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Факултет спорта и физичког васпитања

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на антрополошки статус деце, омладине и одраслих

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Anthropological Status With Children, Youth and Adults



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Urednik prof. dr Aleksandar Nedeljković (Univerzitet u Beogradu, Fakultet sporta i fizičkog vaspitanja)

- Prof. dr Božo Bokan (Univerzitet u Beogradu, Fakultet sporta i fizičkog vaspitanja)
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- Prof. dr Erdal Zorba (School of Physical Education and Sport, Gazi University, Turkey)
- Prof. dr Dana Badau (University of Medicine and Pharmacy of Targu Mures, Romania)
- Prof. dr Laparidis Konstantinos (Democritus University of Thrace, Greece)
- Prof. dr Agelousis Nikolaos (Democritus University of Thrace, Greece)
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Editor Associate Prof. Aleksandar Nedeljković PhD (University of Belgrade, Faculty of Sport and Physical Education)

- Prof. Božo Bokan PhD (University of Belgrade, Faculty of Sport and Physical Education)
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- Prof. Slobodan Jarić PhD (University of Delaware, USA)
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- Prof. Hermann Müeller PhD (Istitute for Sport Science, Justus Liebig University, Germany)
- Prof. Erdal Zorba PhD (School of Physical Education and Sport, Gazi University, Turkey)
- Prof. Dana Badau PhD (University of Medicine and Pharmacy of Targu Mures, Romania)
- Prof. Laparidis Konstantinos PhD (Democritus University of Thrace, Greece)
- Prof. Agelousis Nikolaos PhD (Democritus University of Thrace, Greece)
- Jelena Jovanović Ph.D. Org.Sci. (University of Belgrade, Faculty of Sport and Physical Education)

ENGAGEMENT IN PHYSICAL ACTIVITIES AND PHYSICAL FITNESS OF PUPILS WITH LOW VISION

Aleksandra Grbović, Irena Stojković, Sanja Dimoski, Fadilj Eminović

University of Belgrade, Faculty of Special Education and Rehabilitation, Belgrade, Serbia

INTRODUCTION

Equal opportunities for participation in various physical activities are an aspect of social inclusion of persons with disabilities. Besides its relevance for physical health, participation in physical activities contributes to psychological well-being – it is related to an increase in self-esteem and social support, and to decrease in depression, anxiety etc. (Babiss & Gangwisch, 2009; Wankel, 1993). Social context in which physical activities are realized gives opportunity for development of friendships, and has an additional positive effect on the development of abilities and competencies, creativity expression, attainment of mental and physical health and contributes to the development of the meaning and purpose of life (Brown & Gordon, 1987; Fidler & Fidler, 1978; Henry, 1998; Schleien, Green & Heyne, 1993). Socialization and participation in every-day physical activities have a cumulative positive effect on the fulfilment of physical and psychological needs of persons. There is a strong empirical evidence that physical activities have a positive impact on psychological and physical health of children with developmental disorders (Johnson, 2009).

Contemporary way of life is characterized by physical activities constraints, so that the deficit in motor activities among seven-year-olds is 50% and among twelve-year-olds it is up to 60%. This leads to faster development of fatigue during mental or physical activities, decline of vegetative functions, retardation in development of motor abilities, and to disorders in cardiac and central nervous system functioning. Regular physical exercises have a positive impact on the musculoskeletal development (Berković, 1993). Professionally organized and well-programmed physical activities influence the whole organism, especially muscular, cardio-vascular, respiratory and central nervous system. Various types of motility have an important influence on the development and maintenance of motor and functional capabilities of children, on the learning of motor skills and habits, and especially on the health preservation, development of positive personality traits and intellectual and mental development.

Engagement of pupils with low vision in physical activities

Visual impairment is related to numerous barriers to efficient and purposeful motion. A child with visual perception problems most often has no opportunities to spontaneously exercise and acquire new motor patterns and motions and they are deprived of the opportunities for imitation of the visually perceived motions (Stančić, 1991). Children with visual impairment are physically more passive, sedentary and show less interest in physical activities in comparison to other children (Dikić, 1999). Because of their lack of motor activity, skills and habits, they experience anxiety when they practice a new physical exercise or motion, especially when performed in an unfamiliar space (Kabel, 1972).

