

Scientific Paper

OUT-OF-SCHOOL PHYSICAL ACTIVITY OF PUPILS ATTENDING THE SECOND THREE-YEAR PERIOD OF THEIR NINE YEARS OF ELEMENTARY EDUCATION

UDC 796.035 : 373.3

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Abstract. *The authors present the results of an inquiry on the out-of-school physical activities of nine-year-old male and female children. The research was carried out during the 2001/02 school year on a sample of 194 respondents, who were third grade elementary school students. Gender differences were determined by means of contingency tables and the chi-squared test. Statistically significant results for gender differences emerge from the research in the type of sports discipline the respondents participate in. No statistically significant gender distinctions were found in the quantity of the out-of-school physical activities.*

Key words: *elementary school, young pupils, leisure, physical activity, gender differences, boys, girls*

1. INTRODUCTION

Numerous research projects, especially research projects in the field of sociology, have studied gender differences related to various spheres of everyday life. In the area of physical activity, as a component of an individual's spare time activities, the quantity of time dedicated to the activity and the type of activity chosen by males and females are the issues to investigate.

In this area of research, many studies have been carried out on the national level and abroad, finding differences in the type and occurrence of recreational sports activities between males and females.

The results of the largest national longitudinal study *Sports-recreational activity in Slovenia* (Petrović, Ambrožič, Sila, & Doupona, 1996, 1998; Petrović et al., 2001) have

presented a situation which shows gender differences regarding the quantity, form and type of sports recreational activity. A comparative study carried out in the period from 1992 to 1997 by Petrović et al. (1998) reports on gender differences regarding the frequency of sports activities during the investigated period; however, their occurrence decreased every year. Later on, in a study carried out in the year 2000, Petrović et al. (2001) report on a distinctive turn in the trend of the phenomenon, finding gender differences in the frequency of engaging in sports activities to once again be on the increase, mostly on account of a strong decrease in female participation in physical activities. The 2000 study reports no significant gender differences in the participation in organized forms of sports activity. The share of females was even slightly higher than the share of males (males 12.6%, females 12.6%). No differences were found in the first three positions in the top ten sports disciplines respondents declared to be involved in most frequently (walking, swimming, cycling). However, some differences were established in the other positions of the top ten sports disciplines through a higher ranking of soccer, basketball and alpine skiing with the male respondents as typically "male" disciplines, and aerobics, morning gymnastics, dancing and badminton with the female respondents (Petrović, Ambrožič, Bednarik, Berčič, Sila, & Doupona Topič, 2001).

Much less attention has been given so far to the question of gender differences in the manner and form of spare time physical activities of children who do represent a specific category with specific principles. Most of the research carried out so far was aimed mostly at finding gender differences in the spare time or out-of-school physical activities of children, confirming the existence of statistically significant differences between boys and girls (Petrović, Strel, & Ambrožič, 1982; Petkovšek, 1984; Makuc, 1998; Zurc, 2001; Jurak, Kovač, Strel, & Bednarik, 2003; Pišot, & Zurc, 2003; Hager, Feland, & Vincent, 2003; Tercedor et al., 2003).

From a survey by Petrović, Strel, & Ambrožič (1982), involving 113 female and 100 male pupils with the highest levels of motor abilities, gender differences emerged regarding the participation in organized forms of out-of school physical activities and in the frequency of their occurrence. Similar results, reporting a more frequent participation in out-of-school physical activities and a larger participation in organized forms of activities on the part of male pupils compared to female pupils also emerged from the research by Petkovšek (1984), which involved fourth grade pupils attending four daylong elementary schools in the centre of Ljubljana and four elementary schools situated in the suburbs of Ljubljana.

In the municipality of Koper, it was established that fourth grade elementary school male pupils participated more frequently and in more organized forms of physical activity than the female pupils. As far as organized forms of sports disciplines were concerned, boys more frequently engaged in soccer, basketball and athletics, while girls engaged in gymnastics, swimming, volleyball and athletics (Makuc, 1998).

