



# Identifying the Peculiarities of Students' Aggressive Behaviour in Physical Education Lessons

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## Abstract

**Background.** Recently, a lot of special attention has been paid to the school environment where students' aggressive behaviour that spreads quickly is getting more expressed and reflects processes in the modern society and their consequences for the young generation. It can often have various short- and long-term consequences for a student's behaviour, communication with others, emotional state or his/her self-esteem. Thus, this complex situation encourages to get interested in understanding the underlying causes of students' aggressive behaviour and peculiarities of its frequent manifestation.

**Objectives.** The study aimed to reveal the peculiarities of students' aggressive behaviour expression in physical education lessons in the context of age and gender aspects.

**Material and methods.** A total of 197 students participated in the study, comprising 52 girls aged 12-13 years, 44 boys of the same age group, 60 girls aged 14-15 years and 41 boys of the same age.

**Results.** The findings of the study indicated that 14-15-year-old students were more prone to the following forms of aggressive behaviour in physical education lessons: negativism, offence, irritation, physical and verbal aggression compared with 12-13-year-old students. It was also determined that older students demonstrated statistically significant higher levels of hostility and aggressiveness than younger counterparts. When analysing the students' aggressive behaviour in the aspect of gender, it was found that boys often expressed the following forms of aggressive behaviour: negativism, offence, irritation and physical aggression; meanwhile, girls were more prone to the feeling guilty and verbal aggression. Higher hostility is more characteristic to boys than to girls, but the aggressiveness observed in the groups of boys and girls was assessed similarly according to the aggressiveness index.

**Conclusions.** The results obtained could be subjected to further analysis in order to enhance their effectiveness, for example, by examining concrete life situations of students.

**Keywords:** aggressive behaviour, forms of aggressive behaviour, students, physical education lesson.

## Introduction

The topic of aggression-prone students has been discussed for several decades, but it is one of the most relevant problems of our society. Students' aggressive behaviour is one of the biggest evils of social life that is progressing quickly in the modern society and getting an integral part of our life. Aggressive behaviour is expressed in all the periods of human age, but it is especially dangerous in the period of adolescence as it is tried to solve arising problems and hide the feeling of insecurity and uncertainty with this kind of

behaviour. It is supposed students behave in an aggressive manner because they try to be popular among their peers and want to draw attention (Šeibokaitė, 2008; Lloyd et al., 2008). In the scientific literature, aggressive behaviour is often understood as any hostile behaviour in respect of another person or group of people by demonstrating the advantage rudely and using force occasionally. It is not doubted today's changes of life have encouraged these outbreaks of behaviour and the number of cases of students' aggressive behaviour has grown significantly. Moreover, Palujanskienė and Uzdila (2004) state that students must be encouraged and trained to suppress aggression in the school community and teachers must first organize the activity for students, solve problems of their business and teach to solve conflicts in a constructive way in order to eliminate aggressive behaviour. Nevertheless,

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a lot of authors: ZinatMotlagh et al. (2013), Amadi et al. (2015), Jiménez & Estévez (2017) suppose reasonably that school is the place where aggressiveness is first expressed and the problem of aggressiveness remains undoubtedly relevant due to long-term consequences at schools. Moreover, it is stated in several studies the likelihood of aggressive behaviour is higher if the school training process fails to comply with the students' needs and interests related with changes in the society (Barkauskaitė, 2001; Olivier, 2003).

