

## Emotions related to physical education lessons in students with intellectual disabilities

MARTA WIECZOREK<sup>1</sup>, ALEKSANDRA SADZIAK<sup>1</sup>, VLASTA KARÁSKOVÁ<sup>2</sup>

### Abstract

**Introduction.** Physical education is an area that is essential for the comprehensive development of individuals with intellectual disabilities. Physical exercises through the diversity of their forms impact motor fitness improvement, develop and enhance natural motor function, and have a positive effect on the development of personality traits, all of which can increase the number of opportunities for good social function. This process is more effective if accompanied by positive emotions, reactions. **Aim of Study.** The study had two aims; first, to determine the emotional responses to physical education lessons experienced by students with intellectual disabilities; and second, to compare the performance of students with intellectual disabilities to those of their intellectually non-disabled peers. **Material and Methods.** The study was conducted on two cohorts of students born between 2001 and 2003: the first were individuals with light and moderate intellectual disabilities from special schools; the second group were intellectually non-disabled students from mainstream schools. A diagnostic survey was applied as a research method, whereas an interview was the technique used. The DEMOR Survey on Emotional Response to Physical Education at School by Svoboda was a research tool used for the purpose of this investigation. **Results.** Among positive emotional responses common to students of both special schools and mainstream schools, relaxation, self-confidence as well as a sense of successful task completion predominate. The examined intellectually non-disabled students are more likely to note positive emotional responses experienced during physical education lessons than students with intellectual disabilities. **Conclusions.** Physical education lessons are accompanied by substantial emotional involvement. More frequently, it is a source of positive emotional responses, which makes the process of physical education more effective and increases the results of psychophysical development in students.

**KEYWORDS:** intellectual disability, physical education, emotions.

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Corresponding author: marta.wieczorek@awf.wroc.pl

<sup>1</sup> University School of Physical Education in Wrocław, Department of School Physical Culture Didactics, Wrocław, Poland

<sup>2</sup> Humanitas University in Vsetin, Faculty of Social Studies, Vsetin, Czech Republic

### Introduction

Movement and physical exercises are crucial elements for the development of efficient motor fitness, habits and skills and maintenance or improvement of health [14]. Physical activity also provides optimal conditions for mental relaxation and development of socially accepted attitudes [17]. Physical education lessons are one of the areas where goals are pursued that result from providing the body with a suitable dose of exercise. Their content should determine and adhere to specific ideals related to the treatment of an individual's body and health and should promote culture-forming activities and ensure appropriate somatic and motor development [4]. The role of physical education in terms of student socialisation is also acknowledged. Social situations encountered during physical education lessons build self-esteem, decision-making skills, discipline; they teach students how to overcome difficulties and to cooperate, and minimize the presence of difficult behaviours which may occur in particular in students with special educational needs [14].

Emotional involvement expressed by particular emotional responses is a natural part of physical education lessons [12, 18]. These responses are controlled by the neurohormonal system of the human body. This is a complex mental process determined by both subjective and objective factors [20]. The feature of emotions which distinguishes them among people is their intensity which may be extreme emotional excitement as well as its absence. With the increased intensity of a given emotion, its impact on a person's behaviour is also enhanced. Emotions are varied according to whether they are positive or negative. When individuals establish goals, which they pursue consistently, they simultaneously aim to satisfy their needs and positive emotions are awakened. Negative emotions occur when such needs were not addressed or they are a consequence of a threat to health or life [15]. Emotions may serve an important function in social life and constitute a fundamental element in the organisation of life experiences. They are also an integral part of human activity, which is also closely linked to physical fitness and sporting activity. In this area, they can activate or deactivate the processes of excitation in the psychological and somatic sphere, thus constituting a protective and controlling function, which enables the management of sports and training loads. In addition, owing to positive emotional signals (e.g. lack of fear, confidence) the continuity and stability of the athlete's activities is maintained [11].

During physical education lessons both positive and negative emotions may occur. Among the positive ones, Sawicki [18] enumerates e.g.: satisfaction, self-confidence, happiness that not only motivate students to participate actively in the process of physical education at school, but also help them to develop attitudes that will ensure the systematic out-of-school physical activity. Unger-Röhrich [21] recognizes the importance of emotions in the context of subjective experiences in students in the psychological area, which may determine the behaviour and attitudes towards physical education. Also, Łuszczynska [16] indicates a positive attitude to these classes, expressed by joy and involvement, as a strong feeling connected with physical education at school. Strong positive emotions experienced by persons with disabilities during PE lessons and other sports and physical activities are a factor contributing to strengthening their self-acceptance, which was demonstrated in the study by Baek and Chun [1]. During physical education lessons negative emotions may also be experienced, among which Thomas [19] specified: fear, reluctance, tension, repulsion, hatred as well as anger. According to Güvendi and İlhan [10] the solution to minimize the negative emotions is to

adapt the physical activity to the needs of persons with intellectual disabilities. Through a variety of educational and movement-related measures or a PE teacher's attitude, it is possible to transform the negative emotions into positive ones, which increases the autonomy of mentally disabled people and their successful socialisation. When classes are appropriate, structured and tailored to the individual needs of persons with intellectual disabilities, then they prevent, reduce and eliminate any behavioural and emotional obstacles, as indicated by Farhangi and Almandarloo [8].

### **Aim of Study**

The aim of the study was to determine emotions related to lessons of physical education in students with intellectual disabilities and to compare these results with emotions experienced by their peers without intellectual disabilities. The practical aim was to recognize the importance of emotional response identification in students in increasing the efficiency of the physical education process.

As part of the research procedure, the following research questions were formulated:

1. What kind of positive and negative emotional responses are experienced by students with intellectual disabilities during physical education lessons?
2. Is the gender of the subjects a variable that determines the type of emotional response accompanying students with intellectual disabilities during physical education lessons?
3. What are the differences between the emotions experienced during physical education lessons by students with intellectual disabilities and those experienced by their intellectually non-disabled peers?

### **Material and Methods**

The study was conducted on two cohorts: 50 students with light and moderate intellectual disabilities from special schools born between 2001 and 2003; 50 students of the same age without intellectual disabilities from mainstream schools. Each of the investigated groups consisted of 25 girls and 25 boys. The criteria for inclusion into the research were: active participation in physical education lessons, no co-morbidities determining the limited participation in physical education lessons, no additional disorders (e.g. Down Syndrome, Autism Spectrum Disorder), and a willingness to communicate with the interviewer. The exclusion criteria were: exemption from physical

education lessons for a period of not less than three months, the reluctance to participate in a conversation with the interviewer and in physical education lessons. The applied research method was a diagnostic survey. The technique applied was an interview. The scientific tool utilised was the questionnaire, namely: the DEMOR Survey on Emotional Response to School Physical Education by Svoboda. The questionnaire consists of 10 categories of questions, in total 48 statements grouped in two areas of questions: I-V – categories corresponding to positive emotions (sense of energy; fascination with risk and spirit of competition; relaxation; self-confidence and sense of succeeding in task completion; positive emotions related to lessons of physical education), VI-X – categories corresponding to negative emotions (fatigue; fear and tension; unhappiness and anger; dissatisfaction; negative emotions related to physical education lessons). This questionnaire enables quantitative evaluation of the emotional relationship of students to physical education at school. During the interview, the subjects were staying in the room in the company of the interviewer, only. The student's task was to answer "yes" or "no" in response to the statements concerning their emotions related to physical education lessons. If the subject's answer was "I don't know", the interviewer read the statements again and tried to explain the meaning of incomprehensible phrases in the clearest manner. The affirmative answers in the questionnaire scored 1 point while the negative ones scored 0 points. The emotional relation to physical education at school was determined by the sum of obtained points in each category that was converted into percentage.

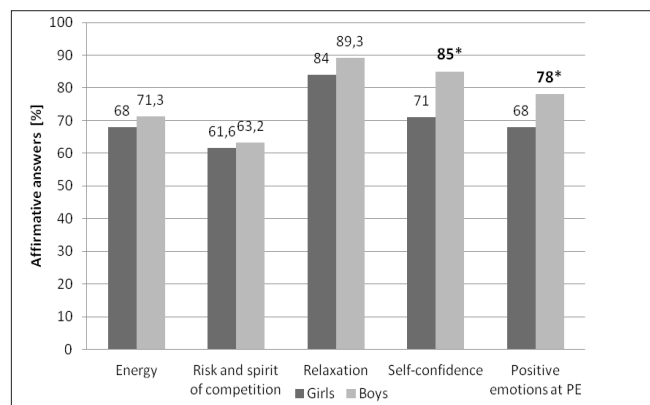
The results were statistically analysed using the Excel spreadsheet and Statistica ver.12.5 package for Windows. Basic statistics for the analysed variables in the investigated groups – both parametric and non-parametric were calculated. Results distribution met the normality criteria. In the description of the material, measurements of the mean value and standard deviation were used. Student T test was used to establish the statistical significance.