Based on a survey conducted by Zurc (2001), carried out on a sample of 2023 fourth grade male and female pupils attending elementary schools in the Gorenjska region, statistically significant gender differences emerged regarding participation in organized forms of out-of-school physical activities. The increase in the regularity of the out-of-school physical activity which led to daily engagement proved to be in proportion to an increase in the number of boys and a decrease in the number of girls. No distinctive differences were found as to the most popular sports disciplines. Positions one to five were occupied by almost the same disciplines with both genders. However, from a general

point of view, dancing and skating were most popular with girls, while skating and fencing sports were the favorite disciplines of boys.

On a sample of 80 American children, Hager et al. (2003) found statistically significant gender differences regarding the engagement in out-of-school physical activities, where boys prevailed over girls.

Gender differences in physical activity during summer vacations were studied in a survey involving 7344 elementary school pupils, 2369 secondary school students and 317 high-school students of the Republic of Slovenia. It has been found that males participated in sports more frequently than females with a statistically significant value in all age categories. Gender differences were also found regarding the choice of sport discipline. Males participated more often in team sports, while girls preferred individual sports disciplines (Jurak et al., 2003). Similar results emerged from a study involving a representative sample of 2422 Spanish adolescents aged thirteen to seventeen. The authors found that during their summer vacation, male adolescents participated most frequently in playing soccer, mini soccer and swimming, while female adolescents were mostly engaged in swimming, aerobics and basketball (Tercedor et al., 2003).

From the data stated so far, it can be inferred that gender differences regarding spare time physical activities do exist, not only among adults, but among children as well. Thus, the focus of our research will be the gender differences regarding spare time physical activities of younger pupils coming from various geographical areas. The problem described will be studied on a sample of respondents that allows for a generalization of the data to the whole territory of the Republic of Slovenia.

2. METHODS

The sample of respondents involved in the study consisted of 194 pupils who, in December 2001, were attending the third grade of the selected eight-year elementary schools. 95 respondents (49.0%) were male pupils and 99 were (51.0%) female pupils. The respondents were aged eight to ten, their average age was 9.04. A low standard deviation (0,482) shows that the majority of pupils were nine-year-olds.

The sample of variables was included in a questionnaire designed to collect data on:

- the quantity out-of-school physical activities,
- the respondent's declaration of his involvement in organized forms of out-of-school physical activities,
- the quantity of out-of-school TV watching,
- the respondent's sports discipline selection.

All of the questionnaire items were close type items (choosing among the answers given), except for the last item referring to the sports discipline in which the respondents participated in most frequently in organized form (open type item, filling in). The answers regarding spare time physical activities provided by the children refer to the time in which the measurement took place (December, 2001).

Data collecting procedure – The data were collected from December 10 to 20, 2001. The questionnaire filling in was managed and supervised by an investigation expert

during school time previously accurately set by the investigator, the school management and the teachers. The average time for filling in the questionnaire was 10 – 15 minutes. The research results presented in the paper are a part of a larger study, namely the applicative scientific-research project "*The role of the biomechanical skeleton muscles properties in the motor development of children*" (head researcher Rado Pišot, Ph. D., the project was co-financed by the Ministry for Education, Science and Sport of the Republic of Slovenia).

Methods of data analysis – Gender differences regarding individual variables relating to spare time physical activities were studied in accordance with the objectives and the hypotheses of the research. Distinctions between males and females were calculated by means of contingency tables and the chi-squared test. Only the differences with the Pearson coefficient significance lower than 0.05 were considered statistically significant.

3. RESULTS REPORT AND INTERPRETATION

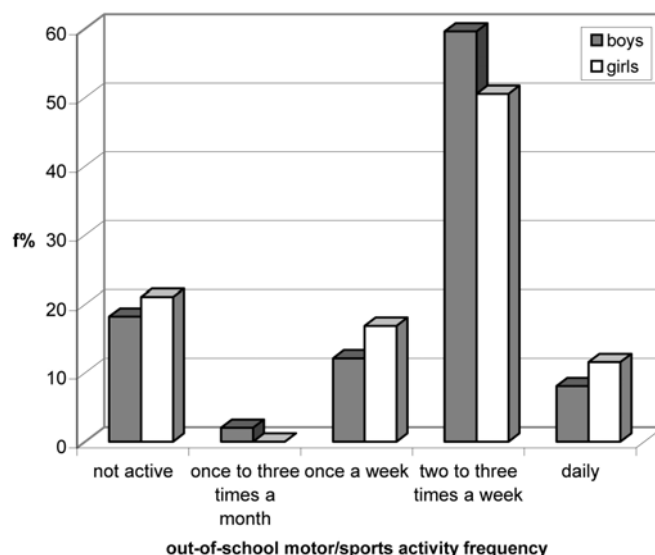


Fig. 1. The quantity of out-of-school physical activities among boys and girls

CHI-SQUARED TEST

	Value	Degrees of freedom	Statistical significance
Pearson's chi-squared test	4.201	4	0.380

