DIFFERENCES IN PERSONALITY FEATURES AND ACHIEVEMENT MOTIVATION IN CHILD ATHLETES AND NON ATHLETES

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Abstract. Research results show that athletes and non-athletes differ according to the degree of the incidence of certain personality features. The testing of potential differences in the personality and motivation in children and young athletes can offer useful guidelines for stimulating the development of desired features. The aim of this research was to establish whether there are differences in some personality features and achievement motivation in children involved in football and children non-athletes. Some 56 boys were tested, 12-13 years of age, young football players from the Partizan club, and boys not involved in sports. Cattell’s HSPQ form A questionnaire was applied, as well as the MSP questionnaire for testing sports achievement motivation. A t-test for independent samples was used to process the data. The results showed that children involved in sports were emotionally more stable and mature, with a better self-control of their emotions and behavior, as well as being more self-assured, more responsible, amenable, relaxed, and more motivated to attain achievements and to cope with achievement. Differences were established on the HSPQ-C, HSPQ-G, HSPQ-H, HSPQ-O, HSPQ-Q3, HSPQ-Q4, MSP-P, MSP-F+ and MSP-F-dimensions. With an adequate pedagogical-psychological approach and in a sports context, it is possible to advance the sports affirmation of talented children, as well as to stimulate the conveying of desired personality features and motivation into other areas of life.

Key words: personality, motivation, HSPQ, achievement, football

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INTRODUCTION

The correlation between psychological features and sports can be examined from at least two angles. First from the aspect of sports, there is the question which childhood personality features imply potential affirmation and sports success on a senior competition level. Second, from the angle of sports psychology and pedagogy, there is the question whether it is possible to impact the development of personality features through the didactic and educational process which will serve to affirm the sports potential of the individual as well as the optimal development of the personality as a whole. Along with this, there has been for a long time a tendency in sports to define the parameters of top sports achievement, thus establishing the criteria of selecting young athletes (Bompa, 1999). The “discovering talent” programs mostly endeavor, by combining the assessments of the correlations of innate features and the demands of a certain sport, as well as the abilities developed through the training process, to predict the potential maximum range of sports achievement (Durand-Bush & Salmela, 2001; Lidor, Côté & Hackfort, 2009).

Research has shown that athletes who have been considered to have potential received different treatment from coaches and PE teachers, in comparison with those children who are considered to be less talented or untalented for sports. This phenomenon is called “the expectation effect,” a well-known phenomenon in literature which involves the correlation superior-subordinate, such as the Hawthorne effect, the halo effect, and the Rosenthal effect (Thomas, Nelson, & Silverman, 2011). On the other hand, the factor which arises from the personality of the coach or the PE teacher is a personal orientation, a more permanent dispositional direction. It has been shown that an a priori attitude of the coach regarding the most effective approach for motivating athletes in order for them to give the maximum of their potential significantly impacts the motivation of the athletes themselves (Mageau & Vallerand, 2003).

The results of psychological research also show that emotional stability, self-confidence, stubbornness, self-motivation, self-control, ambition, social skills and steadfastness, that is, low-level anxiety and neurosis, are features which most often distinguish athletes from non-athletes (Anshel & Lidor, 2012). Similar results have also been obtained in the research carried out on our athletes. The features which athletes have to a large extent in comparison with non-athletes are emotional stability, conviviality, self-confidence, mental sharpness, orientation towards achievement, sociability, and a lack of anxiety (Lazarević, 2003).

The aim of this research was to establish whether there are differences between children who are actively involved in systematic sports training and children not systematically involved in sports activities. Based on the results of the hitherto research, it can be presumed that there are some statistically significant differences in the degree of possessing certain personal features in children athletes and non-athletes. The tasks of the research were to establish which personal features differentiate children athletes from non-athletes. The implications of the obtained results point out the potential importance of some personality features for the process of discovering sports talent, as well as the importance of developing certain personality features through the didactic and educational process, in the aim of an optimal psychological development of all children (athletes as well as non-athletes).

**Personality features and sport**

Based on the hitherto research, it follows that children who are actively involved in systematic sports training differ as per some personality features from children who are not
involved with sports in an organized and pedagogically directed way (Anshel & Lidor, 2012; Lazarević, 2011; Lidor et al., 2009), as well as those children who are involved in different sports or belong to different cultures (Mladenović, 2011; Mladenović & Marjanović, 2011).

One of the personality theories which had a great impact on the psychology of sports and research of personal features in this area of psychology is Cattell’s personality theory. The personality tests which ensued from Cattell’s theory have for decades been widely used in studies and in practical psychological work with athletes (MacNamara, Button, & Collins, 2010; Abbot & Collins, 2004; Spamer & Coetzee, 2002; Havelka & Lazarević, 1981).

Cattell considered that there were two classifications of features, that is, personality dimensions. One classification is of original and superficial dimensions, and the other one is of innate and environmental ones. The original personality dimensions are more basic, as they impact behavior in different situations and are responsible for a relative consistency in behavior. The superficial personality dimensions are linked with behavior in certain situations. The original, as well as the superficial personality dimensions, can be more under the impact of innate or environmental factors.

Cattell established that there were sixteen original personality dimensions in adults, while in persons younger than seventeen there were, according to the results of Cattell’s research, fourteen such factors (Boyle & Burton, 2008; Kline, 2008; Cattell, Cattell, & Delhees, 1984). These fourteen personality dimensions are the following: Affectothymia - Sizothymia, crystallized intelligence, Ego Strength, Temperament, