

Original research article

**OBESITY AND GENDER DIFFERENCES IN THE PHYSICAL
EDUCATION AND SPORTS CLASS AND THEIR INFLUENCE
ON BODY IMAGE***

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Abstract. *Weight problems can be an impediment in terms of the pupils' participation in physical education and sports classes. The purpose of this research is to determine if there are any differences in the way in which pupils (boys and girls) with weight problems perceive their participation in the physical education and sports class and its influence on body image at a teenage level. The study included 61 pupils with weight problems (20 girls and 41 boys), aged between 11 and 15. The results indicate the fact that both boys and girls enjoy physical education classes, but consider that they are not appreciated by the other members of the group, which indicates a weak body image, without differences between the girls and boys.*

Key words: *overweight, physical education, body image, gender..*

INTRODUCTION

Following a study conducted by the World Health Organization in 79 countries, it has been determined that there are over 250 million obese people in the world, 22 million of whom are children under the age of 5. This study emphasizes the fact that over 50% of these obese children will become obese adults (Barlow & the Expert Committee, 2007). Another study (published in a report of The International Association for the Study of Obesity, London, 2010) conducted between 2005 and 2006 has shown that in Romania,

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in the case of teenagers aged between 11 and 15, the index of prevalence of obesity is 14,7% in the case of girls and 8,75 in the case of boys. Specific literature defines obesity as an excess of body fat or an excess quantity of adipose tissue as compared to “lean” tissue mass (National Research Council, 1989). Obesity is defined by weight excess, which represents more than 20% of the ideal weight. It occurs due to increased food intake in the case of people with a particular constitutional predisposition (O'Brien, Holubkov & Reis, 2004). The problem of obesity and overweight is one of significant importance in the field of physical education and sports, especially given the fact that, besides a balanced life style and nutrition, physical activities have a major role in the fight against obesity (Warburton, Nicol & Bredt, 2006). School, through physical education, represents the main way of promoting health education and sports; however, in Romania, more and more problems can be found within this discipline: firstly, the exemption of these pupils from physical education classes on the basis of illness (Bocu, Vidu & Lupu, 2003), where excessive weight is associated with illness (a metabolic syndrome); the number of pupils exempted from physical education classes is on the rise in Romania, a country currently holding the number 3 position in Europe regarding the number of obese children (European Society of Cardiology, 2009). Secondly, the participation of these pupils in physical education classes presents various problems, which is the subject matter of this paper. Among these problems is the fact that overweight pupils are treated and perceived differently by their thinner colleagues, which creates difficulties in terms of integration within the group of pupils and has an effect on their self-esteem (French, Story & Perry, 1995) or self-perception (Schwartz & Brownell, 2004). In the case when the group of pupils is already formed and they already know each other, even if weight problems influence participation, involvement and task solving for overweight pupils as opposed to thinner pupils, the process of marginalization is not a direct one, as long as the overweight pupils involve themselves in activities. If being overweight were not an impeding factor to accomplishing motor tasks, then probably the differences in body volume would no longer be taken into account by the rest of the group; however, as long as weight represents an impediment to the meritorious participation in the classes, this will be a means of stigmatization. There is a certain way of judging, characterizing, criticizing and looking at them; however, as long as overweight pupils take part in the lesson, relationships will be built upon their abilities, but also upon their physical aspect. Even if positive body changes do not always occur, still these pupils will form their self-perception from the perspective of their involvement in sports activities and the way in which they are perceived by their other colleagues and teachers contributes to the building of their own perception of their bodies. Adolescence is a critical period both in girls' and boys' development; however, we ask ourselves if the way in which these pupils involve themselves in the physical education class has an effect on the formation of a self-image and especially if this is different based on the pupils' gender. Furthermore, overweight pupils are treated differently by their physical education teacher. They are either frequently exempted from various exercises which are considered too difficult or different strategies can be found for their performance, but in the majority of cases they are connected to smaller amounts of effort and are in no way connected to the different algorithms of accomplishing motor action. In physical education and sports there are a few instances in which being big and strong represents an advantage, among which are the pivotal position or goalkeeper in the game of handball, opposition games and fighting as a part motor games, approaching combat sportive branches such as fights or judo, when the teacher uses material from these sports. If one were to place emphasis on the advantages of being