When analysing scientific studies of the recent period, it can be noticed more and more attention is paid for the determination of qualitative differences in students' aggressive behaviour and it is not confined with the qualitative assessment only (Hopkins et al., 2013; Farrell et al., 2017) moreover, scientists pay much more attention to the interventive measures of students' aggressive behaviour and effectiveness of preventive programs (Wade et al., 2018; Yanagida et al., 2019; Trajković et al., 2020). In previous studies, it was tried to find an answer to the question in what way students' aggressive behaviour depends on gender and it was assumed in most studies that boys are more aggressive than girls and are often initiators of aggression (Boulton & Underwood, 1993; Owens & MacMullina, 1995; Björkqvist, 2018). For example, Jančiauskas (2018) had a purpose to reveal the difficulties in the behaviour of higher form students at school and states that boys from higher forms mostly used physical aggression and girls use verbal aggression for the solution of conflicts. However, these assumptions are made quite carefully nowadays as there proofs according to which it can be stated that girls behave in the same aggressive or even more aggressive way taking into account certain forms of aggression. Authors Österman et al. (1998) who analysed aggressive behaviour of 8, 11 and 15-year-old adolescents (girls and boys) from Finland, Israel, Italy and Poland confirmed that the girls from these countries mostly used indirect aggression, the second kind of aggression was verbal and the rarest kind of aggression was physical. The study performed by Card and co-authors (2008) overviews and sums up 148 scientific studies about aggressive behaviour of children and adolescents in the aspect of gender. The results of this study allow supposing there are differences of aggressive behaviour between genders, girls and boys are assessed similarly according to verbal aggression, but boys are more aggressive according to physical aggression and girls – according to indirect aggression. Scientists from South Korea Chung et al. (2019) pay much attention to the studies of indirect aggression among children and emphasize this kind of aggression is an imperceptible form of behaviour that is difficult to find, so lots of difficulties are often encountered in order to assess it. It shows the way of changing the society's attitude towards the peculiarities of aggressive behaviour which are characteristic to individual genders.

When over-viewing the scientific literature, it can be noticed there is no unanimous agreement among all the authors that students' aggressive behaviour often depends on gender; the search for an answer to the question if students' aggressive behaviour is affected by age also causes lots of discussions.

For example, Žukauskienė (1999) was one of the first persons of Lithuania that performed a complex study in order to check the hypothesis if the forms of aggressive behaviour

among 8-14-year-old children depend on their gender and age. The study data shows children use indirect aggression in the course of age more and more often. The insight indicated in the study that younger children whose verbal and social abilities are not well-developed are inclined to use physical aggression must also be mentioned. In the development of social competences, it is learned to use indirect aggression, i.e., the aggressor learns to do psychological and sometimes even physical harm without risking to be identified. Meanwhile, Jančiauskas (2018) analysed the reasons for difficulties in the behaviour of higher form (15-19-year-old) students and problems of their behaviour at school, but these reasons were indicated in a general manner and not about individual age groups. In the studies published by other scientists it was also searched for differences in aggressive behaviour among higher form students and tried to assess the influence of age and gender on aggressive behaviour (Shaikh et al., 2014). When analysing publications about the researched topics (Gudžinskienė & Burvytė, 2017) revealed an interesting remark in their study: one of the least safe places of school where students show aggressiveness is a sport hall; it was even mentioned by 49.1 percent 12-16-year-old students who participated in the study. These results encouraged to perform a study in order to assess the peculiarities of students' aggressive behaviour in physical education lessons taking account their gender and particularity of age that can affect various transformations of aggressive behaviour. On the basis of literature insights, it can be stated it would also be useful to analyse students' aggressive behaviour in this context empirically as new study data would allow expanding the understanding of aggressive behaviour much more and the assessment of this behaviour would be able to draw more attention to the necessity of interventive measures for aggressive behaviour and it would be searched for effective measures. The newness of this study is revealed as it is tried to look at the expression of students' aggressive behaviour in physical education lessons from the position of students.

## Materials and Methods

### *Study Participants*

When applying the accidental serial selection procedure (according to tables of random numbers), six schools from the list of comprehensive schools of Lithuanian cities got to the sample. 211 questionnaires were distributed during the research, but 197 questionnaires were suitable for the analysis of the research. Before the research, the researched were divided into two groups, the first group consisted of 52 12-13-year-old girls and 44 boys and the second group consisted of 60 14-15-year-old girls and 41 boys.

### *Study Organization*

Before researching the expression of forms of students' aggressive behaviour in physical education lessons, oral agreements about the participation in the research were received from the school administration and students' parents. The research was performed before physical education lessons in the long break after pre-agreeing with the school administration. The students filled out the

questionnaire for 15-20 minutes. During the research, the main ethic principles which are characteristic to social studies: justice, good will, anonymity and confidentiality were observed.

**Principle of justice.** During the research, it was ensured the conditions will be created for each participant to get involved in the research voluntarily, it was also explained according to which criteria they were chosen and why they were invited to participate in the research. The researched were enabled not to answer certain questions of the research in case they felt uncomfortable. **Principle of good will.** The importance and the benefit of the research were explained to the participants in order to motivate them to take part in the research. Each researched had a possibility to make a decision and refuse to take part in the research. **Principle of anonymity.** When realizing this principle, no personal information that allows identifying a certain person was used. For example, the participants were not asked to indicate their name or surname and school where they learned. **Principle of confidentiality.** The application of this principle obligated that all the information about the research participants and analysed material will be accessible to the researcher only. The researched were also explained about the use of collected data and storage of the researched material.

The Buss Durkee Hostility Inventory was chosen for the revelation of the researched topics (Vassar & Hale, 2009). The Buss Durkee Hostility Inventory consists of 75 question and each statement of the questionnaire must be assessed by answering the statement: "YES" – 1 point or "NO" – 0 points. This questionnaire allowed assessing different forms of the expression of students' aggressive behaviour: negativism, offence, suspiciousness, irritation, feeling guilty, physical, verbal and indirect aggression.

Negativism is a form of behaviour directed against a certain authority or organization head that can be expressed from passive objection to active acts against requirements, rules, laws or instructions. Offence is envy and hatred for the people round about that is expressed as anger, revenge, dissatisfaction with something or the total world because of real or imagined sufferings. Suspiciousness is an inclination to distrust and careful communication with people due to convictions that the people round about want or can harm. Irritation is an inclination to irritation, preparation to give a loose to feelings because of the minimum worry and it is expressed as rudeness and roughness in the communication (Vassar & Hale, 2009). Feeling guilty is acts and their consequences to the own personality and the people round about arising from the conviction the person is bad and behaves badly, improperly, so it conditions appropriate assessment of the own personality and other people and behaviour. Physical aggression is the use of physical force against another person. Indirect aggression is expressed against another person (gossip, jokes, various non-verbal reactions: face, eye contact, gestures, other moves of the body, posture etc.). Verbal aggression is an expression of negative feelings by using a certain form of the oral appeal (scream, dispute, threatening, conflict) between two or more persons (Vassar & Hale, 2009).

The calculated hostility index consists of the following components: irritation, expression of offence, suspiciousness and negativism. The determined aggressiveness index consists of physical, indirect and verbal aggression.

The hostility index (HI) was calculated according to the following formula:  $HI = (\Sigma N + \Sigma SR + \Sigma I + \Sigma S)/4$ , where  $\Sigma N$  is the final sum of points of scale 1 (negativism),  $\Sigma SR$  is the final sum of points of scale 2 (offence),  $\Sigma I$  is the final sum of points of scale 3 (suspiciousness),  $\Sigma S$  is the final sum of points of scale 4 (irritation). The aggressiveness index (AI) was calculated according to the following formula:  $AI = (\Sigma FA + \Sigma NA + \Sigma VA)/3$ , where  $\Sigma FA$  is the final sum of points of scale 6 (physical aggression),  $\Sigma NA$  is the final sum of points of scale 7 (indirect aggression),  $\Sigma VA$  is the final sum of points of scale 8 (verbal aggression).

The meanings of the Cronbach alpha correlation coefficients from 0.708 to 0.863 were calculated for the assessment of the internal consistency of the questionnaire scales (Table 1). The acceptable threshold according to Taber (2018) is  $> 0.7$ .

**Table 1.** Scales of the Buss Durkee Hostility Inventory and suitability indexes

No.	Scale name	Statement numbers	Cronbach a
1.	Negativism	4, 12, 20, 28, 36*	0.863
2.	Offence	5, 13, 21, 29, 37, 44, 51, 58	0.744
3.	Suspiciousness	6, 14, 22, 30, 38, 45, 52, 59, 65*, 70*	0.829
4.	Irritation	3, 11*, 19, 27, 35*, 43, 50, 57, 64, 69*, 72	0.711
5.	Feeling guilty	8, 16, 24, 32, 40, 47, 54, 61, 67	0.821
6.	Physical aggression	1, 9*, 17*, 25, 31, 41, 48, 55, 62, 68	0.708
7.	Indirect aggression	2, 10, 18, 26*, 34, 42, 49*, 56, 63	0.765
8.	Verbal aggression	7, 15, 23, 31, 39*, 46, 53, 60, 66*, 71, 73, 74*, 75*	0.812

Note. The answers of the questions marked with sign \* are assessed: "YES" – 0 points, "NO" – 1 point

### Statistical Analyses

As the data distribution of the Buss Durkee Hostility Inventory was compliant with the normal distribution, the parameter Student t-test was used for independent samples. The obtained data is considered statistically significant in case they meet the significance level  $p < 0.05$ . The arithmetic mean (M) and the standard deviation (SD) were calculated for the comparison of the research data. The statistical data analysis was performed by using the app package for the data accumulation and analysis: SPSS 26.0 (Statistical Package for Social Science 19 for Windows).

