GENDER AND AGE AS PREDICTORS OF THE PERCEPTION ABOUT THE IMPORTANCE OF PHYSICAL ACTIVITY

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Introduction

Quantification of participating in physical activity, and students' attitudes towards physical exercise, especially among the students in the final grades of elementary school, are a common theme of scientific, but also professional research. World Health Organization (WHO) identified, physical inactivity, contrary to physical activity, as the fourth leading risk factor for global mortality (6% of deaths worldwide). Accordingly, the perception of importance, in this case of taking up physical activity, which is a precondition of action, should be the focus of both practitioners and researchers of many areas of human endeavour.

Perception (lat. percipere - adopt) is the process of creating images of occurrence, event or object from the environment (Havelka, 2001). The requirements for its optimal development are as follows: the proper functioning of all the senses, the proper functioning of nerve pathways to which information are coming from the senses to the responsible centres in the brain and the interconnection of different parts of the brain important for organization and integration of information received from the senses. It's hard to differentiate between perception and thinking. Despite this complex process, perception is usually done automatically and unconsciously.

Attitudes are specific and very popular construct in psychology and a common subject of research of psychology of sport, and are present in almost all areas of social life. They are present since the introduction to the field of psychology and have been in the centre of interest of many researches ever since. Attitude as the term is not precisely defined. Krech, Crutchfield and Balla (1962 to Siber, 1973) define it as a permanent organization of positive or negative evaluations, emotional feelings and a tendency to respond positively or negatively, to their surroundings. There are a number of definitions, but none meets all the aspects of the observed phenomenon.

There are three basic components: cognitive, affective and behavioural. Cognitive component consists of perception, beliefs and stereotypes i.e. ideas that an individual holds about a phenomenon. Affective component is determined by the feelings that an individual has about an object. Behavioural component consists of a tendency to react in a certain way to a phenomenon. So an attitude represents a valuable response based on evaluative concepts preceding behaviour (Siber, 1973).

Theoretical and practical importance of attitudes arises from the fact that they can be relatively easily measured, and by measuring them we come to motives which are considered the most important for understanding human action, i.e., for explaining and predicting human behaviour. There are several reasons for maintaining the popularity of the term “attitude”. One is reflected in the fact that attitude as a concept does not belong to a particular psychological school, but is equally dealt with by the representatives of different trends. The other, is reflected in the fact that attitude is certainly acquired through interaction with social environment, so the old controversy about the influence of heredity and environment on some psychological category is avoided. The third is reflected in the fact that popularity of this construct arises from beliefs about the relationship between attitude and current social behaviour (Prišlin, 1991).

In recent times attitudes towards sport and physical education are a very frequent subject of research in kinesiology. The reason for the growing interest of kinesiologists in attitudes can certainly be attributed to the assumption of being able to predict behaviour based on attitudes i.e. the assumption of cause and high correlation between attitudes with behaviour. Studies have undoubtedly demonstrated the connection between attitude and behaviour, but to what extent and how is still a question (Markus, 2011).

In explaining and predicting certain behaviour based on attitudes there are two basic and most widely used theories: the theory of reasoned action (Ajzen & Fishbein, 2004) and the theory of planned behaviour (Ajzen, 1991). Both were successfully used in predicting different number of different behaviours.

According to the abovementioned, perception preceding attitudes and attitudes preceding behaviour, come in the focus of researchers in a number of areas, including pedagogical kinesiology, especially in recent decades because of the decline of physical activity against sedentary, which consequently leads to many disorders.

The World Health Organization (WHO) defines the term "physical activity" as all motion i.e. movement in daily life, which includes activities at work or school, recreation and sports activities. While at school children mostly sit, come to school by car or organized transport and their free time is the only time in which they can fulfil the daily need for movement. Nevertheless, a series of research confirms that children and young people use most of their free time to carry out activities that do not require any effort (Prskalo, 2007). There are two most common forms of physical exercise in their free time; one of which relates to the involvement of children in sports clubs, recreational clubs, scouting organizations and other institutions, and the other to individual physical exercise (Škegro, Čustonja, & Milanović, 2009).