## Results

The analysis of diagnosed emotions related to physical education lessons in students with intellectual disabilities showed predominance of positive emotions in relation to negative emotions.

Among the diagnosed positive emotions experienced during PE lessons by the subjects with intellectual disabilities, the most frequent are: relaxation (girls = 84%,

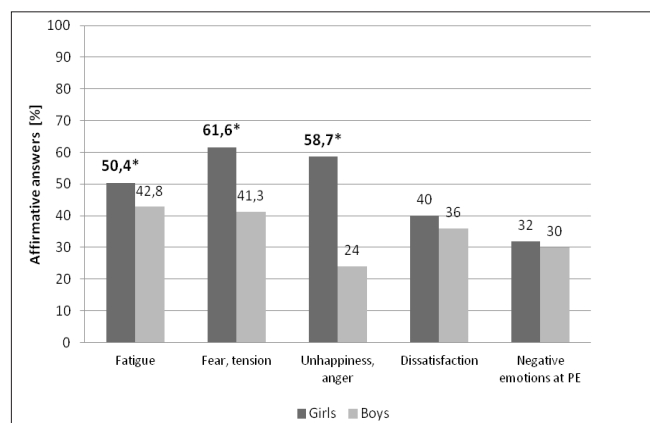
boys = 89.3%), self-confidence (girls = 71%, boys = 85%) and a positive attitude to physical education (girls = 68%, boys = 78%). The examined boys declared positive emotions associated with physical education lessons more often than girls. Statistically significant differences in favour of boys ( $p < 0.05$ ) were demonstrated in terms of: self-confidence and the feeling of succeeding in task completion and positive emotions associated with physical education lessons (Figure 1).



**Figure 1.** Positive emotions related to physical education lessons in girls and boys with intellectual disabilities

\* Statically significant difference at  $p < 0.05$  between boys and girls

Among the diagnosed negative emotions during physical education lessons in subjects with intellectual disabilities, the most frequent are: fatigue (girls = 50.4%, boys = 42.8), fear and tension (girls = 61.6%, boys = 41,3%) and unhappiness and anger (girls = 58.7%, boys = 24%). The examined girls declare negative emotions associated with physical education lessons



**Figure 2.** Negative emotions related to physical education lessons in girls and boys with intellectual disabilities

\* Statically significant difference at  $p < 0.05$  between boys and girls

**Table 1.** Comparison of emotions in students with intellectual disabilities and their intellectually non-disabled peers during physical education lessons

Category	Girls [%]		Boys [%]	
	ID**	WID***	ID**	WID***
1. Sense of energy	68	78	71.3	75.03
2. Fascination with risk and spirit of competition	61.6	73.6	63.2	67.69
3. Relaxation	84	72	78	70.09
4. Self-confidence and sense of succeeding in task completion	71	89	85	83.09
5. Positive emotions associated with physical education lesson	68	72	78	70.09
6. Fatigue	50.4	<b>26,4*</b>	42.8	28.59
7. Fear, tension	58.66	45.33	41.3	52.56
8. Unhappiness, anger	25.33	10.67	24	17.95
9. Dissatisfaction	40	<b>18*</b>	36	27.88
10. Negative emotions associated with physical education lesson	32	<b>10.67*</b>	30	20.51

\* Statistically significant difference at  $p < 0.05$

\*\* ID – students with intellectual disabilities

\*\*\* WID – students without intellectual disabilities

more often than boys. There is a significantly higher level ( $p < 0.05$ ) of those emotions among girls in terms of: fatigue, fear and tension and unhappiness and anger (Figure 2).

The comparative analysis of the results obtained among students with intellectual disabilities and their intellectually non-disabled peers showed more frequent occurrence of positive emotions related to physical education lessons in students without intellectual disabilities. Negative emotions during physical education lessons are more frequently declared by students with intellectual disabilities. Significant static differences ( $p < 0.05$ ) were noted only among investigated girls in the following negative categories of emotions: fatigue, dissatisfaction, and negative emotions associated with physical education lessons (Table 1).