### Results

By using the Buss Durkee Hostility Inventory, it was tried to assess the expression of students' aggressive behaviour in physical education lessons, the means of forms of aggression and standard deviations were calculated in this respect and the *Student t-test* was used for the determination of the reliability of differences between the groups.

**Table 2.** Statistical indicators of aggressive behaviour in physical education lessons by age

Aggressive behaviour	Age	n	M	SD	t	p
Negativism*	12-13	96	3.59	0.49	-10.43	p < 0.05
	14-15	101	4.41	0.61		
Offence*	12-13	96	4.87	0.54	-8.34	p < 0.05
	14-15	101	5.65	0.76		
Suspiciousness	12-13	96	6.91	0.79	1.72	p > 0.05
	14-15	101	6.73	0.67		
Irritation*	12-13	96	7.12	0.68	-9.19	p < 0.05
	14-15	101	8.05	0.74		
Feeling guilty	12-13	96	7.15	0.72	-1.92	p > 0.05
	14-15	101	7.34	0.67		
Physical aggression*	12-13	96	5.92	0.56	-8.78	p < 0.05
	14-15	101	6.74	0.74		
Indirect aggression	12-13	96	6.03	0.53	1.84	p > 0.05
	14-15	101	5.88	0.61		
Verbal aggression*	12-13	96	7.75	0.45	-9.42	p < 0.05
	14-15	101	8.49	0.64		

Note. \* – p < 0.05 when comparing the mean scores of students of different ages

The results of the research revealed that certain forms of students' aggressive behaviour in physical education lessons are more characteristic to higher form students (in our case, 14-15-year old ones) than to younger ones (in our case, 12-13-year-old ones). The analysis of the results showed reliably different assessments of the both groups of students in respect of negativism, offence, irritation, physical and verbal aggression (Table 2).

It was determined the mean of negativism is higher for 14-15-year-old students compared with 12-13-year-old ones ( $4.41 \pm 0.61$  and  $3.59 \pm 0.49$ , respectively;  $p < 0.05$ ). It allows supposing older students have a negative inclination more often, are inclined to resist, reject help, argue and do not want to obey the teacher's instructions. Offence is also more characteristic to older students ( $5.65 \pm 0.76$ ,  $p < 0.05$ ). It allows supposing older students are inclined to perform an incorrect act against another person more often.

After comparing the data of irritation among 12-13-year-old and 14-15-year-old students, it can be seen the mean of the results among older students ( $8.05 \pm 0.74$ ) is higher than among younger ones ( $7.12 \pm 0.68$ ;  $p < 0.05$ ). In these situations, students can feel more often that violence is used against them, they suffer from unfairness and they are threatened or prohibited something unfoundedly. It is also supposed more often in these situations it is prevented from satisfying certain needs or reaching for goals.

It can be noted statistically reliable differences were determined after comparing the results of the research performed with the students of different age groups for the following forms of aggressive behaviour: physical and verbal aggression. According to the data of this research, the means of the results of physical and verbal aggression used by older students ( $6.74 \pm 0.74$  and  $8.49 \pm 0.64$ ) are higher compared with younger ones ( $5.92 \pm 0.56$  and  $7.75 \pm 0.45$ , respectively). Taking this into account, it can be assumed that 14-15-year-

old students are more inclined to escape from an unpleasant, tensed psychical state or conflict situation with the help of their aggressive behaviour as well as communicate with their peers in a more aggressive way in order to reach the goal. Meanwhile, the results of the research showed there was no statistically reliable difference between the students from the both groups in respect of suspiciousness, feeling guilty and indirect aggression (Table 2).

After determining the generalized hostility index and calculating the mean from the results of four scales, it can be seen the hostility index was ( $6.21 \pm 0.69$ ) for 14-15-year-old students and ( $5.61 \pm 0.63$ ) for 12-13-year-old students. It means the hostility of older students is expressed more strongly statistically reliably ( $t_{(195)} = -6.38$ ;  $p < 0.05$ ) (Figure 1).