big and strong, then a positive perception on having a voluminous body would be created; but being big does not always mean being strong, even in the case of boys, not just in the case of girls. Body image can be defined as a construct which personifies how individuals perceive their physical appearance (Adame, Radell, Johnson & Core, 1991). It has been suggested that women's perception of themselves largely remains the same as the ones formed when they were young children (Brown, 1993), even as early as the kindergarten stage, according to Caskey & Felker (1971). From a socio-psychological perspective, Weiss & Glenn (1992) and Covey & Feltz (1991) concurred that physical activity has a positive influence on females' psychological development and that there may be a link between low physical activity participation and the relatively low body image found among females. Adame et al. (1991) and Hallinan, Pierce, Evans, DeGrenier & Andres (1991) both found positive relationships between facets of perception of body image and athletic participation or fitness. Overweight children may be particularly vulnerable to body-related barriers to physical activity, and reducing such barriers may serve as physical activity intervention points most relevant for overweight youths (Zabinski, Saelens, Stein, Hayden-Wade & Wilfley, 2003). It can be noticed that overweight pupils are repeatedly teased by their colleagues, which leads to stigmatization (Hayden-Wade et al., 2005). At the age of adolescence, the formation of a balanced self- and body image is very important, as the body is at the centre of physical activities; thus, in the case of pupils with weight problems, physical education can contribute to the formation of such images in either a positive or a negative way. Besides the differences between thin and fat pupils, there are also differences between overweight male and female pupils. This is why we aim in this study to analyze the influence of physical education and sports on the formation of the self-image in the case of pupils with weight problems. Are there differences between male and female overweight pupils? Based on the fact that physical education permanently offers feedback regarding the body and its physical capabilities, we aim to enquire if it forms a different body image based on gender.

The purpose of the paper was to analyze if there are differences in the way in which male and female pupils with weight problems perceive their participation in physical education and sports classes and its influence on the formation of a body image at an adolescent age.

The aims of the research were:

- To identify the differences between male and female overweight pupils as a way of perceiving physical education and sports lessons.
- To analyze the way in which male and female overweight pupils perceive the differences in their perception of them as pupils and that of their colleagues without weight problems, with the purpose of forming a good self-image. School, as an educational vector, becomes a landmark in the overweight children's approach to the activities in which they think that they cannot take part.
- To analyze the way in which male and female pupils feel treated differently by their physical education and sports teachers in class.
- To analyze the effects of taking part in the physical education lesson on the formation of a body image at an adolescent age.

Research hypothesis

In the case of overweight teenage boys and girls, weight and physical abilities manifested during the physical education and sports lesson influences the formation of their body image.

MATERIALS AND METHODS

Participants

The study included 61 children from a school in Timisoara, 20 girls (with an average height and weight of 1,60m and 64,6kg) and 41 boys (with an average height and weight of 1,65m and 66,14kg), aged between 11 and 15, identified as having weight problems.

A composite body mass index (BMI) was calculated using the composite height and weight values and was multiplied by the appropriate factor to convert into kg m^{-2} . We used the BMI, measured as weight in kg divided by the square of height in m^2 , to classify children into overweight and not-overweight categories in each wave. Children who had a BMI greater than or equal to the 95th percentile for their age and gender were classified as overweight.

Two questionnaires were applied, one demographic in which the required data had to do with their personality and their participation in the physical education and sports classes. The Likert scale of 5 units was used (1-never, 2-very seldom, 3-sometimes, 4-often, 5-all the time). The second questionnaire is the Romanian equivalent of the Body Appreciation Scale for Adolescents (Lobera & Rios, 2011). The data were processed using the Excel program: Mean Value, Standard Deviation, the Student T-test and Pearson's Correlation.

RESULTS

Following the calculation of the BMI it can be noticed that out of the 20 girls, 13 are overweight, 6 are obese, type I and 1 girl is obese, type II. The values of the body mass index range between 25.38 and 39.04. Out of the 41 boys taking part in the study, 33 are overweight, 6 are obese I and 2 are obese II. The values of the BMI range between 25 and 39.21, according to Table 1.

Table 1. The values of the body mass index.

Obesity type	# girls	# boys	Total
Overweight	13	33	46
Obese I	6	6	12
Obese II	1	2	3
Total	20	41	61

1. *The overweight pupils' opinions regarding the physical education and sports classes*

As one can notice from Table 2, when faced with the question "Do you enjoy physical education and sports classes?", overweight boys and girls have a positive perception of the lesson and take part in it with pleasure, despite being overweight. Regarding their involvement in the activities conducted during the classes, one can notice that, from their point of view, both girls and boys think that they involve themselves "all the time" and, moreover, that they effectively cope with the majority of set tasks and objectives, together with the rest of the pupils.

