

**SELECTED PHYSICAL FITNESS AND PHYSICAL ACTIVITY PARAMETERS
OF THE HUNGARIAN SCHOOLCHILDREN
(TWELVE AND FIFTEEN YEAR-OLD BOYS AND GIRLS)**

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Abstract

Hungary was one of the countries participating in the European Comparative Youth Study of the International Committee of Sport Pedagogy. In the project "Sportive Lifestyle, Motor Performance and Olympic Ideal of Youth in Europe", 12 and 15-year-old girls and boys were investigated by means of physical fitness tests and questionnaires. The number of samples was 444. The research methods involved motor performance tests (Eurofit, 1993), a "Life-style questionnaire" and an "Olympic ideas questionnaire". The questionnaires were devised by the group co-ordinating the research project and were justified in previous studies with a focus on the place of physical activity and sport during children's daily life. The physical activity index relating to frequency and involvement revealed significant differences in favour of boys. In physical performance tests, the results of the selected sample were consistently higher than the Hungarian reference values.

Key-words: physical fitness, physical activity, Hungarian adolescents, physical performance tests.

Introduction

The International Committee of Sport Pedagogy initiated and organised the study "Sportive Lifestyle, Motor Performance and Olympic Ideal of Youth in Europe" (NAUL et al., 1995). Co-ordinators: L. ALMOND (Loughborough, Great Britain), R. NAUL (Essen, Germany), M. PIERON (Liege, Belgium) and R. TELAMA (Jyvaskyla, Finland). Contributing sport and health science institutions: Loughborough (Great Britain), Tallin (Estonia), Budapest (Hungary), Lisbon (Portugal), Essen (Germany), Liege (Belgium), Prague (Czech Republic), and Jyvaskyla (Finland).

Several scientific and professional meetings have focused on the increasing importance of a healthy lifestyle, which is currently linked to the quality of life and health status. "Lifestyle comprises the aggregate of an individual's behaviours, actions and habits which can affect personal health (e.g. smoking, diet, habitual physical activity)." (BOUCHARD et al., 1990).

Another reason for the interest in this research is that it has been clearly shown that regular participation in physical activity is associated with a large number of physical,

physiological and psychological benefits. Physical fitness depends on many factors, such as heredity, constituents and maturation level. Physical fitness is the product resulting from a certain level of physical activity, which is a process. BLAIR (1995) gathered data showing that physical fitness (product) is improved by regular physical activity (process). If children are provided with an opportunity to engage in supplementary physical activity beyond the usual school physical education lessons, their physical fitness will improve. This should exert a positive effect on health, and favours the installation of active lifestyle habits which may continue into adulthood (BLAIR et al., 1989). The prediction of future exercise behaviour from actual behaviour is at the focus of research attention. Some authors found a significant positive correlation between the physical activity during childhood and adolescence (ARMSTRONG, 1991; TELAMA et al., 1994). There is a long-term effect of a voluntary or organised physical activity on the belief in health effects, on the enjoyment and on later participation. It was important to the team of researchers to assess not only the actual physical fitness, but also the place and importance of organised and non-organised sports activities, in order to gauge their level of practical involvement within the framework of a changing European Society, with particular focus on the issue of the uncertain future of youth.

The justification of the age groups examined as follows:

These ages are important in terms of the attrition from sport activities, a large proportion of children dropping out of sport activities in their teens (ORLICK, 1974). These ages are related to the end of the prepubertal period and the beginning of adolescence. At this stage, children are trying to affirm their character and frequently oppose the ideas and values of adults. A change in their lifestyle may also be linked to this need for independence at about 15 years of age. Early adolescence is a particularly interesting time to study changes in self-perceptions (HARTER, 1990). It has been suggested to be a time of gender-role intensification, a time during which males and females adopt more extreme differences in their activities and self-perceptions (ECCLES et al., 1989).

The research methods used were motor performance tests (Eurofit, 1993), a "Life-style questionnaire" and an "Olympic ideas questionnaire". These questionnaires were devised by the co-ordinating group (ALMOND, NAUL, PIERON and TELAMA) and were justified in previous studies with a focus on the place of physical activity and sport in children's daily life.

Data collection was finished in early 1996.

Results and discussion

For determination of the physical activity index, the basic data were collected from the life-style questionnaire. The information related to the

- frequency of activities in club,
- frequency of unorganised activities,
- frequency of physical activity at least 20 min.,

- amount of intensive hours,
- competitions.

There were different answers for these five items. Based on the coding list, the sum of the maximal points was 20.

Hungarian pupils have got the following values:

12-year-old boys: 14, i.e. 70%,

15-year-old boys: 13, i.e. 65%,

12-year-old girls 13, i.e. 65%,

15-year-old girls 12, i.e. 60% of the maximal value.

The physical activity index reflects the age and gender differences: younger children are more active than older ones and boys are more active than girls; the least active are the 15-year-old girls. These phenomena correspond to our previous findings (BARABÁS, 1989; EIBEN et al., 1991).