Insufficient physical exercise leads to a decrease in neuromuscular apparatus' functional abilities, deviations in physical development and to body posture disorders. Poor posture negatively influences body organs and systems, especially respiratory and vascular systems, resulting in fatigue and less energy for performing every-day activities (Zemcova, 1975). Lack of physical exercise also has a negative impact on visual apparatus functioning (Sermejev, 1983). Semenov (1986) states that activation of cardiovascular and respiratory system contributes to better blood circulation, activation of metabolism and trophic processes in eyes, better functioning of ciliary muscle and strengthening of sclera. In addition, exercising various types of movements from an early age stimulates the functioning of senses (Palazesi, 1986). There is strong evidence that participation in various physical activities has a positive effect on health and motor capabilities. It contributes to the development of muscle strength and adequate cardiorespiratory functioning and lowers the risk of cardiovascular diseases, diabetes, osteoporosis etc. (Cech, Martin, 2002). However, participation in various physical activities among children with developmental disorders is generally not at a satisfactory level.

Physical fitness of children with visual impairments

Physical fitness of children with disabilities is generally below norms for typically developing children of the same age, as a result of insufficient physical activity. According to Beger (1975), one third of the results of pupils in special schools are below norms for general population, and the most pronounced motor deficiencies are found among blind children. There is empirical evidence that physical fitness of children with visual impairments is not sufficient for a healthy life style. Less than 50% percent of blind pupils show physical fitness in accordance with age norms, whereas these norms reach 84% of children with low vision and 95% of typically developing children (Sermejev 1980; Richard, 1986). It is considered that physical fitness of children with visual impairments is below a level which is necessary for adequate functioning in every-day activities, and according to some studies less than 20 % of these pupils has physical fitness in accordance with age norms (Buell, 1950; Short, Winnick, 1986; Liberman, McHugh, 2001). The causes of low level of physical fitness are insufficient exercising and motility due to visual impairment and a poor visuo-motor control of movement (Seel, according to Richard, 1986).

In Federal Republic of Yugoslavia Zovko Gojko (1967) was among the first who pointed to the poor physical fitness among special school pupils with low vision in Zagreb. Fifteen years later, the first scientific research entitled "Physical education and specific psychophysical capabilities among blind children and children with low vision in comparison to peers with normal vision in primary school" was done by Kavčić Roman. It was found that boys with visual impairments lag behind their peers in physical and motor development as a consequence of educational neglect, poor nutrition and insufficient physical activity. It was also shown that children with low vision differ in patterns of motor behavior from both blind children and children with normal vision (Kavčić, 1973).

Children and the young with disabilities generally do not have opportunity to experience optimal positive influences of physical activities on psychological and physical functioning. They usually spend their free time in sedentary activities such as watching TV and playing video and computer games. This has negative effects on their motor and functional capabilities. Adequate motor abilities are very important for social acceptance, especially among primary school pupils. Inadequate behavior may lead to rejection by peers and frustration.

Because of the importance of various physical activities for health and psychosocial functioning, the topic of this research is relation between physical activities and physical fitness among primary school pupils with low vision.

Aims of the study

The aims of the study are:

- To investigate participation in physical activities of pupils with low vision during physical education classes and during free time

- To compare participation in physical activities by pupils with low vision and by typically developing pupils
- To investigate the relationship between physical activities participation and physical fitness in primary school pupils with low vision
- To compare physical fitness of pupils with low vision who participate in physical activities during free time and of typically developing pupils

METHOD

Sample

The sample included 76 pupils, with visual impairment (N=38) and without visual impairment (N=38), 48 boys (63.2%), and 28 girls (36.8%), aged 6.5 to 12.

Through pair matching groups of pupils with and without visual impairment were equalized in terms of number, gender, age, height and body mass, which was confirmed with appropriate statistical techniques. We did not include pupils older than twelve years because they are already in the process of pubertal development which influences physical abilities. All pupils had an intellectual quotient above 70 as assessed by a revised version of Wechsler Intelligence Scale for children – Revised (Biro, 1997). Pupils with low vision attended special schools “Dragan Kovačević” in Belgrade and “Veljko Ramadanović” in Zemun. The sample included all pupils of these schools who met the following criteria: low vision according to World Health Organization criteria, absence of mental retardation and psychological or neurological disorders and adequate health status for the application of Eurofit. Thus, pupils with neurological, metabolic, skeletal, cardiovascular and respiratory disorders were excluded from the sample in order to avoid the effects of these disorders on the performance of physical fitness test and to avoid health risks, which the application of the test may present for these children. Pupils without visual impairment attended primary school “Kralj Aleksandar I” in New Belgrade.

