



Mini Review

EMPATHY IN CHILDREN WITH HYPERACTIVITY SYNDROME WITH ATTENTION DEFICIT

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ABSTRACT

In recent years, hyperactive children are the subject of increased scientific interest. The increasing attention of researchers is because of the fact that abnormalities such as aggression, hyperactivity, etc. grow exponentially in the rising population. For other authorities and specialists development of empathy is one of the most important skills and abilities. Altruistic and empathic behavior now appears perhaps the only effective tools for suppressing the unadaptive behavior among young people. All this provokes the conduct of a study, the aim of which is monitoring and measurement of empathy and empathic behavior in children and students diagnosed with hyperactivity syndrome with Attention Deficit.

Key words: empathy, hyperactivity, behavior.

Recently children with hyperactivity syndrome are subject to increased scientific interest. The increased attention of the scientists is determined by the fact that deviations like aggression, unsocial, hyperactivity etc. grow exponentially in the rising population. According to different authors and specialists (1) the development of some social skills, the development of the empathic and altruistic behavior are the only effective tool for suppressing the maladaptive behavior among the adolescents.

The process of forming the empathy in humans unfolds throughout their lives. Starts with the family, continues in the periods of study, at the different levels of education, in the career and the social contacts that the human being establish and implement in his life. Nowadays, there are many barriers which constitute an obstacle to the development of values, qualities, virtues and skills such as empathy, compassion, humanity, warmth, dedication, kindness, helpfulness and

etc. These barriers are also represented as the major problem for socialization of adolescents with behavioral and emotional problems, such as hyperactivity syndrome with attention deficit. The development of empathy and involvement not only depend on the genetic determinism to respond, but also on the socializing with others and on the construction of various forms of positive communication. Its development goes through different stages, which depend both on the development of cognitive processes with which the child perceives the relationship between the Self and other emotional, and the emotional connections and experiences gained from joint activities with others. All this provokes conducting a study related to monitoring and measurement of empathy and empathic behavior in children and students diagnosed with hyperactivity syndrome with attention deficit.

The main goal that was set in relation to the study was to explore empathy in the structure of social skills and abilities in its manifestation in children from a broad age range (5-12 years) diagnosed with the syndrome of hyperactivity with attention deficit.

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To realize the goal the following *tasks* were set:

1. To examine and analyze the problems associated with the syndrome of hyperactivity and attention deficit and empathy and its manifestations among children diagnosed with the syndrome of hyperactivity with attention deficit.
2. To find or develop a methodical system for investigation of empathy and its manifestations in children and students diagnosed with hyperactivity syndrome with attention deficit.
3. To explore empathy and its manifestations in a broad age range (5-12 years) of children diagnosed with the syndrome of hyperactivity with attention deficit according to the methodology adopted.
4. To analyze and summarize the results and to identify trends, conclusions and recommendations for practice.

The goal, objectives and research questions directed to the following *speculations*:
Speculation 1: It is assumed that hyperactive symptoms in children diagnosed with the syndrome of hyperactivity with attention deficit affect the incidence and development of empathy.

Speculation 2: It is assumed that the tested levels of empathy in diagnosed children will be with lower values compared to the tested levels of empathy in the control group of children.

Speculation 3: It is assumed that girls are more empathic than boys and will express a greater degree of empathy.

The subject-matter of the study were regularities and characteristics of empathic manifestations in children diagnosed with hyperactivity syndrome with attention deficit and *the object* of this study were empathic manifestations in 5-12 year old children diagnosed with the syndrome of hyperactivity with attention deficit.

The survey included a total of 90 children, of which 29 girls and 61 boys, 30 of them were diagnosed with AD/HD (representing experimental group) and 60 were in the standard (representing reference group) randomly chosen. The thirty children diagnosed in turn included 4 girls and 26 boys. The undiagnosed children included 35 boys and 25 girls. The age of the participants in the study was 5-12 years. The contingent of children studied was from Plovdiv,

Krichim and Veliko Tarnovo. Tool for the study methodology was used to seek the views of teachers to evaluate the development of empathy in children, composed of materials of e. Stetson and R. Stamatov. The methodology that requires the opinion of teachers to evaluate the development of empathy is composed of 35 statements reflecting typical empathic behaviors that children demonstrate in their daily lives. It assesses and measures the affective and cognitive empathy:

- Cognitive empathy indicates the ability of children to recognize their own and others' emotions;
- Affective empathy means the ability to respond to emotional states of other people with similar emotions; foreign emotions can be the emotions of someone with whom the child has a close relationship or children of the group in a given situation; situation itself may be immediate or remote – shared story of a hero from another time or place to whom something happened (2).