Table 2. The involvement of overweight pupils in the lessons.

Items	M-girls	SD-girls	M-boys	SD-boys
Do you enjoy the physical education and sports classes?	4,45	1,07	4,6	1,25
Do you involve yourself in the lesson?	4,15	0,89	4,43	1,97
Do you cope with the exercises?	4	1,15	4,09	2,06

From the table above, one can notice that the overweight pupils' perception of the physical education and sports classes and of their own participation, involvement and realization is a very good one; there are no significant differences between the boys' and girls' perception, the answer varying from "often" to "all the time".

2. *The overweight boys' and girls' opinion of the way in which they are perceived by the other pupils during the physical education and sports class*

From Table 3, one can notice that both overweight girls and boys feel that they are part of the group of pupils only to a very limited extent because they consider that they are not a part of the sportive activities involving the pupils with normal weight; the girls are more unhappy than the boys and generally consider that the pupils with normal weight are only "sometimes" satisfied with their efforts made during the games or team activities, the girls more so than the boys. However, regarding the general perception linked to marginalizing, overweight pupils consider themselves to be marginalized "very seldom" by their peers, the boys less so than the girls.

Table 3. The involvement of overweight pupils in the group.

Items	M-girls	SD-girls	M-boys	SD-boys
Are you involved by your colleagues during the class?	3,35	2,25	3,82	2,93
Are your colleagues satisfied with your efforts made during the class?	3,7	1,53	3,95	3,37
Are you marginalized during team games?	2,2	2,55	2,04	3,33

Regarding their relationship with other colleagues, the way in which overweight boys and girls think they are perceived by their peers with no weight problems can be determined from the fact that they do not feel valued by their colleagues. The overweight pupils' acceptance by their colleagues and their integration within the group might be solved through the considerable effort of the physical education and sports teacher, who will assume the role of mediator, but also of pedagogue, intervening within the relationships created between the pupils by delegating tasks and roles to the pupils according to their possibilities, avoiding discrimination and inciting the group towards tolerance, respect and involvement.

3. *The overweight pupils' opinion regarding the fact that the teachers treat them differently*

Regarding the way in which overweight pupils are treated by the physical education teachers, especially in terms of reducing the tasks or dosing the effort by decreasing the number of repetitions, the boys consider that no differences whatsoever are being made, while the girls consider that differences are sometimes being made by the pupils with normal weight.

Table 4. The treatment of overweight pupils.

Item	M-girls	SD-girls	M-boys	SD-boys
The teacher makes differences in terms of the number of exercises between you and your thinner colleagues	2	2	1,58	2,05

4. *Comparing the average value and the standard deviation between overweight boys and girls in the physical education and sports classes*

Table 5. The average value and the standard deviation for overweight boys and girls in the physical education and sports classes.

Pupils	M	SD	Test Student	Pearson
Girls	3,4	1,63	t=0,43	r=0,98
Boys	3,5	2,56	p>0,05	r***

The resulted correlation coefficient registers within a strong positive association. It can be noticed that overweight boys and girls have the same difficulties regarding their integration within the group during physical education and sports classes. There are no differences based on gender in physical education and sports classes, but there are some differences regarding weight.

The result obtained in the student t-test (Table 5) is insignificant from a statistical point of view, which means that there are no differences between overweight girls and boys regarding the physical education and sports classes.

5. *Body image in the case of overweight boys and girls*

From the table below, one can notice the difference between overweight boys and girls regarding the way in which they perceive their own body.

Table 6. The difference between overweight boys and girls regarding the way in which they perceive their own body.