Instruments

Physical fitness was assessed using Eurofit (European Test of Physical Fitness, Moravec, Kampmiller, Sedlaček, 1996). The test assesses eight variables of motor abilities and a functional abilities variable. A general measure of physical fitness is operationalized as a sum score of all variables assessed by Eurofit.

Participation in physical activities and preferences for physical activities were assessed through a questionnaire consisting of 12 questions which was constructed for the purposes of this research. The questionnaire questions cover participation in various physical activities in free time and at school and preferences and motivation for physical activities. The questionnaire consists of multiple choice questions and an open ended question concerning which sport the respondent is engaged in. The criterion for active sports participation was sports training in a sports club for at least 6 months, at least three days a week. According to this criterion 6 pupils with low vision were categorized as actively engaged in sports. The questionnaire contains two additional questions concerning a pupil's activity in physical training classes and class attendance which are responded by physical training teachers.

Data analysis

Data analyses included methods of descriptive and inferential statistics. Group differences were tested using nonparametric Mann-Whitney test. Data were analyzed using SPSS version 14.0 software.

RESULTS

In accordance with the aims of the study the following analyses have been done: the analysis of the relationship between physical activities participation and the way of spending leisure time, frequency of sports facilities use and active sports participation in pupils with low vision; the comparison of the participation in physical activities between pupils with low vision and typically developing pupils; the analysis of the relationship between engagement in physical activities during physical education and in leisure time and physical fitness in pupils with low vision, prove efekata fizičkih aktivnosti koje se upražnjavaju na času fizičkog vaspitanja ali i u slobodno vreme, and the comparison of physical fitness of pupils with low vision who are active sports participants and of typically developing pupils.

Engagement in physical activities of pupils with low vision during leisure time

The questionnaire used in this study contained a question about preferable ways of spending leisure time. The percentages of answers of pupils with low vision concerning their preferable ways of spending leisure time are presented in Table 1.

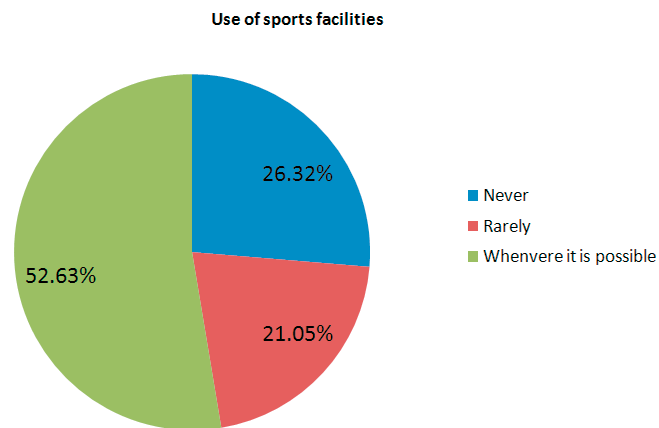
Table 1. Preferable ways of spending leisure time of pupils with low vision

What is your preferable way of spending free time?					
12,69%	Reading	Physically passive	Physically active	Playing outside, going for a walk	22,22%
38,09%	TV, computer			Sports, recreational activities	22,22%
4,76%	Something else				
		55,55%	44,44%		

More than a half (55.55%) of pupils with low vision prefer to spend their leisure time in a physically passive way - watching television 38.09%, reading books 12.69% and 4.76% of pupils reported some other physically passive ways of spending leisure time (categorized as "something else") such as spending time with friends at home, playing music, listening to radio. Among pupils with low vision 44.44% report that they prefer to spend leisure time in physically active ways – 22.22% state that they prefer to play outside or to go for a walk, and 22.22% report that they prefer to engage in sports and recreative activities, e.g. riding a bicycle, playing with a ball.

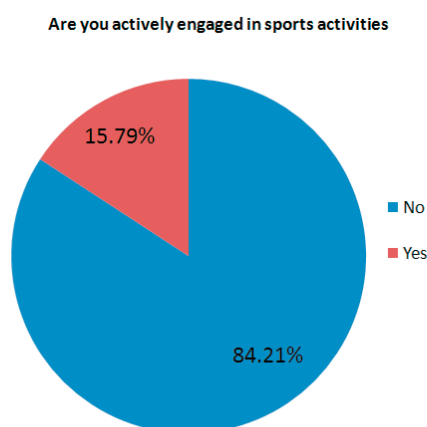
In order to get a more insight into the physical activities engagement of pupils with low vision we were interested in how often they use sports facilities such as swimming pools, sports halls, courts for football, tennis, ice skating etc. About a half of pupils with low vision (52.63%) reported that they use sports facilities whenever it is possible, whereas 26.32% reported that they almost never or never use sports facilities and 21.05% stated that they use sports facilities rarely, mostly during school holidays.