The methodology consists of two subscales: subscale 1 (affective arousal) and subscale 2 (rising to a foreign point of view). Subscale 1 is composed of three scales to measure the affective arousal and subscale 2 is composed of four scales that measure the ability to stand in another perspective. Before the start of testing are given the following instructions: Before you are 35 items that describe behaviors that must be demonstrated by the child during the day. According to the knowledge you have about the child, mark the number that best describes the frequency of what the items specify. 1 – never or rarely /about 10% of the time and less/;

2 – rarely /about 20-30% of the time/;

3 – sometimes /about 40-60% of the time/;

4 – frequently /about 70% of the time and more/.

Although difficult, try to answer any allegation as objective and independent as you can – do not leave the general impressions that you have of the child affect the responses of the individual claims; consider the responses of individual statements themselves. It is important to evaluate all claims regardless of the difficulties that you will encounter in the assessment of an individual

claim. Obtained from the instrument were processed with SPSS program and STATISTIKA method, the data analysis with ANOVA. Influence of gender and group on the raw score on the method of empathy can be studied best through organization of raw data in two-factor learning plan.

After the survey and the statistical analysis the following results were obtained: first was put out the two-factor learning plan to investigate the

influence of GENDER with two levels of boys and girls, and GROUP with two levels of Experimental and Control on the mark of **subscale 1 (affective arousal)**.

1. **Dependent variable: the mark of subscale 1 (affective arousal).**
2. **Independent factors:**
 - Gender – $F=8,1592$; $p=0,00534$**
 - Group – $F=24,497$; $p=0,000$**
 - Interaction between the two factors – n. s.**

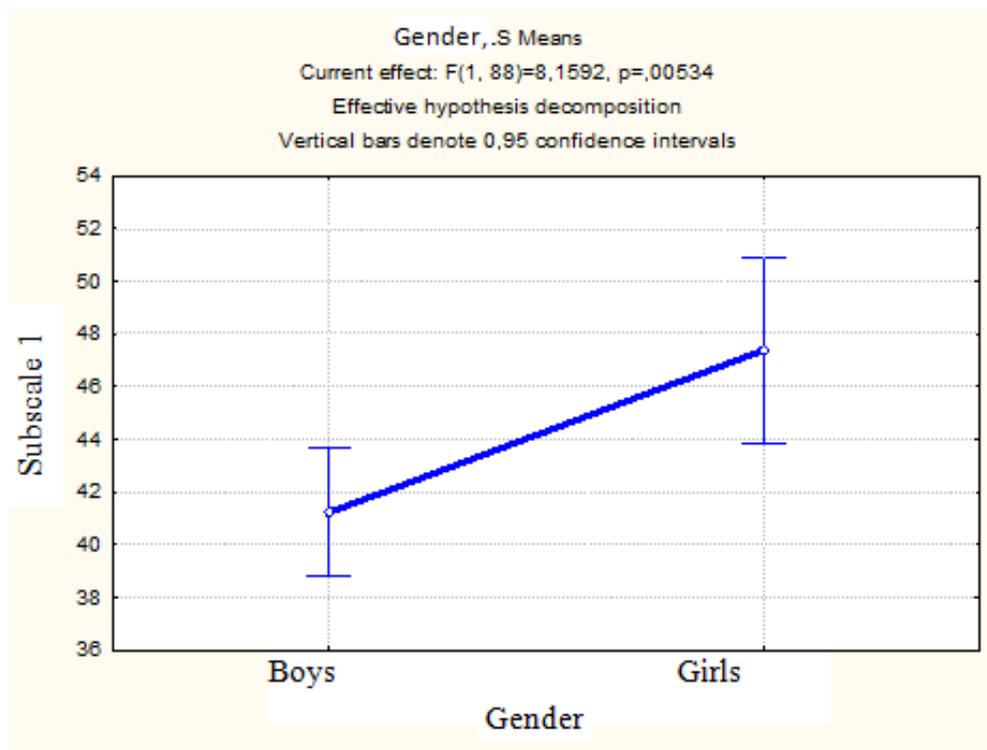


Figure 1. Influence of **gender** on the dependent variable – raw score according to subscale 1 (**affective arousal**).