Fig. 1 represents the result of the quantity of children's out-of-school physical activities where most respondents (55.2%) are involved in physical activities two to three times a week. This is followed by the children who do not participate in physical activities at all (19.6%) and the children who are physically active once a week (14.4%). 9.8% of the

respondents declared to be physically active on a daily basis, 1.0 % declared to be engaged in physical activities from once a month to three times a month. The chi-squared test did not confirm that the gender differences regarding the quantity of out-of-school physical activities were statistically significant. However, a trend among the girls, in comparison to boys, shows them not to be involved in any physical activity or are periodically involved in physical activities. Boys are ahead of girls by 10.2% when it comes to participation in physical activities two to three times a week. However, in the daily physical activity category, (besides the regular school sports education), girls prevail over boys.

One of the major indicators of the child's lifestyle in general is the frequency of the physical activities in which he is engaged during the time he spends out of school, apart from the regular school sports education program. As such, it is an indicator of his development that proceeds undisturbed only when, according to the World Health Organization (WHO) data, the child is engaged in physical activity every day (*Agito mundo – gibanje za zdravje: movement for health*, 2002). There is a large discrepancy between the WHO's recommendations for the frequency of regular physical activity and the frequency of the weekly hours of sports education during the first few years of an elementary school education in the Republic of Slovenia. According to the recommendations of the WHO, three school hours of sports education per week are not enough for a beneficial effect on children's development. In addition to the sports education offered by the schools, both males and females must engage in out-of-school physical activities. The data obtained from the authors' study which showed that the majority or more than half of the respondents were engaged in regular physical activities are encouraging. On the other hand, the data gathered on the quarter of respondents declaring to be physically inactive ought not to be ignored. The data presented in this paper differ from the previous research on gender differences regarding the frequency of engaging in physical activities during one's spare time, since they do not confirm the existence of any gender differences and as such, they are surprising and optimistic. Obviously, the young have overcome the large gender differences (which were in favor of the males) in the frequency and the amount of physical activity they participate in during their spare time, which is a trend currently ascribed to the adult population of the Republic of Slovenia (Petrović et al., 1996, 1998, 2001). Similar conclusions have been reached by the authors of the study *Sports recreational activity in Slovenia* (Petrović et al., 1998). They analyzed only the peculiarities of the sports recreational activities of the adult population aged 18 to 25. Gender differences in favor of the males were pointed out, but they were not statistically significant. Pišot and Sila (2000) pointed out similar statistically insignificant gender differences. From our discussion so far, it can be concluded that there are no differences between male pupils and female pupils, the third and the fourth graders of the elementary school in the Republic of Slovenia with reference to the frequency of their engaging in out-of-school physical activities.

Statistically significant gender differences when it comes to engaging in organized forms of out-of-school physical activities were not found ($p=0.988$) (Fig. 2). The majority of respondents, 72.7 %, declared to be engaged in organized forms of out-of-school activities in sports clubs or school sports associations. The gender differences are negligible, the difference in the participation in organized forms of physical activity being in favor of boys by 0.1 %, or vice-versa, girls prevail over boys by 0.1 % in their answers about not being engaged in such out-of-school physical activities.