After determining the generalized aggressiveness index, i.e., calculating the mean from the results of three scales, it can be seen the aggressiveness index was ( $7.04 \pm 0.66$ ) for 14-15-year-old students and ( $6.57 \pm 0.51$ ) for 12-13-year-old students. These indexes show aggressiveness is more characteristic to students from the older group statistically reliably ( $t_{(195)} = -5.61$ ;  $p < 0.05$ ) (Figure 1).

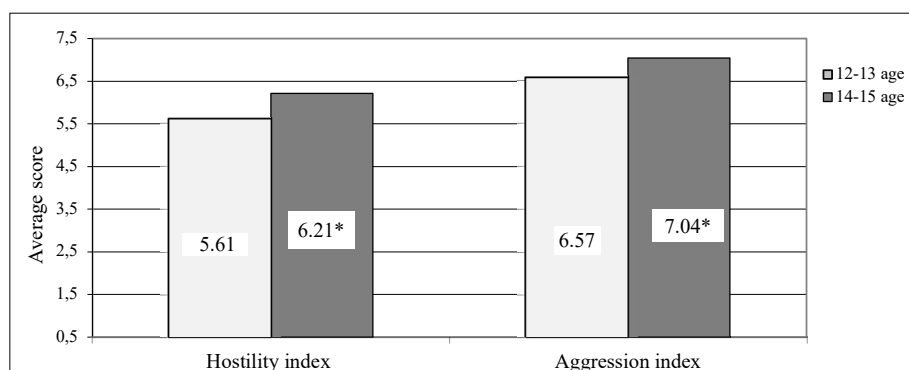
In the study, we both tried to reveal the peculiarities of the expression of aggressive behaviour in students of different age in physical education lessons and analysed in what way it depends on the gender of students. The analysis of the results allows stating that the expression of aggressive behaviour in physical education lessons is different for girls and boys. According to the research data, boys assessed some forms of the expression of aggressive behaviour with statistically reliably higher indexes (Table 3).

It can be seen the mean of boys' negativism ( $4.04 \pm 0.69$ ) is higher than that of girls ( $3.29 \pm 0.62$ ;  $p < 0.05$ ). The mean of the assessment of offence is also higher in the group of boys ( $6.44 \pm 0.69$ ). After comparing the irritation data of boys and girls, it was revealed that the mean of the boys'

**Table 3.** Statistical indicators of students' aggressive behaviour in physical education lessons by gender

Aggressive behaviour	Gender	n	M	SD	t	p
Negativism*	Girls	112	3.29	0.62	-7.89	p < 0.05
	Boys	85	4.04	0.69		
Offence*	Girls	112	5.57	0.55	-9.27	p < 0.05
	Boys	85	6.44	0.72		
Suspiciousness	Girls	112	7.09	0.47	1.92	p > 0.05
	Boys	85	6.93	0.65		
Irritation*	Girls	112	7.98	0.81	-2.15	p < 0.05
	Boys	85	8.21	0.69		
Feeling guilty*	Girls	112	6.87	0.93	6.64	p < 0.05
	Boys	85	6.14	0.61		
Physical aggression*	Girls	112	6.49	0.69	-10.83	p < 0.05
	Boys	85	8.04	0.98		
Indirect aggression	Girls	112	5.76	0.56	1.80	p > 0.05
	Boys	85	5.59	0.72		
Verbal aggression*	Girls	112	7.75	0.78	8.61	p < 0.05
	Boys	85	6.91	0.59		