The graph of **Figure 1** shows the difference in terms of gender on the dependent variable raw score according to subscale 1 (**affective arousal**). It is evident that the boys have an average raw score less than 41,0 and the girls have a higher average score of approximately 47,5. This indicates difference in answers between the participants in the study of male and female gender, in favor of girls, i.e. they have demonstrated much higher levels of empathy in their answers than boys.

With regard to the responses according to subscale 1 (affective arousal) between girls and boys in both groups the received differences are with statistical significance ($F= 8,1592$, $p= 0,00534$).

Compared to the resulting data expressed in this schedule we may seek an explanatory element in the context of more flexible, more efficient and more emotional social behavior to certain social norms for the female participants.

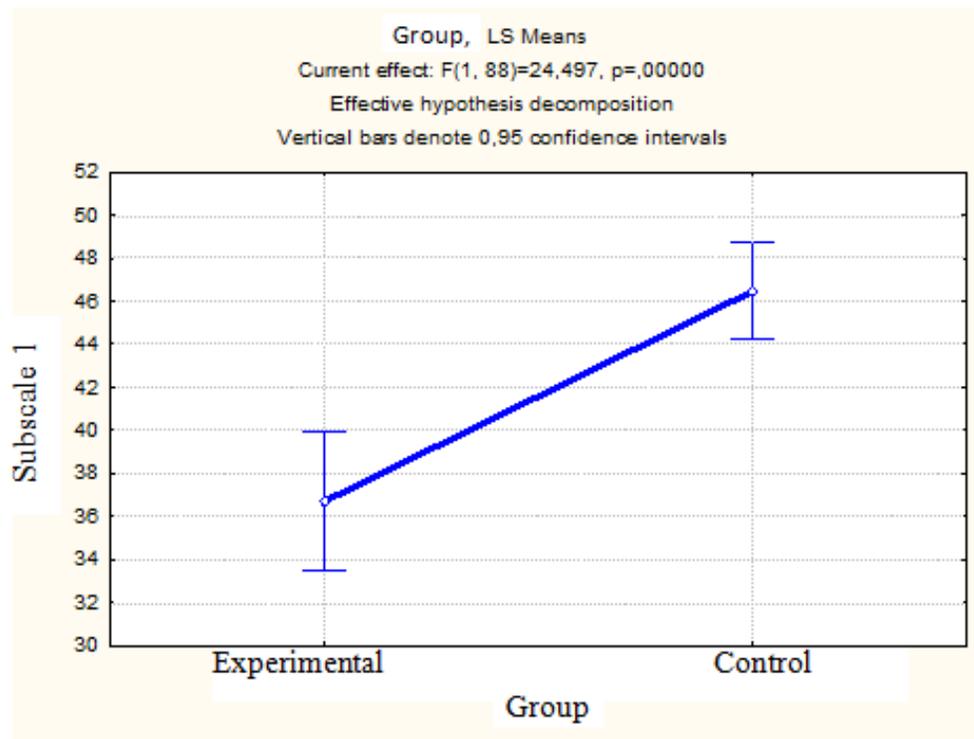


Figure 2. Influence of **group** on the dependent variable – raw score according to subscale 1 (**affective arousal**).

