

**GENDER DIFFERENCES IN SPORTS: A SOCIOBIOLOGICAL
ANALYSIS OF THE GENDER DIFFERENCES BETWEEN PUPILS IN
PHYSICAL EDUCATION CLASSES**

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Abstract: This article aims at addressing the biological gender differences in physical education, the dynamics between these differences in a socio-psychological context, the manner that these differences influence perceptions on physical education classes, the existing gender grouping procedures of physical education classes, consequences, difficulties caused by them and ways in coping with them.

Key words: Physical education, social psychology, personality traits, pro-social behavior, human communication, behavior patterns, motivation, gender differences, biological differences.

Introduction

Biological gender differences have become a heated issue in the academic literature. The recent sensitivity of this topic poses a constraint both in the analysis and the implementation of programs that take gender differences into consideration. It is possible to narrow down the debate on this topic, without detracting from its full nature, by a spectrum of competing interpretations for a clear factual situation – there are significant differences between men and women, not only from a physical aspect but also their perceptions on physical education,

their motivation for sports, the values they attribute to sports, the types of sports that they like, et cetera.^{1 2 3}.

One extremity of the spectrum, identified as gender feminism, claims that these differences are a product of social traits, cultural constructions of separate values for each gender that determines the way boys think in a fixed manner and the way girls think in different but fixed manner, that encourage normative patterns of thinking, based on researches such as Clark's study on dolls that demonstrated how the power of social norms in the perpetuation of racism. Another extremity identified with extreme genetic determinism, claims that environmental influences are completely minor in creating gender differences, most of these differences are a product of genetically inclined differences between men and women, in the same way that their physical characteristics are differentiated, a theory based on research such as the identical twins by Bouchard that demonstrated a multi-layered similarity between identical twins that were raised separately. These opposing researches point out that the cause for gender differences is a combination between both inborn genetic differences and acquired social-cultural differences^{4 5 6 7 8 9}.

1. Gender differences – biological, physical and socio-psychological

Be these factors for gender differences what they may, there is no doubt that significantly narrowing them down will not be occurring in the near future.

¹(Lever, 1976)

²(Morley, 2016)

³(Klomsten, Marsh, & Skaalvik, 2005)

⁴(Pinker, 2003)

⁵(Tappan, 2006)

^{6 6}(Bouchard, Lykken, McGue, Segal, & Tellegen, 1990)

⁷(Clark & Clark, 1939)

⁸(Lippa, 2005)

⁹(Spence & Lee, 2003)

Accordingly, neither will study programs adapted for physical ed classes be implemented any time soon. It is worth emphasizing the uniqueness of physical education from this aspect – there is no other field in the western world where girls are expected to perform by different standards to those of boys and likewise boys are expected to perform by different standards in comparison to girls. However, whereas it is probable to conceive that both girls and boys are capable of solving mathematical problems at the same level of difficulty, it is unfair even discriminating to expect girls of 16 to lift weights the same heaviness as boys 16 years of age can. However, such a biological-performance gap is not mainly a gender difference, because had it been so one would think that a class of boys and a class of girls in sports would be no different from dividing a class into groups. The significant differences between study programs in physical education are particularly based on socio-psychological differences, meaning the way pupils think of sports, their feelings affiliated with sports, et cetera. Similar to gender differences in many other fields, boys tend to prefer more competitive, challenging and dangerous sports than girls, whereas girls tend to prefer group sports (both competitive and non-competitive). Both girls and boys perceive physical education as a tool for improving their appearance, however, girls regard improving their appearance as a major part of physical exercise especially in relation to diets, whereas improving appearance and dieting for boys is of minor importance in physical exercise. Both girls and boys are aware of side effects caused by sports such as perspiration, however, boys do not regard these attributes as problematic, girls on the other hand, tend to be anxious about body odor and/or spoiling hair esthetics due to physical exercise^{10 11 12}.