Note. \* – p < 0.05 when comparing the mean scores for girls and boys



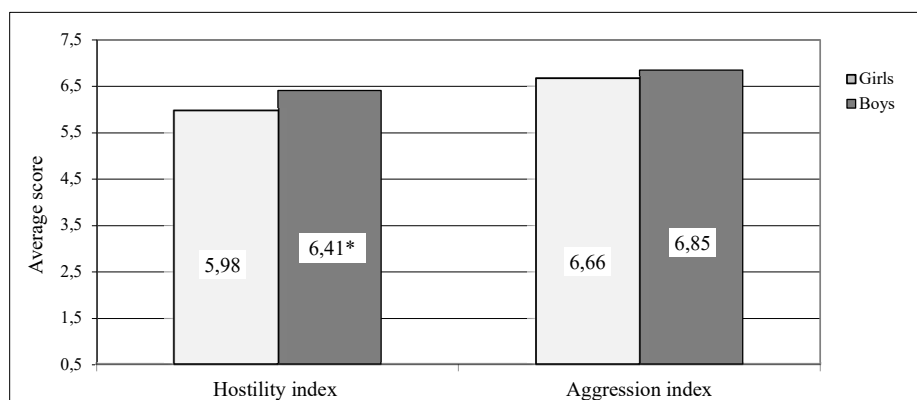
**Fig. 1.** The Mean scores of hostility and aggression indexes in the 12-13 and 14-15 age groups  
Note \* – p < 0.05 statistically significant difference

results ( $8.21 \pm 0.69$ ) is higher than that of girls ( $7.98 \pm 0.81$ ;  $p < 0.05$ ). However, the results of the research showed higher indexes of feeling guilty in the group of girls ( $6.87 \pm 0.93$  and  $6.14 \pm 0.61$ , respectively;  $p < 0.05$ ), it allows stating girls suffer from this feeling more often. The feeling guilty is mostly caused by the understanding that the behaviour infringes important social or moral norms. It is also assumed this feeling can be related with the frequent self-assessment and feeling of higher responsibility and self-criticism in girls. The research showed there was no reliable difference in the statistical indexes for the students of both groups. Thus, it can be emphasized the assessments of students' suspiciousness would be similar irrespective of the situation (Table 3).

The generalized indexes of the expression of aggressive behaviour in girls and boys – hostility and aggressiveness indexes – are also analysed in the study. When analysing the results, we noticed different assessments of the hostility index by the students of both groups. The boys' hostility

index was assessed with a statistically reliably higher mean  $6.41 \pm 0.69$  compared with the girls –  $5.98 \pm 0.61$ ; ( $t_{(195)} = -4.55$ ;  $p < 0.05$ ). It allows supposing boys are more inclined to make other people to behave in the way that would meet their personal expectations. Students with a hostile inclination are accompanied by outbreaks of anger, irritation, inclination to violence, wish to harm, humiliate or cause pain to other people. However, it can be noticed the data of our research shows there is no statistically reliable difference in the students of different genders according to the assessment of the aggressiveness index ( $t_{(195)} = -1.82$ ;  $p > 0.05$ ).

It is shown in the means of the aggressiveness index as a generalized index  $6.66 \pm 0.67$  for girls and  $6.85 \pm 0.76$  for boys. To sum up the aggressiveness indexes, it can be seen there was no statistically reliable difference in the assessments of just one of three scales, so it cannot be stated unambiguously the assessments of this index do not depend on the students' gender (Figure 2).



**Fig. 2.** The Mean scores of hostility and aggression indexes for girls and boys in groups

Note \* –  $p < 0.05$  statistically significant difference

## Discussion

The analysis of the study of aggressive behaviour allows stating that students' aggressive behaviour can both depend on their gender and on their age. The comparison of the results of the performed research with other researches is complicated because most studies used different aggression assessment scales. However, quite contradictory results can be seen when comparing similar studies – some researchers state that gender differences have the biggest influence on students' aggressive behaviour (Card et al., 2008; Björkqvist, 2018), meanwhile, others pay attention to the aspect of age (Shaikh et al., 2014; Jančiauskas, 2018), other researchers treat this problem in a complex way and accentuate the importance of gender and age (Žukauskienė, 1999). According to Amedahe & Owusu-Banahene (2007), boys' aggressive behaviour under competitive conditions is often expressed as direct aggression, such as physical aggression; meanwhile, girls are inclined to use indirect aggression and the reason for it is differences in the structure of peer groups of boys and girls. Moreover, there are more scientific studies, for example, Žukauskienė (1999) states that boys are much more active and physically stronger than girls, so direct – both physical and verbal – aggression is more characteristic to them and indirect aggression is more characteristic to girls; it also confirms our results partially. We think we can support the conclusions of Amedahe & Owusu-Banahene (2007) stating that boys are prone to such forms of direct aggression as physical aggression more often. On the basis of the data obtained in the meta-analysis of Card and co-authors (2008), it can be noted boys are more aggressive than girls, but they are prone to indirect aggression. The results obtained during the studies performed by Crick & Werner (1998) with the purpose to analyse the attitude of girls and boys towards certain forms of aggression were a little different. In the girls' attitude, indirect aggression is much stronger and effective than direct aggression; meanwhile, boys think direct aggression is more harmful. It shows boys and girls choose such forms of aggression which seem to them more effective or harmful. This remark allows stating that aggressiveness is not different in boys and girls, but there is a difference in the forms of the expression of aggressiveness due to a different understanding of harm. Nevertheless, it can be supposed additional studies are necessary in order to substantiate these assumptions. We think the latter statement is better for the