The influence of the independent group factor on the dependent variable raw score according to subscale 1 (**affective arousal**) was statistically significant ($F = 24,497$; $p = 0,00000$). In the presented schedule can be clearly stand out the higher raw score of children in the control group. The centeredness of the responses varies between 46,0 and 46,5. Accordingly, it is also clear the law raw score in children of the experimental group. It is centered between 36,5 and 37,0. This means that study participants in the control group exhibited much higher levels of affective arousal compared with participants in the study of the experimental group. Compared to the resulting data expressed in this figure we may seek explanatory aspect in the context of more flexible, more efficient and more emotional social behavior to social norms in the participants from the control group. (**Figure 2**)

On the **Figure 3** is expressed the interaction between gender and group on raw scores of the subscale 1 (**affective arousal**). When the boys

from both groups (control and experimental) shows that there is a little extensiveness in the responses, respectively the experimental group raw score is approximately 36,5 and the control it is approximately 45,0. In girls, both groups show greater extensiveness in the responses compared to the responses of the boys from both groups. For the girls from the experimental group the raw score is little less than 35,0 and for the girls from the control group the raw score is expressed around the values of 50,0. At the same time it is shown that there is almost negligible difference in the raw scores of girls and boys from the experimental group, respectively slightly below 35,0 for girls and less than 35,0 for boys. For boys and girls in the control group has a great difference in the raw score, the boys just little under 45,0 and for the girls around 50,0. That is where the interaction between the two factors occurs. Although it is not statistically significant ($F = 2, 6157$; $p = 0, 10947$).

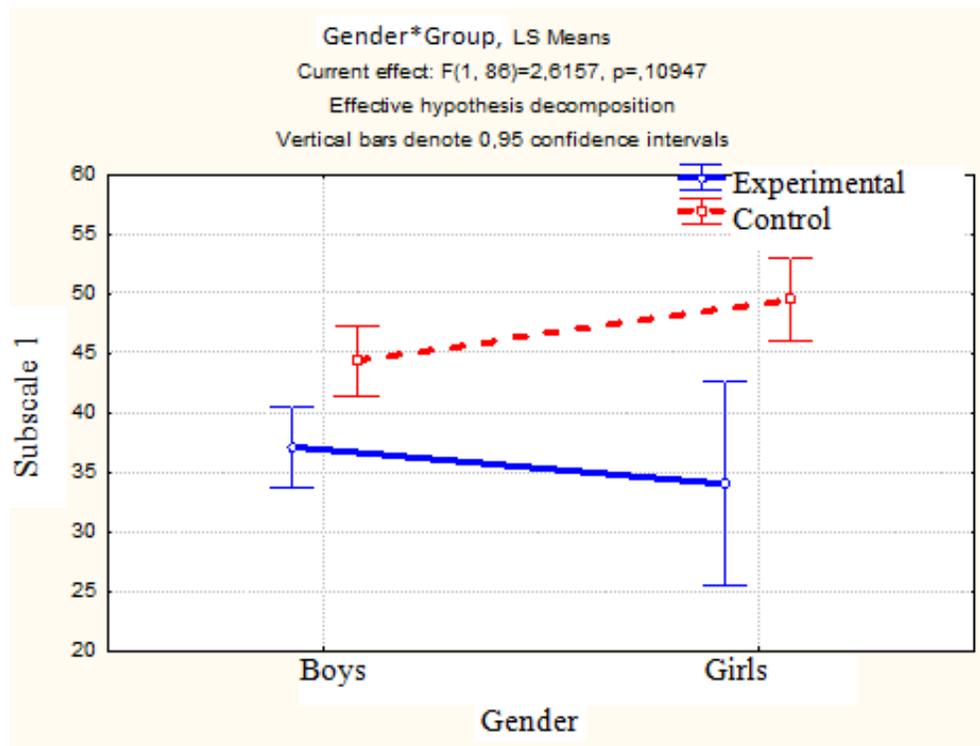


Figure 3. Effect of the interaction between **gender** and **group** on raw scores of subscale 1 (**affective arousal**).

Following is the based two-factor learning plan to investigate the influence of GENDER with two levels of boys and girls, and GROUP with two levels of experimental and control on the ball of **subscale 2 (rising from a foreign point of view)**.

1. Dependent variable: the mark of subscale 2 (rising from a foreign point of view).

2. Independent factors:

Gender – $F=8,6629; p=0,00415$

Group – $F=23,421; p=0,0001$

Interaction between the two factors – n. s.