By adhering to the sedentary way of life in many dimensions children question their optimal development and health (Badrić & Prskalo, 2011; Prskalo, 2013). In contrast, a minimum of 60 minutes of physical activity of varying intensity a day, is the recommendation of WHO for children and adolescents aged 5-17, and more physical activity than recommended brings additional health benefits.

There are no many human activities that can simultaneously affect so many human characteristics as is the case with expertly shaped and guided physical exercise (Findak, Mraković, & Prskalo, 2003, p. 38). Due to the significant and pronounced influence on anthropological characteristics, physical activities as a content of free time have no alternatives and practicing them should become every person's habit (Prskalo, 2005). In the Republic of Croatia a number of physically inactive individuals is still dominantly large, in the total population. Data show that more than 50% of population in the Republic of Croatia is physically inactive (Barić, 2012). The data also indicate that it is not easy to achieve the desirable level of physical activity in population (Maršić & Paradžik, 2006).

At the moment, in the Republic of Croatia the only organized form of education which includes the area of physical education and in which all children are included is in primary education. By analyzing the National Curriculum Framework (2011) we see that the total weekly number of hours of physical education in the first three grades is carried out through three lessons, and in other grades through two lessons per week. This refers to the basic program in addition to which class competitions are organized, as well as events, tours and training of non-swimmers. In Berlin in 1999, The World Summit on the Teaching Physical Education was held in Berlin in 1999 and the focus was on a disturbing and increasingly common phenomenon of the observed reduction of exercising in schools (Hardman, 2008). Considering the recommendation of WHO, on a weekly basis, children meet only 32.14% in the first three grades, i.e. 21.43% in other five grades of minimum needs for movement, provided that teaching is always done through aerobic activities, which is not always the case. Nevertheless, according to the available data and the perception of the phenomenon, there was no significant progress since then and the research shows that the present situation is even worse.

One of the primary goals of physical education is to gain and aquire a habit of regular physical exercising. The quality of teaching physical education depends on the influence of various factors to a different extent; among them we emphasize the organizational and material facilities and teachers' professional, educational and other skills. The abovementioned can cause positive or negative attitudes towards fundamental values of PE classes among students and challenge their decision and motivation for further participation in the educational process (Pešun, Jenko Miholić, & Vrbik, 2011).

These problems, including insufficient number of lessons of physical education in the curriculum, observed inferior status of PE as a school subject, which we will partly discuss, the absence or inaccessibility of facilities, insufficient or poor quality equipment and other teaching materials, insufficient financing of PE classes' expenses and oversized educational groups represent a significant cause of the decline of children's physical abilities, increase obesity with school-age children and a large

number of young people who do not practice physical activity and continue with this kind of behaviour throughout life (Cetinić & Samaržija Vidakovic, 2009).

Žnidarec Čučković and Ohnjec (2014) investigated children and young people's interests in the context of the incidence of physical activity and sport with the aim of finding the personal views of children and young people. The particular aim of this study was to find out whether and to what extent the movement and various aspects of physical activity are included in the overall structure of interest made on a sample of children and young people aged 10-18 years. The research registered dominant interests of primary school students, who are also the focus of the research, observed through the aspect of kinesiology activities show that the movement gets its own dimension separate from the context of games and entertainment. In addition, there was an exclusive relationship with a variety of organized sports activities.

Tomac, Šumanović and Rastovski (2013) investigated the perception of eighth-grade students on the subject of physical education on a sample of 314 examinees and found differences in perceptions. Boys and students who are physically active have extremely positive opinion about physical education and less popularity is detected with girls and students whose favourite subjects are mathematics and foreign languages.

Škrinjarić, Blažević and Prelčec (2008) analysed the interests of high school students for physical activity and physical education classes and found that physical activity in their lives is important and that male students are engaged in sports activities regularly, whereas female students sometimes. They take up these activities to improve health and for aesthetic reasons. Most of them believe that they should have a greater number of PE classes per week.

Thompson, McHugh, Blanchard, Campagna, Durant, Rehman, Murphy and Wadsworth (2009) point out the decline in the share of physical activities of children with regard to class they attend i.e. with regard to the age of students, as many others indicate, too. The researchers point out that the share of physical activities in leisure time is generally higher in boys than in girls (Badrić & Prskalo, 2011; Beigle, Morgan, Le Masurier, & Pangrazi, 2006; Mota & Esculcas, 2002).