interpretation of the data of our research about students' aggressive behaviour in physical education lessons as students often suffer from negative feelings in competitive situations and are not always able to control their behaviour successfully.

Meanwhile, scientists Gudžinskienė & Burvytė (2017) were interested in students' attitude towards the present situation at school: they were looking for answers which aggressive acts affect students, the school microclimate, in which forms aggressiveness is expressed, in what way students react to this kind of behaviour. It is noted in this research both verbal and physical aggression is encountered at school, but attention should also be paid to electronic aggression. It reveals students' aggressive behaviour is obtaining new forms, but we cannot compare this research with our study as it does not go deep into the differences of aggressive behaviour in the aspects of gender.

The generalized indexes of forms of the expression of aggressive behaviour – hostility and aggressiveness index – were analysed in our study. After determining the generalized hostility index, i.e., calculating the mean from the results of four subscales, it emerged that boys' hostility is higher statistically reliably ( $p < 0.05$ ) compared with girls. When interpreting the research data, the insights of some researchers can be supported: the change of these results can be affected by the fact that boys encounter the hostility of the social environment and difficulties at school (Amadi et al., 2015), higher mobility, rude demonstration of the advantage (Lloyd et al., 2008) or even use of force against a peer group (Wakoli et al., 2016) more and more often. However, taking into account the results, it can be noticed that the aggressiveness indexes are both similar for girls and boys and there is no statistically significant difference ( $p > 0.05$ ). It allows contradicting the conclusions of some specialists of aggressive behaviour stating that boys are more aggressive (Owens & MacMullina, 1995; Archer et al., 1988; Rozzaqyah et al., 2021). According to Archer (2000), it is emphasized in the meta-analysis that ambiguous results of the research in this field depend on different instruments used for the measurement of aggression and individual characteristics of adolescents. Meanwhile, some studies state this difference between the genders can only be found when analysing aggressive behaviour, especially in the group of abusing people (Moretti et al., 2001).

When analysing the peculiarities of students' aggressive behaviour, we will both discuss in what way this kind of behaviour depends on gender and on age. Our results revealed that 14-15-year-old students express negativism, offence, irritation, physical and verbal aggression statistically significantly more often compared with 12-13-year-old students. Meanwhile, other researchers (Shaikh et al., 2014) state that aggressive behaviour is both characteristic to boys and girls; it was also determined physical aggression increased from the seventh form to the tenth form significantly. Verbal aggression was found in boys quite early, but the tendency of decrease was noticed before the tenth form. Meanwhile, the tendency of the increase of verbal aggression was noticed in girls from the seventh form to the tenth form. However, aggressive behaviour of older students is analysed in the studies of the above-mentioned authors, so these differences cannot be interpreted as absolutely compatible with our data. In the other study, the differences of aggressive behaviour are discussed and the age groups of 8-9, 11-12, 13-14-year-old children are taken into account, Žukauskienė (1999) accentuates the increase of physical, verbal and indirect aggression in the course of age in all these groups. We can support this position as our results confirm similar conclusions that such forms of aggressive behaviour as negativism, offence, irritation, physical and indirect aggression are much more expressed in the group of 14-15-year-old students than in the group of younger 12-13-year-old students. It can also be stated that the hostility and aggressiveness indexes generalized in the group of older students participating in our study were higher. Moreover, there are some studies which analyse aggression of sport-doing and non-sport-doing students in a quite comprehensive way (Jančiauskas, 2018a), but we assessed the peculiarities of aggressive behaviour in much younger students, so we cannot assess if this data is similar or contradicts to our results.