The graph in **Figure 4** shows that in terms of gender on the dependent variable the raw score on subscale 2 (**rising from a foreign point of view**) of the two groups boys and girls differ significantly. It is evident that boys have average raw score of 52, 0, while girls have higher average score just under 60, 0. This indicates differences in the responses between boys and girls in subscale 2 (rising from a foreign point of view), i.e. the analysis shows that female participants were more likely to put themselves in the place of others and the ability to stand in another point of view is more developed than in the male participants. The influence of the independent factor **gender** on the dependent variable raw score on subscale 2 (rising from a foreign point of view) is statistically significant ($F=8, 6629, p=0,0415$).

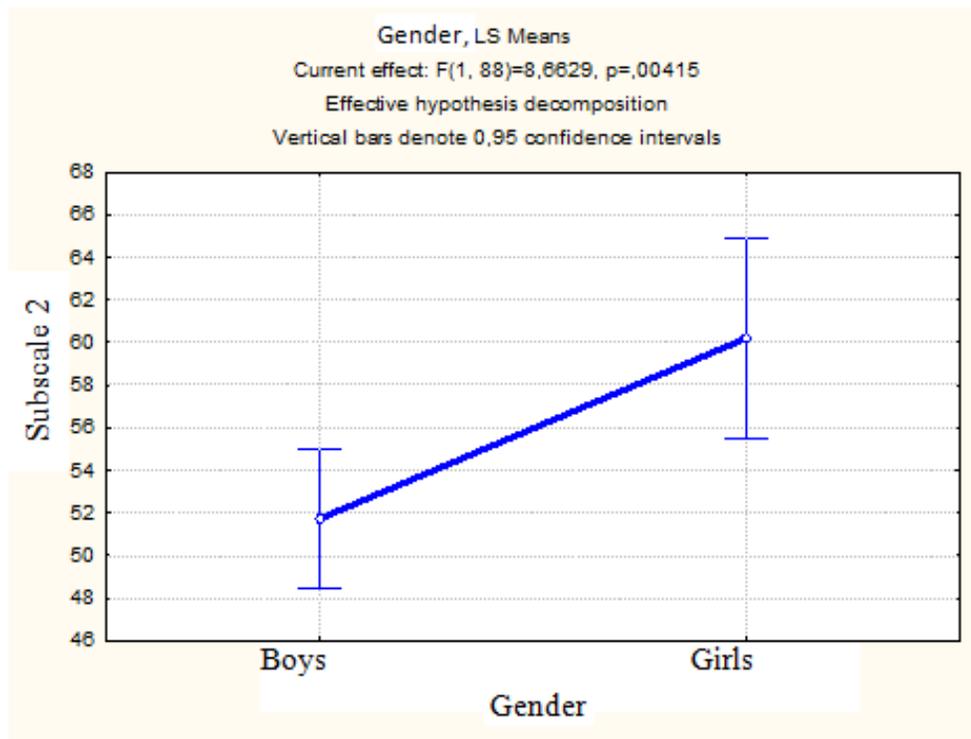


Figure 4. Influence of gender on the dependent variable raw score on subscale 2 (rising from a foreign point of view).