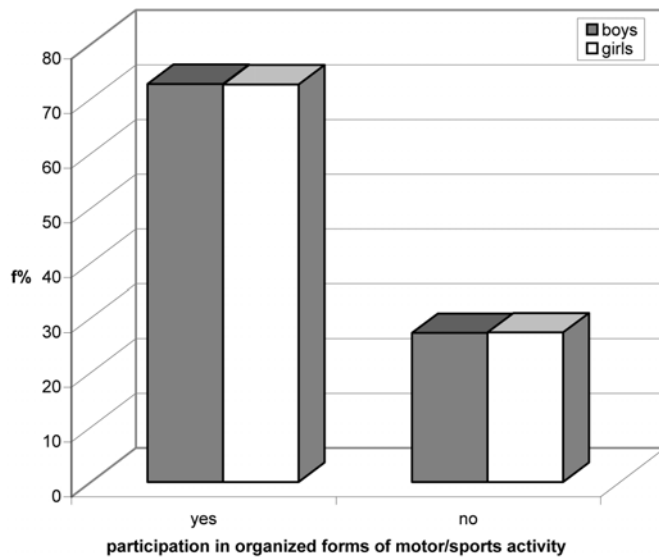


Fig. 2. Participation in organized forms of out-of-school physical activities

CHI-SQUARED TEST

	Value	Degrees of freedom	Statistical significance
Pearson's chi-squared test	0.000	1	0.988

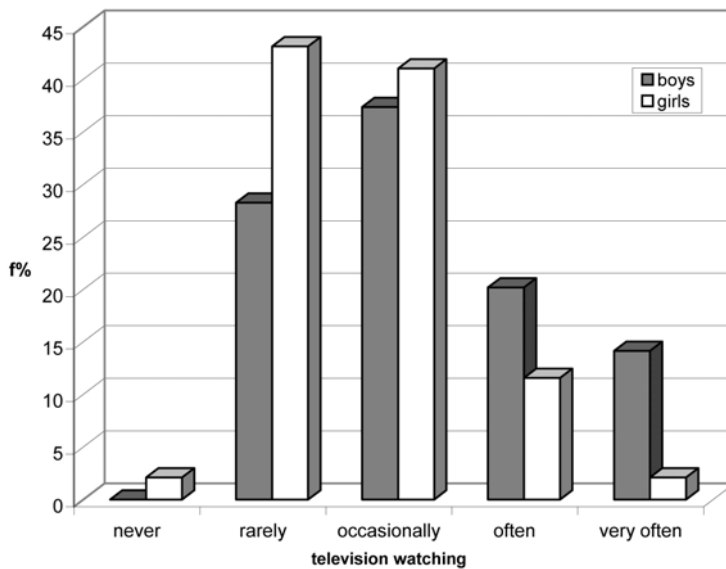


Fig. 3. The frequency of watching TV during any spare time

CHI-SQUARED TEST

	Value	Degrees of freedom	Statistical significance
Pearson's chi-squared test	16.039	4	0.003

The amount of time a child spends watching television in his spare time is a characteristic that implicitly makes assumptions about his physical activity as well. The results of our research show that the majority of girls rarely watch television (43, 2 %), while the majority of boys declared to watch television occasionally (37, 4 %). Figure 3 shows that boys prevail over girls in the categories often and very often. However, girls prevail over boys in the categories occasionally and rarely. Likewise, only girls (2, 1 %) declared not to watch television at all. Statistically significant gender differences in spare time television watching were confirmed by the Pearson's chi-squared test, the difference being in favor of the boys. The independence hypothesis was rejected by risk at the .03 level.