# Items	M girls	SD girls	M boys	SD boys
1 I respect my body.	3,95	1,28	4,26	1,82
2 I feel good about my body.	3,2	1,66	4,21	1,84
3 On the whole, I am satisfied with my body.	2,9	1,57	3,56	2,55
4 Despite its flaws, I accept my body for what it is.	3,45	1,55	4,36	1,56
5 I feel that my body has at least some good qualities.	3,6	4,54	3,97	1,97
6 I have a positive attitude toward my body.	3,7	1,58	4,12	1,87
7 I am attentive to my body' needs.	4,2	1,44	4,19	2
8 My self-worth is independent of my body shape or weight.	3,45	1,75	3,21	2,56
9 I do not focus a lot of energy on being concerned with my body shape or weight.	2,75	1,62	2,65	2,56
10 My feelings toward my body are positive, for the most part.	3,4	1,7	3,41	2,44
11 I engage in healthy behavior to take care of my body.	3,65	1,3	4,17	1,57
12 I do not allow unrealistically thin images of women presented in the media to affect my attitude toward my body.	2,5	1,97	1,97	2,14
13 Despite its imperfections, I still like my body.	3,6	1,93	3,53	2,49
Total	3,41	0,47	3,66	0,71

The girls feel well in their body only “very seldom” and are satisfied with it “sometimes”, while the boys feel well in their body “often” and are satisfied with the way they look “sometimes”. The girls accept their body as it is to a lesser extent than the boys and find a smaller number of good qualities than the boys. The boys adopt a positive attitude to their body to a greater extent than the girls. Both the girls and the boys are careful of the needs of their bodies to a significant extent but they recognize that the way in which they feel is connected to their weight and the shape of their bodies and they are worried regarding their form and body weight. The feelings regarding their bodies are only sometimes positive. Boys get involved in healthy types of behavior that are connected to weight to a more significant extent than girls but the girls are more vulnerable to the attitude towards their own body than the boys regarding images of thin people.

Table 7. The differences between overweight boys’ and girls’ body image.

PUPILS	Student Test	Pearson
Girls	0,101	0,78
Boys	p>0,05	r**

Overall, the body image perceived both by the girls and by the boys is average. From Table 7, it can be noticed that the differences between the overweight boys’ and girls’ body image is not significant from a statistical point of view and the Pearson index of statistical correlation indicates a high degree.

DISCUSSION

It can be noticed that besides the gender differences perceived between the pupils during physical education classes, an important difference is the one connected to body weight. To be overweight creates a difficulty in the integration within the sportive group or team due to bodily differences and the sometimes limited physical possibilities of the overweight body. It can be noticed that the will and pleasure of participating in the class exists in the case of overweight pupils; however, the lack of support from their colleagues, the teasing and the marginalization moves them away from physical education. Furthermore, as the groups in a physical education and sports class are not mixed, overweight pupils are faced with discrimination on the part of their colleagues with normal weight and the overweight girls are faced with the same difficulties from their colleagues; there are no significant differences between the way in which boys and girls are perceived; however, the difference can be explained by the fact that in the case when the group is mixed, in the frontal moments of the lesson, the girls feel more underappreciated by their colleagues. The difference does not come from the fact that girls discriminate more than boys, but comes from the fact that in the physical education and sports classes, being an overweight girl can be more difficult than being an overweight boy. In physical education and sports, besides gender differences, one can also add differences linked to obesity.

Regarding building a body image, there are no major differences between girls and boys, overweight can create a lack of confidence in the body image from the age of adolescence.

CONCLUSION

Based on the study, one can conclude that both overweight girls and boys appreciate to a significant extent and take part in physical education and sports classes; however, they consider that they are not appreciated by the group they are a part of. This fact has influences on the body image, both in the case of girls and boys.

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GOJAZNOST I RAZLIKE MEĐU POLOVIMA U OKVIRU ČASOVA FIZIČKOG OBRAZOVANJA I NJIHOV UTICAJ NA RAZVOJ SLIKE O SEBI KOD DECE

Simona Petracovschi

Problemi sa težinom mogu biti otežavajuća okolnost prilikom učešća učenika u časovima fizičkog obrazovanja. Cilj ovog istraživanja bio je da se odredi da li postoje neke razlike u načinu na koji školska deca (dečaci i devojčice) koji imaju problema sa težinom uviđaju svoje učešće u časovima fizičkog obrazovanja i njegov uticaj na razvijanje slike o sebi kod tinejdžera. U istraživanje je uključeno 61 dete sa problemom sa telesnom težinom (20 devojčica i 41 dečak), starosti između 11 i 15 godina. Rezultati ukazuju na to da i dečaci i devojčice uživaju u časovima fizičkog obrazovanja, ali smatraju da ih ostali članovi grupe preterano ne cene, što ukazuje na slabu sliku o sebi, bez obzira na to da li su u pitanju dečaci ili devojčice.

Ključne reči: gojaznost, fizičko vaspitanje, slika o sebi, pol.