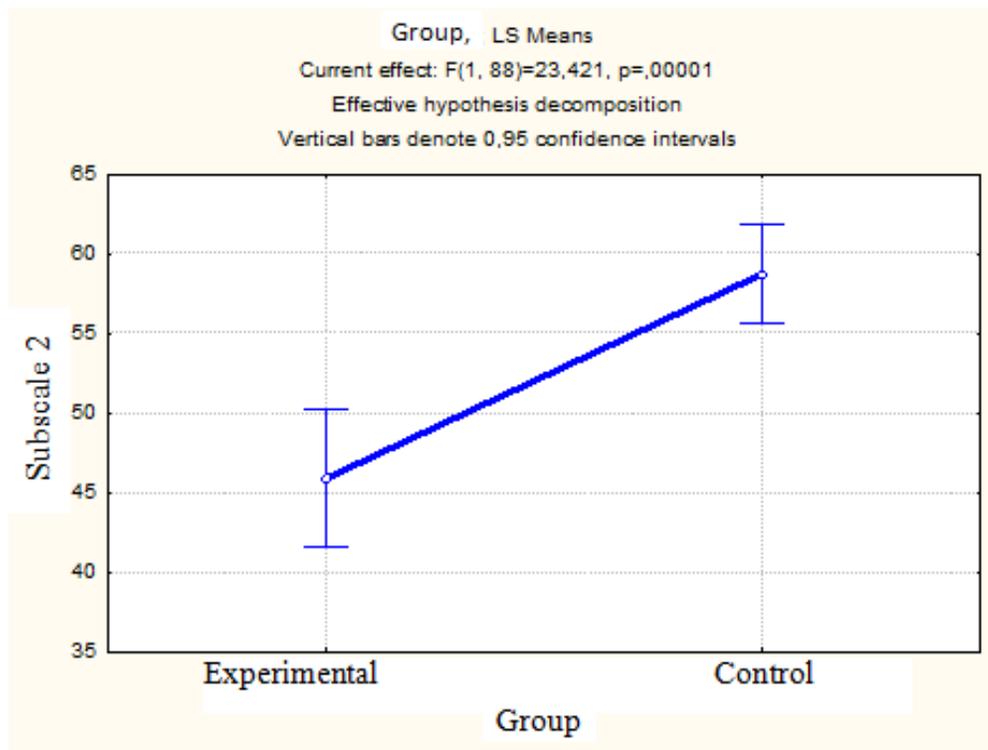


Figure 5. Influence of the factor **group** on the dependent variable raw score on subscale 2 (rising from a foreign point of view).

In the presented graph of **Figure 5** the results of the Experimental and Control group are clearly highlighted on the ball in subscale 2 (rising from a foreign point of view). It is clearly shown here the raw score of children in the control group of subscale 2 (rising from a foreign point of view). The answers are centered around 58,0. Accordingly the low raw score is also clear for the children in the experimental group. It is centered around 46,0. This means that children in the control group were much more likely to stand in the place of others and their ability to rise from a foreign point of view is much more developed than children in the experimental group i.e. the results reflect a certain level of

empathy for the results of subscale 2 (rising from a foreign point of view) to the control group compared with the experimental group.

The influence of the independent *group* factor on the dependent variable raw score on subscale 2 of rising from a foreign point of view is statistically significant ($F(1, 86)=3,3503, p=0,00001$).

Compared to the resulting data expressed in this schedule we may seek explanatory aspect (as in subscales 1, see **Figure 2**) in the context of more flexible, more efficient and more emotional social behavior to social norms in some participants in the control group.