Objective of this research is designed according to above facts: to explore gender and age differentiation of students' perceptions about the importance of physical activity as predictors of the same.

Methods

Following the aim of this research a sample of 157 students (grade 5-8) was used. The students anonymously answered the question "Do you do practice any physical activity in your free time? “With choice of YES or NO answers. The next question was "Do you think that physical activity is important for your life?" also with YES or NO or MAYBE answers. Percentages by grade and sex were calculated for both questions and it was also used to test the significance between proportions of examined gender differences. Furthermore, with the aim of clarifying the perception of the importance of physical activity for life, pupils were given to assess the following statement “Physical activity is important for my life.” According to the Likert scale 1-4 (1 – I completely disagree, 4 – I completely agree). The parameters of descriptive statistics: arithmetic mean and standard deviation were calculated. Two-factor 2 x 4 ANOVA for independent samples was used, in an attempt to identify the significance of the main effects of the factors sex and age (grade) and their interaction effects on students' self-assessment of the importance of physical activity for life. For the main and interaction effects F values with the associated degrees of freedom and significance level (p) were calculated. As a measure of the size of the effects parameter partial eta squared ($\eta 2$) was used. All results were calculated using the software Statistica 12.0. (StatSoft, Tulsa, OK, USA). A first type of error was set to $\alpha = 5\%$.

Results

Table 1 shows an overview of differences by gender and age (examinee’s grade) in practising physical activity in their free time. Table 2 shows differences by gender and age (examinee’s grade) due to the attitude about the importance of physical activity for life, whereas Table 3 shows descriptive statistical indicators of the perception of the importance of physical activity for life according to sex and age.

Table 1 Differences by gender and age (grades) in dealing with physical activity in leisure time („Do you do physical activity in your free time?")

Grade	M (n_1=78)	F (n_2=79)	P
5.	$n_{1,5}$=14	$n_{2,5}$=23	
no [%]	7.14	26.09	0.16
yes [%]	92.86	73.91	
6.	$n_{1.6}$=16	$n_{2.6}$=16	
no [%]	25.00	18.75	0.67
yes [%]	75.00	81.25	
7.	$n_{1.7}$=25	$n_{2.7}$=25	
no [%]	4.00	24.00	0.05
yes [%]	96.00	76.00	
8.	$n_{1.8}$=23	$n_{2.8}$=16	
no [%]	13.04	46.67	0.03
yes [%]	86.96	53.33	

Legend: p – significance of differences between proportions by gender, M – male, F – female

Table 2 Differences by gender and age (grades) due to the attitude about the importance of physical activity for life („Do you think physical activity is important for your life?")

Grade	M (n_1=78)	F (n_2=79)	P
5.	$n_{1,5}$=14	$n_{2,5}$=23	
no [%]	0.00	0.00	0.58
yes [%]	92.86	86.96	
maybe [%]	7.14	13.04	
6.	$n_{1.6}$=16	$n_{2.6}$=16	
no [%]	0.00	0.00	0.55
yes [%]	87.50	93.75	
maybe [%]	12.50	6.25	
7.	$n_{1.7}$=25	$n_{2.7}$=25	
no [%]	0.00	0.00	0.32
yes [%]	100.00	96.00	
maybe [%]	0.00	4.00	
8.	$n_{1.8}$=23	$n_{2.8}$=16	
no [%]	0.00	0.00	0.33
yes [%]	82.61	93.33	
maybe [%]	17.39	6.67	

Legend: p – significance of differences between the proportions of boys and girls, M – male, F – female

Table 3 Descriptive statistical indicators of perception of the importance of physical activity for life („Physical activity is important for my life")

	M (n_1=78)	F (n_2=79)
5. grade	$n_{1,5}$=14	$n_{2,5}$=23
AM±SD	2.64±0.75	2.87±0.76
6. grade	$n_{1.6}$=16	$n_{2.6}$=16
AM±SD	2.38±0.50	2.56±0.63
7. grade	$n_{1.7}$=25	$n_{2.7}$=25
AM±SD	2.76±0.78	2.72±0.61
8. grade	$n_{1.8}$=23	$n_{2.8}$=16
AM±SD	2.70±0.97	2.40±0.63