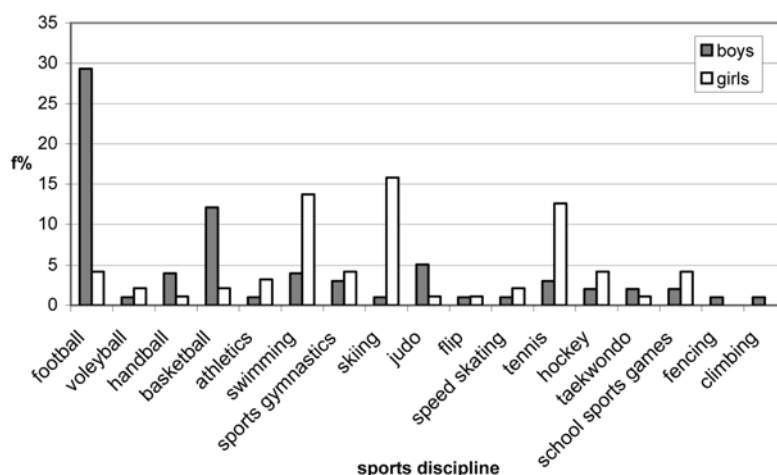


Fig. 4. Sports discipline selection

The selection of organized forms of sports disciplines shows that the majority of respondents engage most frequently in playing soccer (20.4 %), while 19.8 % engage in dancing, and 11.3 % in sports gymnastics. Statistically significant gender differences were found regarding participation in soccer, basketball and handball in favor of the boys, while girls prevail by a statistically significant difference in engaging in sports-rhythmical gymnastics, dancing, sports gymnastics and volleyball. The largest gender differences were found when it came to soccer (none of the girls participated in this sport) and in sports-rhythmical gymnastics (where none of the boys participate) (Fig. 4).

The gender differences in the type of out-of-school physical activities that emerged in our study can be ascribed either to natural or biological (physical) differences and/or to social influence. From the research regarding a child's motor space which has been carried out to date (Pišot, 1997; Pišot, 2000), no gender differences emerged among preschool children regarding the latent motor dimensions of motor solutions to problems of space, in alternative movement speed, the capacity to preserve a balanced position, explosive power and motor information exploitation. Specific latent motor dimensions found only among girls were the capacity for the realization of a holistic movement program (a change in the direction of running) and the motor realization of rhythmic structures (a four-field plate hand touch). Only among the boys were the agility factor (passing the ball around the body) and motor processing factor (stepping on the bench) isolated.

The established gender differences increase with the child's age (Zaichkowsky, Zaichkowsky, & Martinek, 1980). Thus the researchers attributed the gender differences regarding motor tests results among the pre-school and the early schooling period to the influences of the social milieu, which are manifested in the different upbringings of boys and girls. It may be inferred here that children achieve a better success in motor tests measuring movements characterized by a more familiar nature of performance, movements with motor programs similar to the ones they already possess, in other words, movements they perform frequently. As such, gender differences in a child's choice of physical activity also reflect the social stereotypes related to gender and participation in sports in general. These stereotypes, originating in cultural and historical processes, are shown primarily in the expected roles and in conduct which depends on the gender in question. They are manifested in the discriminating approaches by teachers, parents and even the recommendations for participation in physical activities regarding, boys and girls (Dupona, 1994a).

4. CONCLUSION

From the statistical analysis of gender differences statistically significant differences emerged in some aspects of the out-of-school physical activities of nine-year-old children. The out-of-school physical activities of boys and girls proved to be different through a statistically significant difference in the selection of organized forms of sports activities. The results which have been obtained are congruent with the research carried out so far. However, no statistically significant differences were found in the quantity of the out-of-school physical activities and in the participation in organized forms of out-of-school physical activities.

It can be inferred from our discussion so far, that nine-year-old boys and girls differ as to their spare time physical activities. However, the generalization of the results that emerged in the study must be done carefully, taking into account the specificity of the sample as well. In children who are just one year older, completely different data might be obtained. In fact, various research data emerging from the studies carried out on different respondent age groups show a large variety of results. The expressed or the unexpressed differences, besides reflecting the social status of the respondents, are also the result of the specific developmental characteristics of the respondent sample in regards to the physical, motor, cognitive, social and emotional areas of their psychosomatic status.

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**VANŠKOLSKE FIZIČKE AKTIVNOSTI UČENIKA KOJI
POHAĐAJU DRUGI TROGODIŠNJI PERIOD U
DEVETOGODIŠNJOJ OSNOVNOJ ŠKOLI**

Joca Zurc, Rado Pišot

Autori prikazuju rezultate za ispitivanje vanškolske fizičke aktivnosti za devetogodišnje devojčice i dečake. Istraživanje je bilo izvedeno u školskoj 2001/02 godini na uzorku od 194 odgovarajućih polaznika trećeg razreda osnovne škole. Razlike u polu su bile određene sa korišćenjem tabela kontingencije i hi-kvadrat testom. Na osnovu rezultata istraživanja dobijena je statistički značajna razlika u odnosu na pol u vrsti sportskih disciplina u kojima su učestvovali ispitanici. Nema statistički značajnih razlika u odnosu na pol u kvantitetu vanškolskih fizičkih aktivnosti.

Ključne reči: osnovna škola, deca, dokolica, fizička aktivnost, razlike u polu, dečaci, devojčice