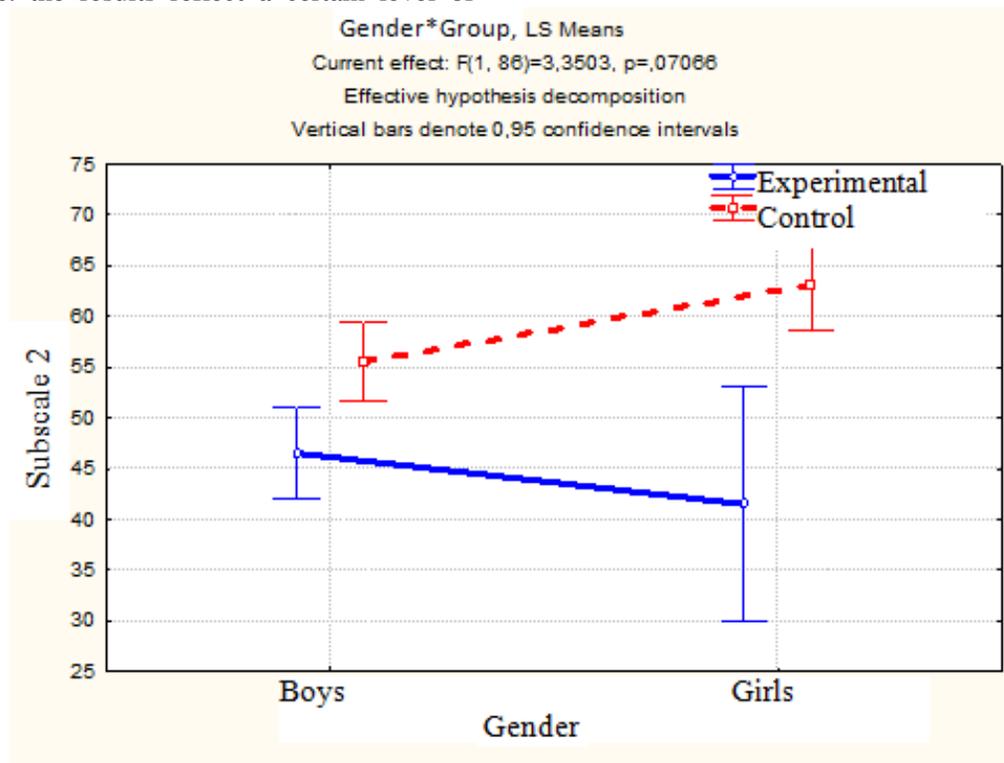


Figure 6. Effect of the interaction between **gender** and **group** on raw scores of subscales 2 (**rising from a foreign point of view**).

The chart is expressed the interaction between gender and group on raw scores of the subscales 2 (**rising from a foreign point of view**). When with the boys from both control and experimental groups shows that there is not much extensiveness in the responses, respectively the experimental group raw score is around 47,0 and for the control is a little over 55,0. With girls, compared to the responses of the boys from the two groups, there is shown greater extensiveness. For girls in the

experimental group raw score is about 42,0 and for girls in the control group the raw score is expressed in values above 63,0. At the same time there is almost negligible difference in raw score of girls and boys from the experimental group, respectively, approximately 47,0 for boys and less than 42,0 for girls. For boys and girls in the control group there is also a difference in raw score, but it can be said to be minor - a little over 55,0 boys and for girls less than 63,0. The difference from a statistical point of view is

small and almost insignificant ($p = 0,07$), but is very close to significant values ($p = 0,05$). Therefore, this result can be interpreted as a trend for significant differences in both factors.

The analysis of the obtained results confirmed the admitted hypotheses. The questionnaire requesting the opinion of the teacher for evaluation and development of empathy showed gender difference with higher statistical significance in both basic scales.

The results obtained in terms of *gender* showed that female participants were more involved and more empathic compared to male participants. Compared to the resulting data there can be searched explanatory aspect in the context of more flexible, more efficient and more emotional social behavior to social norms in some female participants. Explanatory context can also be seen in connection with the existence of certain social attitudes related to gender differences. Regarding the factor group the methodology that required the opinion of the teachers showed that the levels of demonstrated empathy are higher for undiagnosed subjects (control group). This means that participants diagnosed with the syndrome of hyperactivity with attention deficit are behind their peers in skills to feel empathy and to be at the place of the other. In the opinion of many teachers, participants diagnosed as hyperactive have serious difficulties in borrowing foreign point of view. This result probably has its logical explanation. You must agree to the fact that the life of children diagnosed definitely is not easy. The disorder clearly has a negative impact on the development of social skills. Researchers have identified that social challenges in children with Attention Deficit disorder include damaged relationships with peers, unacceptable interactions, encountered difficulties in maintaining friendships, lack of social adaptation and appropriate social behavior (3, 4, 5). Usually they are really missed and ignored, and in many cases this is simply because they are misunderstood not only by their peers but even by the adults. Here we should mention the existing negative attitudes and social stereotypes towards the different children. This type of interaction surely affects the development of social skills in adolescents with hyperactivity syndrome with attention deficit.

The main symptoms of the disorder should not be underestimated. Although, hyperactive children are with fully preserved intellect and according to many authors (6, 7) they are not infrequently more intelligent than their peers in norm, though the deficit of attention, impulsivity and hyperactivity appear barrier in the development of skills such as compassion and empathy. Maybe, because for the not good concentration in these children, many situations provoking empathic response are unnoticed or are unaware refracted through the child' prism in a different way. Many teams of authors believe that these difficulties in children with ADHD are conceptualized as deficits in basic skills that make them unable to properly develop appropriate social behavior. Based on this model, learning and practicing social skills have become highly distributed form of therapy in the syndrome of hyperactivity with attention deficit. It follows the concept that the social deficits of individuals with ADHD can't be primarily the result of lack of social skills, but rather the lack of efficiency in reliably using social skills already acquired (8). Teaching social skills to the lack of skills, but should not be regarded as a lack of effective use of existing skills. Therefore, therapy that leads to immediate changes in the executive functions of the brain may help children with this disorder more reliably use newly acquired skills for communication and interaction (8).

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