To sum up the research data, the limitations of the research and perspectives of further research must also be considered. One of the essential limitations is a small sample of the researched in this study; moreover, we researched younger students, but the samples of most analysed studies were often formed from older students. In this aspect, the comparison of the results of our research with the data obtained by other researchers is quite limited. In order to compare the results of the research in a more comprehensive way, it is necessary to strive for higher equivalency of researched groups; otherwise, it will be difficult to interpret the results. It should also be mentioned the research was performed during breaks, so the researched may have filled out the questionnaire not very objectively and give similar answers like their friends. The conclusions should also be assessed carefully as they are only based on the students' self-assessments, so the answers to the questions may have been partial. The latter limitations of the research can also affect the results. Taking into account the limitations of this research, it would be useful to make significant conclusions by generalizing the results of the research; it would also be useful to perform additional research in the future by involving teachers and students' parents who would be able to notice the difficulties of improper behaviour, so their assessments should be considered and included in the analysis. More comprehensive research is necessary in

order to obtain more accurate data about the peculiarities of aggressive behaviour of younger students.

## Conclusions

When applying the Buss Durkee Hostility Inventory, it was revealed that 14-15-year-old students are more inclined to express the following forms of aggressive behaviour in physical education lessons: negativism offence, irritation, physical and verbal aggression compared with 12-13-year-old students. It was also determined older students can be characterized with statistically reliably higher hostility than younger ones. When analysing students' aggressive behaviour by gender, it was revealed that boys are prone to the following forms of aggressive behaviour: negativism, offence, irritation and physical aggression statistically reliably more often than girls. Meanwhile, girls are more inclined to express the feeling guilty and verbal aggression. However, boys are more inclined to hostility statistically reliably. According to the aggressiveness index, no statistically reliable difference was determined and it means aggressiveness is similar in the groups of boys and girls. We think the obtained conclusions could be applied more effectively with appropriate corrections, for example, by analysing concrete life situations of students.

## Conflict of interest

The author declares that there is no conflict of interest.

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# Визначення особливостей агресивної поведінки учнів на заняттях з фізичного виховання

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Авторський вклад: А – дизайн дослідження; В – збір даних; С – статаналіз; D – підготовка рукопису; Е – збір коштів

Реферат. Стаття: 9 с., 3 табл., 3 рис., 31 джерело.

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**Історія питання.** Останнім часом особлива увага приділяється шкільному середовищу, де агресивна поведінка учнів, яка швидко поширюється, набуває все більш яскравих контурів і відображає процеси, що відбуваються в сучасному суспільстві та їх наслідки для молодого покоління. Вона часто може мати різні короткострокові та довгострокові наслідки для поведінки учня, його спілкування з оточуючими, емоційного стану та самооцінки. Таким чином, ця складна ситуація спонукає все частіше цікавитися причинами агресивної поведінки студентів та особливостями її прояву.

**Мета дослідження** – виявити особливості прояву агресивної поведінки учнів на уроках фізичної культури в аспекті віку та статі.

**Матеріал і методи.** У дослідженні взяли участь 197 учнів, з них 52 дівчинки 12-13 років і 44 хлопчики та 60 дівчаток і 41 хлопчик 14-15 років.

**Результати.** Результати дослідження показали, що 14-15-річні учні у порівнянні з 12-13-річними учнями більш схильні до таких форм агресивної поведінки на уроках фізичної культури, як негативізм, образа, роздратування, фізична та вербальна агресія. Також було визначено, що старші школярі характеризуються статистично достовірно вищими показниками ворожості та агресивності, ніж молодші. При аналізі агресивної поведінки учнів у гендерному аспекті було виявлено, що хлопці частіше проявляють такі форми агресивної поведінки, як негативізм, образа, роздратування та фізична агресія, тоді як дівчата більш схильні до почуття провини та вербальної агресії. Вища ворожість більш характерна для хлопців, ніж для дівчат, але агресивність у групах хлопців і дівчат за індексом агресивності оцінювалася однаково.

**Висновки.** Вважаємо, що отримані результати можуть бути більш ефективно застосовані при подальшому аналізі, наприклад, при аналізі конкретних життєвих ситуацій студентів.

**Ключові слова:** агресивна поведінка, форми агресивної поведінки, студенти, урок фізичної культури.

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