Legend: M – male, F – female, AM±SD - arithmetic mean±standard deviation

Using two-factor 2 x 4 ANOVA for independent samples we attempted to identify the significance of the main effects of gender and class factors and their interaction effects. The results indicate that the main effects of the factor sex (F1, 149 = 0.027; p = 0.870; η2 = 0.000), age factor (grade) (F3, 149 = 1.384; p = 0.250; η2 = 0.027) as well as the interaction effects of gender x age (grade) (F3, 149 = 0.961; p = .413, η2 = 0.019) were not statistically significant.

Post hoc analysis, therefore, has not even been used. Statistically significant difference by gender is only with the eighth grade examinees in practising physical activity in their free time. There is no difference either by gender or by age, which is determined by the examinee's grade between the groups in the assessment of the importance of physical activity for life.

Discussion

Motivation is a predictor of any activity, and the age of respondents involved in this research is a time when significant positive habits develop. The role of parents, educational institutions as well as sports associations take an important place in it. Research has confirmed that boys are more motivated to engage in physical activity, as confirmed by other researches of the same phenomenon (Husar, Veselska, Sigmund, & Geck, 2015; Kozub & Farmer, 2011; Saygin, Zorba, Karacabey, & Mengutay, 2007; Yiallouros et al., 2015).

In addition to the above, Ishii, Shibata, Adachi, Nonoue and Oka (2015) found that higher academic achievement students show greater interest in physical activity. Informing about the importance of practicing physical activity could be an important predictor of motivation, especially when children are increasingly practicing sedentary activities (Augste et al., 2015; Keane et al., 2017; Pearson et al., 2017; Wei et al. 2017).

According to research, intrinsic motivation is a significant prerequisite for each activity. Sebire, Jago, Fox, Edwarsd and Thompson (2013) using self-assessment theory by research have confirmed its importance in practicing physical activity. Owen, Smith, Lubans, Ng and Lonsdale (2014) have conducted a systematic review of studies that assessed the correlation between self-determined motivation and the level of physical activity of children and adolescents. A moderate positive correlation with physical activity has been observed in autonomous forms of motivation. They make intrinsic motivation and identified regulation. The instrument used in this research contains three questions and reveals basic guidelines for future research of this phenomenon in this area. Future research should go in the direction of using more complex questionnaires to determine the predictors of motivation of questioned children for physical activity.

The results of this study confirm the results of other researchers of this phenomenon and point to further research on self-determined motivation in the practice of physical activity. This would, among other things, prevent the adverse effects of inadequate physical activity.

Conclusion

Perception is an important precondition for the design of objectives in various fields of human endeavour. Attitudes on importance of physical activity in the lives of individuals are an important motivator in practising it. Current studies indicate a growing popularity of sedentary lifestyles, and thus the perception of the importance of practising is a precondition of any deed or willingness, as for that of quality as well as that of quantity.

The research indicates that there was no statistically significant difference in the practice of physical activity by sex and age except for eighth grade examinees. There is no difference in the perception of the importance of physical activity for the life of the individual either by gender or by age. However, attention should be paid to the fact that some children declare that it "might" be important. A solution for an unfavourable situation of the issue is in a well selected content adapted to the age of a child, which will be presented to children in various forms and quantities so that they can develop a correct attitude and have preconditions to create habits for a lifetime. Gender is a significant predictor of practicing physical activity in eighth grade, thus boys are significantly more engaged in physical activity than girls of the same age. Because of the importance of creating habits and the age for which a statistically significant difference is detected, the issue may be whether schools can provide an adequate solution to this problem, which is not to be ignored in the long term for the individual and the society in general. Lifelong habit of practicing physical activity, according to a series of research, is proved to be a significant predictor of health and its own perception a predictor of practicing, and then creating permanent habit. The research results can serve the creators of physical activities' programs and projects aiming at children and young people, as well as designing these programmes and projects.

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