	
financial, traffic and rules barriers	Zagreb	0.45	0.45	1.05
	Other places	0.36	0.43	
organization of sport commitments	Zagreb	4.06	0.73	-0.07
	Other places	4.07	0.65	
organization out of sport commitments	Zagreb	3.06	0.86	1.61
	Other places	2.80	0.93	
specific strategies for media	Zagreb	3.82	0.79	0.62
	Other places	3.73	1.06	
indirect strategies for including women	Zagreb	0.91	0.56	1.96*
	Other places	0.70	0.50	
direct strategies for including women	Zagreb	0.81	0.68	1.13
	Other places	0.67	0.57	
already present initiatives	Zagreb	0.67	0.57	1.47
	Other places	0.51	0.46	
programs created only for women	Zagreb	0.67	0.75	3.11**
	Other places	0.31	0.54	

Legend: * difference significant at $p < 0.05$; ** difference significant at $p < 0.01$

Discussion

Reliability is checked out in all seven questionnaires, which are used for the first time in Croatia in our earlier studies (Rendulić et al., 2013; Rendulić et al., 2014; Sindik et al., 2014), conducted only in women engaged in judo. In this study, reliability type internal consistency of the dimensions increased, the most probably as the consequence of larger sample of participants. However, these coefficients are already low for some dimensions, what could be explained by different situations in different countries, related with relevant factors for engaging women in sports. For example, in Croatia are different factors various related with women's engagement in sports, than in USA or Australia, where the most of the questionnaires are originally constructed.

When observing all the correlations, it can be noticed that number of statistically significant correlations is much higher than in previous research (Sindik et al., 2014). However, high number of significant correlations (especially according to the fact that they are low-sized) could be explained in terms in dependence of the correlation's significance on overall number of

subjects. Similarly as in the case of judo (Sindik et al., 2014), the Environmental barriers are the weakest associated with other relevant factors for engaging women in sports, could be explained on the same way as in the case of judo: these type of barriers could not be easily changed. On the other hand, the fact that highest number of statistically significant correlations with other variables have the variables Specific strategies to improve media coverage of women in sport, Organization of women sport commitments and Organization of women out sport commitments. Specific strategies to improve media coverage of women in sports appeared as the similarly important variable in our previous study (Sindik et al., 2014), so it could be explained in similar way: women's perception of the importance of the media in issues about the engagement of women in sports. On the other hand, possibilities of Organization of women sport commitments and Organization of women out sport commitments are probably decisive factors in women engagement and retaining in some sport.

According to the analysis of the differences, higher educated women are more often sexually disturbed, as compared with those with lower level of education (high or elementary school level). More often sexual disturbing of the women who are di-

divorced/widow, than those who are single, could be explained in terms of higher vulnerability (and belonging estimation of the abusers that divorced/widows could be easier pray). The reason why more often are sexually disturbed women athletes from certain sports (e.g. chess) than from the others (e.g. archery, acrobatic rock'n roll and badminton) could be an issue of speculation.

The results revealed that according to the type of sport, the highest number of statistically significant differences are found for women's motivation (negative environmental, relaxation/fun and ambition/ self-esteem motives), barriers (environmental, obligation and financial/ traffic/ rules barriers) and finding ways of better including women in sports (indirect strategies and already present initiatives). Namely, negative trend of women's engaging in sports is perceived in several studies (Sparks, 2007; Sport and Physical Activity, 2010; Women's Sport and Fitness Foundation support NGBs, 2011; Khan et al., 2012), but the differences vary across countries and across type of sports which are more or less popular/ developed in certain countries. According to the education level, higher scores in some types of motives (positive personal and negative environmental motives) are found in lower (than higher) educated women, while ambition/ self-esteem motives are higher in the highest educated women (who experientially and consequently have higher ambition in general). All other differences are found between participants who are postgraduates (PhD, MS) (the highest means) and elementary school (the lowest means), where postgraduates have more obligations which are the barriers for them, they have a need to more carefully organize out of sport commitments and who think that specific strategies for media to improve women engagement in sport have to be found.

Differences according to the marital status of participants could be explained in terms of higher ambition/ self-esteem motives in singles, with in general more barriers and difficulties in organizing sport and out of sport commitments in married and divorced/ widows. Divorced/ widows have highest positive personal and negative environmental motives: positive motives could be a compensation of a loss, while negative environmental motives could be in fact a barrier in their extensive engagement in sports. Place of living is not so important factor for women's engagement in sports, but Zagreb as a big city for sure provide better opportunities for women's organized engagement in sports, with proper initiatives for it (programs, strategies).

As compared with our previous study where only small number of differences are found among women engaged in judo (mainly among participants who are members of the Board in the club or Croatian Judo Federation, as compared with those who are not) (Sindik et al., 2014), number of statistically significant differences in this study is obviously higher. Simple explanation is the fact that in this study are included the participants from different sports, with different social attitudes about women in sports, differently socially desirable and with different material and financial resources available (Sparks, 2007; Sport and Physical Activity, 2010). Hence, the main differences appear from essential differences in certain sports and belonging sport federations in Croatia.

The most important advantage of this research is that it is

the first of this type in Croatia (of course, after the study of women in judo as the pilot study). Moreover, we have surveyed relatively large number of women athletes in Croatia. The shortcoming of the research is set of questionnaires which is not convenient for the application in all of the age groups.

Main practical implications of this research is that women like sports and want to be engaged in sports, which in turn enables their personal growth and offers them a sense of accomplishment. However, the main barriers in their engagement and retaining in sports are their job-related and family-related obligations, similarly as in the case of judo (Rendulić et al., 2014). Women, participants in this study, estimate that in spite of current positive initiatives for retaining women in sport in Croatia (Štimac Radin, 2011), these initiatives are not effective enough. As well as in the case of judo (Sindik et al., 2014), half of the surveyed participants suggest hiring women in various positions in sports as a solution (coaches, judges, tournament officials, members of sports club management, members of the general committee of belonging sport federations). Adequate educational courses for achieving avovementioned positions and better media coverage of women sport are the prerequisites for better including women in sports women (Rendulić et al., 2014).

Conclusion

Out of 81 correlations between all the dimensions in all questionnaires, 43 were statistically significant and very low to low size, all (except one) were positive, while the Environmental barriers are the weakest associated with other relevant factors for engaging women in sports. According to the type of sport, the differences are statistically significant for relevant factors for engaging women in sports in Croatia, as following: negative environment, relaxation/ fun and ambition/ self-esteem motives; environmental, obligation and financial/ traffic/ rules barriers; indirect strategies and already present initiatives for including women in sports. According to the education level, the differences are statistically significant for: positive personal, negative environmental motives and ambition/ self-esteem motives; obligations as the barriers; organization out of sport commitments and specific strategies for media. The differences among three categories of the marital status of participants are statistically significant for the variables: positive personal, negative environmental and ambition/ self-esteem motives; environmental and obligation barriers; organization out of sport. At last, only two statistically significant differences are found according to the place of living: for indirect strategies for including women in sports and for the programs created only for women. The results provide the guidance for developing strategies for retaining women in particular sports in Croatia, adjusted to the independent variables used in this study.

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