The percentages of answers concerning use of sports facilities by pupils with low vision are presented in Graph 1.



Graph 1. Use of sports facilities by pupils with low vision

The next question from the questionnaire about engagement in physical activities which we analysed concerned the number of pupils who actively engage in various types of sports activities. Percentages of pupils with low vision who are actively engaged in sports activities and who are not engaged in these activities are presented in Graph 2.

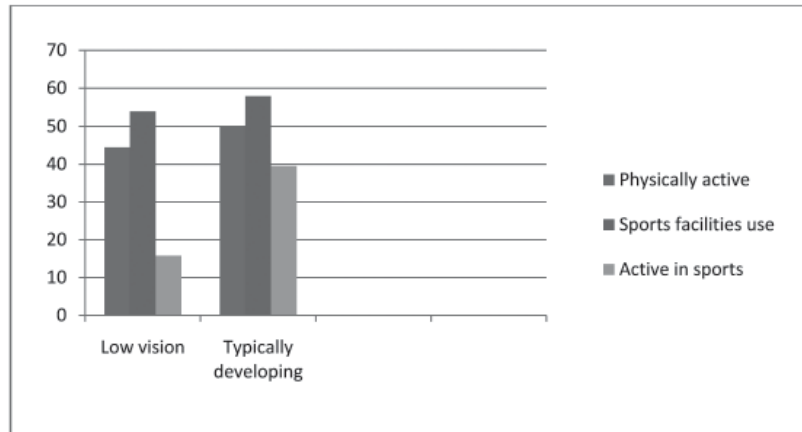


Graph 2. Active sports engagement in pupils with low vision

At the time of data collection, 6 (15.79%) pupils with low vision were actively engaged in sports, whereas 32 (84.21%) of pupils were not actively engaged in sports. Three pupils reported that they were actively participating in sports at some previous time, but not at the time of data collection. Pupils reported that they are active, or that they were previously active in the following sports: Sportovi koje su upražnjavali slabovidni učenici bili su: rowing, swimming, gymnastics, karate, basketball and football.

It is interesting to note that 47.61% of pupils with low vision report that they would like to be active in sports. However, that is rarely realized. As barriers to active engagement in sports pupils reported unwillingness of parents to allow them to be active in sports due to worry and health conditions which precluded physical activities of high intensity.

The second aim of the study was to compare engagement in physical activities during leisure time of pupils with low vision and of typically developing pupils. The percentages of pupils from these two groups who spend their leisure time in active physical activities, use sports facilities and are active in sports are presented in Graph 3.



Graph 3. Engagemnt in physical activities during leisure time: pupils with low vision and typically developing pupils

As shown in Graph 3, 44.44% of pupils with low vision and 50% of typically developing pupils report that they spend their leisure time in physically active ways. Further, 53.96% of pupils with low vision and 57.89% of typically developing pupils use sports facilities. There is statistically significant difference between these two groups of pupils in frequency of active engagemnt in sports: 15.80% of pupils with low vision are active in sports whereas the percentage of those who are active in sports among typically developing pupils is 39.50%, chi square = 5.330, $p < .05$.

The effects of physical activities on the physical fitness of pupils with low vision

Teachers’ answers concerning the level of engagement of pupils’ in physical education classes and their class attendance suggest that they have a positive evaluation of the level of physical activity of pupils with low vision. Majority of pupils (n = 27), according to their teachers’ reports, are physically very active. Only 3 pupils from the low vision sample avoid participation in physical activities during physical education classes, according to their teachers. Techers evaluate that 8 pupils with low vision are partially active and successful. This group of pupils was not included in the analyses of the relationship between engagement in physical activities and physical fitness. Also, the question concerning physical education classes was nondiscriminative and the answers to that question were not used in further analyses.

The results of the comparison of physical fitness level between groups of pupils with low vision depending on the level of their physical activity engagement are presented in Table 2.