Some physical characteristics and one of the measured physical performance value (data from "The Hungarian National Growth Study", EIBEN et al., 1991) are presented in Table 1. The sampling investigated 27,274 boys and girls with cohort size around thousand in every age group.

Table 1. Anthropometric and physical performance values in "The Hungarian National Growth Study" (EIBEN et al., 1991).

Variables	Mean	SD	Min	Max	N
12-year-old BOYS					
Height (cm)	149.01	7.55	127.9	175.8	1351
Weight (kg)	39.49	9.16	23	87	1351
Broad jump (cm)	150	19.4	80	220	1107
15-year-old BOYS					
Height (cm)	168.83	8.02	140.2	194.2	1730
Weight (kg)	57.98	10.97	31	120	1730
Broad jump (cm)	185	25.2	110	260	1551
12-year-old GIRLS					
Height (cm)	150.66	7.57	127	174.2	1374
Weight (kg)	40.86	9.21	20	89.5	1374
Broad jump (cm)	145	20.6	60	210	1055
15-year-old GIRLS					
Height (cm)	161.16	6.34	137.4	191.9	1563
Weight (kg)	53.00	8.80	26.5	98	1563
Broad jump (cm)	155	20.0	70	250	1224

Table 2 shows the anthropometric data and results of physical performance tests of Hungarian students in European Youth Project '96 corresponding to their physical fitness status. The group-numbers (age and gender) of investigated sample in this project was above hundred in the case of Hungarian subjects as in the case of other countries subjected. The physical fitness results of different participants of European Youth Project '96 will be discussed in the near future.

Table 2. Anthropometric and physical performance values of selected sample.

Variables	Mean	SD	Min	Max	N
12 / BOYS					
Age (years)	11.89	0.84	10	13	102
Height (cm)	154.35	10.18	125	176	102
Weight (kg)	43.11	8.40	28	65	102
BMI	18.01	2.08	14.03	24.17	102
20 m shuttle run (N)	36.67	4.03	29.0	58.7	100
Curl up (sec)	107.8	42.20	28.0	240.0	95
Broad jump (cm)	173.61	33.33	16.0	245	100
Sit & reach (cm)	27.79	9.91	9	47	99
5 jump (max) (cm)	880.29	113.97	660	1140	101
15 / BOYS					
Age (years)	14.77	0.46	14	16	114
Height (cm)	173.01	8.16	150	192	114
Weight (kg)	63.36	12.95	38	110	114
BMI	20.93	3.41	14.57	37.18	114
20 m shuttle run (N)	37.70	3.85	28.0	59.0	114
Curl up (sec)	134.12	45.68	38.0	311.0	114
Broad jump (cm)	198.55	23.45	120	240	114
Sit & reach (cm)	8.72	7.93	-9	32	114
5 jump (max) (cm)	1017.48	104.61	650	1290	114
12 / GIRLS					
Age (years)	11.80	0.86	10	13	117
Height (cm)	155.11	8.59	130	176	117
Weight (kg)	42.54	7.41	26	63	117
BMI	17.56	1.95	12.84	22.86	117
20 m shuttle run (N)	34.03	3.09	26.0	41.8	113
Curl up (sec)	85.24	41.64	0.56	222.0	116
Broad jump (cm)	167.09	23.43	100	215	116
Sit & reach (cm)	32.45	11.82	10	59	115
5 jump (max) (cm)	849.76	112.26	520	1145	116
15 / GIRLS					
Age (years)	14.47	0.52	14	16	111
Height (cm)	165.27	6.78	140	183	111
Weight (kg)	54.40	7.75	38	78	111
BMI	19.89	2.42	14.69	27.40	111
20 m shuttle run (N)	35.95	6.48	28.3	99.9	111
Curl up (sec)	95.98	40.58	0.50	235.0	110
Broad jump (cm)	176.07	20.08	50	228	110
Sit & reach (cm)	25.42	6.01	12	41	110
5 jump (max) (cm)	864.97	134.46	151	1084	111

Conclusions

The results relating to the children's participation in leisure activities and the importance placed on such activities demonstrated that girls from both age groups were consistent in giving a high rating in terms of importance and participation in a cultural activity such as reading, and in a social activity such as talking to friends. In the area of

participation in competitive and unorganised sports, greater percentages of boys than girls reported that they were taking part in sports activities. The physical activity index appeared to give "more real" results. The data relating to frequency and intensity of involvement revealed significant differences in favour of boys in very frequent and intensive activities. In both age groups, girls were characterised by infrequent participation and by activities of low intensity. As children become older, there is a general pattern revealing that the importance of involvement and agreement with the importance of the activities increase. The anthropometric and physical performance values of the Hungarian children in the European Youth Study '96 were higher than the reference values from the Hungarian National Growth Study. Since there are differences between the subject numbers in the two investigations, the results are not comparable statistically. Significant differences between the results from different countries can be due to social differences.

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