¹⁰ (Shank & Lyberger, 2014)

¹¹(Creedon, 1994)

¹² (Messner, 1988)

Already from these basic observations it is possible to begin evaluating the gender relevancy of school trends. For example, the penchant not to have locker rooms as a part of the school's infrastructure policy is a significant violation of the relationship between girls and physical education more than that of boys in relationship to physical education, as body odor is a much greater harassment to girls than to boys. The lack of awareness to this difference or the denial of its existence, may impair the school's decision-making process especially in schools where pupils are from low socioeconomic levels, where the infrastructures are meager. Take for example the choice to give up locker rooms, netting in the sports field or a dance auditorium in order to build a weight lifting room and goal netting posts that can be considered as a rational and fair choice that all the students can enjoy but in reality it is a distribution of the budget in a way that one physical activity meant for boys to enjoy is prioritized at the expense of activities that girls prefer. In consequence, this budgetary choice preference will cause the girls not to enjoy physical education class, not to want to participate and not to succeed in them^{13 14 15}.

2. Gender evaluation differences in sports

These insights according to which there are differences in approach and evaluation of sports between girls and boys, have significant consequences of the perceptions of physical education classes and for the most part is recognized by the education system. Accordingly, various education systems have attempted to adapt their infrastructures and study programs in order to enable both boys and girls to experience physical education classes best suited to them, these approaches have been arisen due to the interest girls are taking in sports, as boys

¹³ (Gorely, Holroyd, & Kirk, 2003)

¹⁴ (Barr-Anderson, et al., 2008)

¹⁵ (Gorely, Holroyd, & Kirk, 2003)

regard sports in a much lighter manner. One of the main approaches included freedom of choice – allowing each girl to choose from a number of physical activities, each girl can choose the activity of her preference, and will appreciate the lesson more. Although this approach is both rational and reasonable, and in spite of the fact that many resources have been invested in implementation – (since it is necessary to build an infrastructure that will enable a variety of activities) - no significant improvement can be observed in they were implemented due to main factors: when the girls were offered a choice, they tended towards choosing the easiest activities, that finish the quickest, that demand the least amount of effort; The girls behaved out of social pressure – if eight girls are needed to play dodge ball, and two of the most popular girls decide to play dodge ball, then all their friends would want to join them even if they preferred acrobatics. Although the second constraint can be solved relatively easily – by addressing the pupils' group dynamics, the first constraint which is the tendency to choose the easiest activity is more problematic and difficult to solve. An evaluation, giving in-depth explanations on the value of an exercise may stir enough interest in order to influence at least some of the girls to want to take part in the activity although it is much harder; a combination of such explanations together with a rigid coordination of the levels of difficulty for each exercise of their choice should provide ample tools in order to change a failing approach to a successful one. Meaning to say, the implementation of these changes should serve as an adequate basis enough to enhance the evaluation of physical education classes for girls^{16 17 18 19 20}.

¹⁶ (Pate, et al., 2005)

¹⁷ (Ntoumanis, 2005)

¹⁸ (Azzarito, Melinda, & Harrison, 2006)

¹⁹ (Webber, et al., 2008)

²⁰ (Ferrer-Caja & Weiss, 2000)

A different approach focusses on the adaptation to the girls' world of values, without attempting to expand or the change their perceptions. Specifically speaking, in this approach a sports lesson is accompanied by referencing 'how many calories will burn during this lesson?' 'Which areas will shape up after this exercise?' Although this approach increases the rate of participation in sports class, and even increases levels of appreciation, it succeeds in doing so for all the wrong reasons. This kind of approach does not target the motivation for sports capabilities, nor does it even target a healthy lifestyle, in fact this approach uproots the very heart of sports by disguising the essence of physical education class with loosing weight and fitness, making a connection between sports as 'something one needs to do in order to look good', detaching sports from its true value such as excellence, self-improvement, physical capabilities and even enjoyment. This approach can be compared by analogy to advertisers who create stereotyped images in order to sell products, as by detaching values of sports excellence in physical education class, the product is not what the education system wants to sell – on the one hand, the approach increases levels of satisfaction in sports classes, on the other hand, satisfaction is not sports but is a model of beauty and body toning which is the shallowest part of the lesson^{21 22 23 24}.