## Discussion

Emotions are always present among students in their sports activities undertaken during physical education lessons. They take diverse forms and their intensity is changeable [9]. In the literature presenting empirical studies on emotions in children and adolescents, a permanent division of emotions into the positive ones that motivate individuals to action and negative ones that discourage individuals from any action [18] predominates. The authors' own research showed that despite some mostly insignificant differences, positive emotions predominate in persons without intellectual

disabilities during physical education lessons. Persons with intellectual disabilities due to their emotional instability or anxiety may demonstrate a reasonably different level of emotions in comparison to their peers without disabilities [3]. However, no significant differences among the compared investigated groups were found. Among positive emotions – relaxation and easiness, that was distinguished among the diagnosed categories, should be noted as the one that is most common in persons with intellectual disabilities. In his paper, Sawicki [18] draws attention to the particularly high level of the above mentioned emotional response in 14-year-old boys who participated in his research. Students who indicate an intense sense of easiness and relaxation during physical education lessons, also achieve better marks at school in physical education, which was also demonstrated by Opper [17]. Sawicki is of the opinion that the sense of relaxation declared by subjects during physical education lessons may be indicative of the fact that physical education, unlike other school subjects, does not create additional burdens for pupils and therefore constitutes ideal conditions for relaxation [18]. The diagnosed self-confidence together with the feeling of succeeding in task completion which coexist together with the feeling of relaxation at a very high level in investigated boys, correspond to the research conducted by Brudnik [5] and Klingen [13]. According to the scientists, boys are more often inclined to compete in sports than girls. They show a stronger



sense of mastery and a desire to win in sports, and they mainly strive to be the best, which could explain the subjective self-confidence. A group of intellectually disabled boys was also in the area of interest of Dłużewska-Martyniec and Karaskova [7], who assessed their emotions during physical education lessons using the Questionnaire of Emotional Responses to Physical Education at School by Svoboda. The same research tool was applied by the authors of the present work. The investigation showed that respondents experience positive emotions more often than negative ones, which according to the authors of the research is a favourable phenomenon because of the increased involvement in physical education, which leads to general improvement of the psycho-motor sphere.

Based on the respective literature and the authors' own research, it is confirmed that the physical education lesson is an opportunity to experience positive emotions, which probably bring measurable benefits in terms of development and improvement in the functioning of persons with disabilities in society. They did not eliminate negative emotions, however, that are also present during physical education lessons, especially in girls with intellectual disabilities. Fear and tension are intensely present in investigated girls during physical education lessons. On the other hand, however, on the basis of the investigation conducted [5, 12, 19] it appears that motor activity is a factor which reduces tension and stress, therefore instead of generating their intensity in the long run, this level should be reduced to intensify positive emotions. As regards negative emotions during physical education lessons, Brudnik [5] finds a solution in taking such remedial actions as creating a positive atmosphere in class, setting goals to be achieved, introducing cooperation and creating opportunities for improvement if a given task was improperly completed. The role of emotions, both positive and negative, is the real causative essence for the course of a physical education lesson, which aims to contribute to the harmonious development of young students and to introduce them to independent participation in physical culture under out-of-school conditions and then in their adult life. Yet, as Bartoszewicz finds [2], the students of special schools engage in motor activity taking place outside the compulsory classes at school significantly less frequently than their non-disabled peers. This issue was also addressed by Celebańska [6], who indicates too low a level of physical activity in persons with intellectual disabilities, which will result in the inability to develop proper health promoting habits in their adult life. In view of the increased incidence of diseases of

affluence in persons with intellectual disabilities that are determined by their lifestyle, it is appropriate to educate those individuals from a very early age in the area of health-promoting behaviours. This knowledge is also implemented during physical education at school [22]. It is essential to raise the level of physical activity by including its various forms or adapting to the needs of every individual. The entire process discussed should take place with a proper incentive to engage in physical exercise and in an atmosphere that is full of positive emotions. According to Kulesza [14], not every student may be a sportsman, but everyone has the opportunity of experiencing satisfaction and joy of undertaken physical activity. The need for physical exercise is not global, but individual and diverse. Therefore, forcing someone with predominance of negative emotions associated with physical activity to exercise certainly will not produce the desired effect. Whereas the proper attitude of an instructor, the correct manner of conducting the lesson – motivating students and showing them the benefits of the targeted human activity – should contribute to attracting interest among students, and this, in turn, will result in the development or strengthening of a positive attitude towards physical education lessons.

### Conclusions

1. Positive emotions predominate over negative ones during physical education lessons in investigated students with intellectual disabilities.
2. The gender is an independent variable that determines the choice of the response in subjects. Boys with intellectual disabilities experience positive emotional responses more frequently than girls with intellectual disabilities.
3. Students with intellectual disabilities experience positive emotional responses connected with physical education lessons less frequently than their intellectually non-disabled peers.

On the basis of the conclusions drawn from the study, the final recommendation may be formulated: since physical education lessons lead to intense emotional involvement of students, the knowledge of the type and level of such emotions is particularly important for physical education teachers. They should have the ability to identify emotions in their students and to use this knowledge to optimize the process of physical education at school.

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