Table 2. Results of the Mann-Whitney tests of differences in physical fitness between low vision pupils with different levels of engagemnt in physical activities during physical education classes

Engagement in physical activities	N	Physical fitness			
		Min.	Max.	Mean rank	SD
Active during physical education classes	27	11.11	69.88	45.19	13.42
Avoid activities during physical education classes	3	51.94	67.00	61.17	8.08

U = 11,00, $p < .05$

As shown in Table 2, physical fitness level of low vision pupils who are active during physical education classes is at a higher level (Mean rank = 45.19) compared to pupils who avoid to be active during physical education classes (Mean rank = 61.17). The difference is statistically significant at 0.05 level.

Next, we analyzed differences in physical fitness between low vision groups of pupils depending on the way of spending their leisure time. The results are presented in Table 3.

Table 3. Differences in physical fitness between groups of low vision pupils who spend leisure time physically active vs. physically passive – results of Mann-Whitney test

Way of spending leisure time	N	Physical fitness			
		Min.	Max.	Mean rank	SD
Physically active	15	11.11	67.00	40.36	15.29
Physically passive	22	25.78	69.88	48.93	10.06

U = 105,00 p = .07

As can be seen in Table 3, majority of low vision pupils (n=22) spend their leisure time in physically passive ways, whereas 15 pupils from this group are physically active in leisure time. The results show that physical fitness of pupils who are physically active during leisure time is at a higher level (Mean rank = 40.36) compared to pupils who are physically passive during leisure time (Mean rank = 48.93). However the difference is not statistically significant (p = .07).

Majority of low vision pupils are not actively engaged in sports (n = 28) and only 6 low vision pupils are active in sports according to criteria defined in this study (see Instruments section). The results of the comparison of physical fitness level between low vision pupils who are actively engaged in sports and other low vision pupils are presented in Table 4.

Table 4. Differences in physical fitness between low vision pupils who are actively engaged in sports and those who are not – results of Mann-Whitney test

Sports	N	Physical fitness			
		Min.	Max.	Mean rank	SD
Actively engaged in sports	6	11.11	47.93	33.41	13.63
Not actively engaged in sports	28	25.00	69.88	47.65	11.78

U = 31,50 p=0.04

According to results presented in Table 4, pupils with low vision who actively engage in sports at a time of data collection for at least 6 months have higher level of physical fitness (Mean rank = 33.41) compared to other pupils with low vision (Mean rank = 69.88). The difference is statistically significant at 0.05 level.

Among pupils with low vision, 21 respondents report that they use often sports facilities, whereas 10 respondents use these facilities rarely, only during school holidays. and 10 respondents use sports facilities rarely, only during school holidays. The results of the comparison of physical fitness level between low vision pupils who often and rarely use sports facilities are presented in Table

Table 5. Differences in physical fitness between low vision pupils who often and rarely use sports facilities – results of Mann-Whitney test

Use of sports facilities		Physical fitness			
		N	Min.	Max.	Mean rank
Rarely	10	46.89	67.00	55.69	6.96
Often	21	11.11	69.88	42.46	13.63

U = 31,50 p=0.04

Between pupils with low vision who often use sports facilities and who rarely use these facilities there is a statistically significant difference in level of physical fitness as shown in Table 5 (p<.01).

The reliability analysis showed that the following questions from the questionnaire used in this study are highly correlated:

1. Activity level during physical education classes
2. Way of spending leisure time
3. Frequency of sports facilities use during leisure time
4. Active sports engagement

High correlation between the questions permitted calculation of a summative score of engagement in physical activities based on these questions. According to the summative score of engagement in physical activities distribution pupils with low vision were classified in the following categories of engagement in physical activities: high level of engagement (N = 13), moderate (N = 15) and low level of engagement (N = 9).

Next, we compared the level of physical fitness between categories of pupils with low vision who are engaged in physical activities at a high and at a low level (category of pupils with moderate level were excluded from this analysis). The results are presented in Table 6.

Table 6. Differences in physical fitness between low vision pupils who are engaged in physical activities at a high level and low vision pupils who are engaged in physical activities at a low level – results of Mann-Whitney test

Physical activities engagement		Physical fitness			
		N	Min.	Max.	Mean rank
High	13	11.11	57.44	39.79	14.32
Low	9	39.00	67.00	53.58	9.23

U = 24.00 p = .02

The results presented in Table 6 show that low vision pupils with high level of physical activities engagement have higher level of physical fitness (Mean rank = 39.7) compared to pupils with low level of engagement in physical activities (Mean rank = 53.5). The difference is statistically significant at 0.05 level.