3. New approaches to gender assessment programs in sports

It is clear that beyond the importance of experimentation and assessments in improving the schooling system, no less important is having a correct and accurate definition of the experiments' aims. If in fact that the experiment's goal is to enhance girls' interest in gym classes, then the approach 'physical education

²¹ (Pesa, Syre, & Jones, 2000)

²²(Olafson, 2002)

²³ (Cockburn & Clarke, 2002)

²⁴ (Pate, et al., 2005)

class as a class for body toning' is a success story, however, it is more worthwhile and better for modern education systems not to use raising interest as a goal but as a tool – physical exercise has an abundance of quality values such as ambition, perseverance, determination, excellence, self-improvement, healthy lifestyle, sports attitude, honorable competitiveness. It is worthwhile goal for all education systems to instill these values in girls, moreover there is no basis for the assumption that these values were only instilled in girls that were enticed to appreciate physical education class for burning calories and narrowing waistlines. At the same time, it is worthwhile to remember that although the justification to focus on raising interest in physical education for girls exists, men have a greater tendency than women to live life without any physical exercise activities, an increase too in boys who develop hobbies that do not include physical exercise, therefore the status quo of boys' interest in physical education classes is proven is in fact null and void. Even if in fact they do appreciate physical education classes for example in comparison to literature class, in general, they do not appreciate physical education more than they do playing video games. The growing gap also falls on the physical education teachers' shoulders – as physical education educators have the role of instilling the importance of physical education as an integral part of everyday life – in addition to frequently playing ball with the boys in school – long recess hours of playing ball in breaks between classes. Whereas for girls it is advantageous to delve deeply into the essence of sports and ensure that there is appreciation for physical education classes. Furthermore, girls should be aware that the sports appreciation is not based only on the physical perception of sports as a tool for burning calories. Boys' perception of sports should be awareness of the advantages and appreciation for sports classes that do not depend

solely on enjoyment, devoid of goals. They should include more meaning to sports than "it is more fun that English classes but not as much fun as Xbox"^{25 26 27 28}.

4. Research Method

A basis for a differential gender approach between boys and girls was performed in this research amongst 549 pupils (256 boys, 293 girls) in grades 5 and 6 from the north of Israel, as demonstrated below.

The definition for an excellent student in language and arithmetic as a student belonging the according to the classified 10% group, meaning 26 for the boys and 29 for the girls that have higher grades in the study subjects.

The boys received a grade of at least 96.32 for study subjects and girls received a grade of at least 98.46.

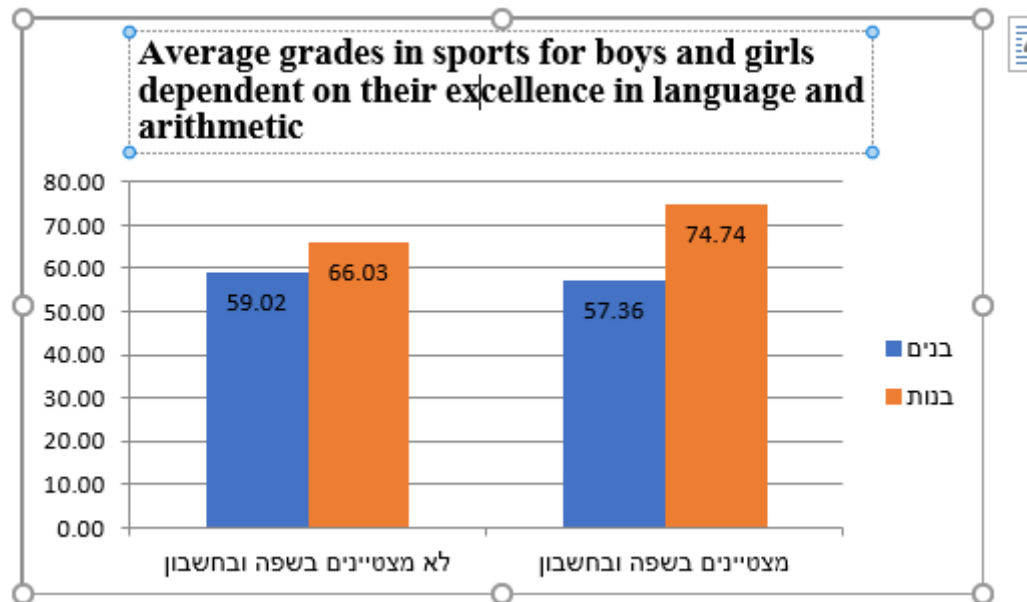
²⁵ (Lirgg, 1993)

²⁶ (Gordon-Larsen, McMurray, & Popkin, 2000)

²⁷ (Neumark-Sztainer, Story, Hannan, & Rex, 2003)

²⁸ (Moira & Sinclair, 1992)

Conclusions



As can be observed by the above-mentioned chart, for the boys, there is a difference of about 1.66 points in the average scores in sports in favor of the pupils who are excellent in language and arithmetic.