The next analysis was the comparison of physical fitness between the group of pupils with low vision who show high level of physical activities engagement and the whole group of typically deve-

loping pupils (irrespective of the level of engagement in physical activities). The results are presented in Table 7.

Table 7. Differences in physical fitness between low vision pupils who are engaged in physical activities at a high level and typically developing pupils – results of Mann-Whitney test

Group	N	Physical fitness			
		Min.	Max.	Mean rank	SD
Low vision high physical activities engagement	13	11.11	57.44	39.79	14.32
Typically developing	38	11.28	62.00	30.68	12.30

U = 155.00 p <.05

Typically developing pupils exhibit statistically significantly higher level of physical fitness (Mean rank = 30.68) in comparison to low vision pupils with high level of physical activities engagement (Mean rank = 39.79), $p < .05$.

Next, we compared physical fitness of low vision pupils who are actively engaged in sports and of their typically developing peers. The results are presented in Table 8.

Table 8. Differences in physical fitness between low vision pupils who are actively engaged in sports and typically developing pupils – results of Mann-Whitney test

Group	N	Physical fitness			
		Min.	Max.	Mean rank	SD
Low vision actively engaged in sports	6	11.11	47.93	33.41	13.63
Typically developing	38	11.28	62.00	30.68	12.30

U = 85.00 p = .73

As shown in Table 8, there is no statistically significant difference in physical fitness between low vision pupils who are actively engaged in sports (Mean rank = 33.41) and their typically developing peers (Mean rank = 30.69).

DISCUSSION AND CONCLUSION

Performing everyday activities by children and the young with visual impairments requires a high level of their physical fitness. Blind and low vision persons execute activities which compensate for their visual impairment. Due to difficulties in visual perception of the surrounding (difficulties in perceiving meaningful details and need to interpret objects and experiences based on an incomplete and unclear image) and difficulties in independent locomotion (in the orientation in space, in perceiving obstacles etc.) and in the manipulation with objects, these persons high physical and mental effort. Thus, low level of physical fitness is an obstacle to adequate response to the requirements imposed by school, working place, society, and life in general.

Some previous studies (e. g. Short & Winick, 1986; Bouchard & Tetreault, 2000) consistently show that low vision pupils have a lower level of physical fitness compared to typically developing peers, i. e. that their level of physical fitness is generally insufficient for a healthy life style. In accor-

dance with these studies, our results show that low vision pupils have lower level of physical fitness compared to their peers. Even those pupils with low vision who report to be highly physically active in leisure time, have lower physical fitness than their typically developing peers. Nizak nivo opšte fizičke spremnosti slabovidnih učenika se potvrdio i ovim istraživanjem. For the attainment of a high level of physical fitness it is necessary to engage in various physical activities, especially during childhood and adolescence.

Results of this study show that more than a half of low vision pupils from the sample prefer to spend leisure time at home, watching TV, listening to the radio or reading a book. Other pupils from the sample (45%) report that they spend their freetime outside of home and that they prefer to be engaged in various sporting and recreative activities. Given the fact that approximately a half of low vision pupils report that they use sports facilities whenever they have an opportunity for that, we may conclude that pupils who prefer to spend leisure time outside use sports facilities, in the first place sports fields. However, their activities are not supervised by physical education experts and we have no precise data on their scope and frequency. We have not found statistically significant differences in physical fitness between low vision pupils who spend their leisure time in physical activities and those who spend leisure time in sedentary activities, although the former group showed higher scores. We assume that this is due to insufficiently precise data on ways of spending leisure time. The data on engagement in physical activities may be unreliable because we did not have other informants on the way of pupils' spending of free time. A recommendation for future studies is to include parents as respondents in order to obtain their reports on frequency and types of physical activities in which low vision children engage.

Among low vision pupils 16% of them state that they mostly spend leisure time at home even during school holidays. These pupils almost never engage in physical activities in sport courts, whereas 21% of pupils use sports facilities only during school holidays. We assume that parents, teachers and other experts involved in education of pupils with visual impairments should stimulate their engagement in physical activities. Unless pupils develop by puberty motor skills and acquire adequate habits of spending leisure time in a physically active way, negative consequences on their physical and functional capabilities may be permanent.

At the time of data collection, according to their self-report, 6 (15.2%) low vision pupils (1 girl and 5 boys) were actively engaged in sports. Whereas three of these pupils were active in sports which are adequate for persons with visual impairment (rowing and swimming), the other three chose inadequate sports activities (football, basketball and carate). Sports in which there are constant and fast alterations in situations and tempo (e. g. football, handball, hockey) require permanent changes and adaptations in locomotion which require adequate perceptual skills. On the other hand, activities which incorporate appropriate and accurate performance of movements that follow patterns in accordance with instructions and have defined initialisation and finalisation (e. g. swimming, rowing, gymnastics) are adequate for persons with visual impairments. These sports activities may be performed in individual tempo and are not influenced by external circumstances or adversaries. The data on frequency of sports participation obtained in this study are in accordance with the findings by Azarjan (1982) that 12.8% of blind and 16.8% of pupils with low vision engage in sports during leisure time. Except during physical education classes, majority of pupils with visual impairment do not engage in formally organized physical and sports activities.

We should consider the reasons for low level of participation in physical activities among pupils with low vision. These pupils have important additional factors which limit their engagement in physical activities besides impairments in visuo-perceptive abilities, difficulties in motor development and low level of physical and functional capabilities. Between 50% - 60% of visually impaired pupils who attend special schools are not capable to pursue regular physical education curriculum, and between 12% and 18% pupils have restrictions in physical activities due to ophthalmological factors (Semenov, 1986). Difficulties in performing physical activities and health restrictions are among factors which contribute to lower level of participation in physical activities among low vision pupils compared to typically developing peers. It is important to provide adequate informations to parents,

and to health and sports professionals on how to optimize low vision children opportunities for participation in sports and other physical recreational activities. A multidisciplinary team of professionals should be engaged in the choice of appropriate physical activities for low vision pupils in accordance with their individual abilities and limitations.

Proper professional guidance by professionals provided to low vision children on healthy ways of spending leisure time, i. e. on engagement in various physical activities leads to the attainment of the appropriate level of physical fitness. Engagement in physical activities during physical education classes at schools and informal physical activities during spare time are insufficient for facilitation of physical and functional capabilities of low vision pupils. However, participation in organized sports activities during leisure time, under supervision of sports educators for a specific sports discipline and together with typically developing peers is associated with significant improvements in physical fitness in low vision pupils. This is supported by the findings of this study that low vision pupils who are actively engaged in sports have a higher level of physical fitness compared to other low vision pupils ($U=31.50$, $p<.05$) and that they do not differ in physical fitness from typically developing peers.

The findings of this study suggest the following effects of engagement in physical activities:

- High level of engagement in various physical activities during leisure time has positive effects on low vision pupils' physical fitness, although it is not associated with the attainment of the level of physical fitness of typically developing peers.
- Active engagement in sports is associated with significant improvements in physical fitness of low vision pupils and low vision pupils who are active in sports do not differ from typically developing peers in physical fitness.

Our results clearly confirm that it is important to engage low vision children in appropriate physical and sports activities. However, it is important not to overlook various difficulties which a low vision child faces in engaging in physical activities. Inclusion of children with visual impairments in motor activities from an early age provides a high level of physical and functional development and prevents body deformities. The important prerequisite for physical engagement of low vision pupils is to provide safe conditions so that a child can enjoy movements and locomotion and as a consequence develop motivation for physical and sports activities. Furthermore, engagement in physical activities facilitates inclusion in a peer group. In this way children develop team and competitive spirit and acquire appropriate ways of behavior which leads to numerous positive consequences. Therefore, physical activities are one of the prerequisites for a successful rehabilitation and social integration of children with visual impairments.

The research on physical activities of low vision pupils during physical education classes and during leisure time provided us an insight into the motivation of pupils for physical activities and into the problems that these pupils face in the engagement in sports and recreational activities. A recommendation that can be deduced from this study refers to defining the scope, character, type and frequency of physical activities which if regularly performed would result in the attainment of an optimal level of physical and functional capabilities needed for the accomplishment of everyday duties and in the preservation of health. The engagement of low vision pupils in physical activities should be carried out in a planned and organized manner and through a long period of time. A larger number of physical education classes at schools could be one of the ways of overcoming the problem of insufficient motor activity of low vision pupils. Furthermore, informing parents and stimulating them to support their children in active sports participation would significantly contribute to the quality of life of pupils with visual impairments.

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