In addition, for the girls there is a difference of 8.71 points in the average scores in sports in favor of the pupils who are excellent in language and arithmetic.

A statistical examination of these differences in significant averages by performing two-tailed t-tests, both for the boys and for the girls, based on the average differences between the excellent pupils in language and arithmetic and those who are not excellent in language and arithmetic.

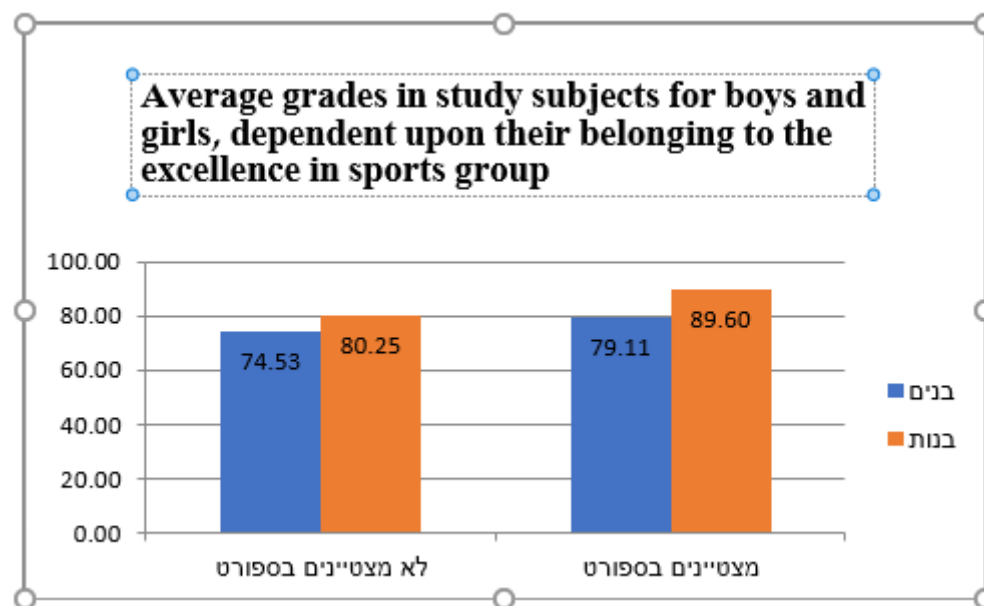
For the boys, the results received were $t = -0.445$ and, accordingly, $P = 0.657$ meaning an insignificant difference.

For the girls, the results received were $t = 3.23$ and, accordingly, $P = 0.001$, meaning a significant difference.

This significant difference between the genders is revealed as well in relation to excellence in sports:

The definition for an excellent student in sports as a student belonging to the group classified as 10%, meaning of the students were boys, and 29 of the students were girls, having the highest scores in sports.

Regarding boys who received a score of at least 82.29 in sports, and girls who received a score of at least 84.5 in sports.



As one can observe from the chart demonstrated above, for the boys, there is a difference of approximately 4.58 points in average in the study subject grades, in favor of the boys who are excellent in sports.

In addition, there is a difference of approximately 9.35 points in average grades for study subjects, also in favor of the group of girls who are excellent in sports.

To examine if these differences in averages are significant by performing two-tailed t-tests both for boys and for girls, on the difference in averages between the excellent pupils in sports and those who are not excellent in sports.

For the boys, a result of $t = 1.238$ and accordingly, $P = 0.217$ meaning the difference is insignificant.

For the girls, a result of $t = 3.52$ and accordingly, $P = 5 * 10^{-4}$. Meaning the difference is significant.

Therefore, it can be concluded that the higher the score for both boys and girls in excellence in sports has a direct impact on their grades in study subjects. As can be observed from the graphs grades for study subjects in language and mathematics are impacted by physical exercise, a fact worthy of bringing to the pupils' awareness.

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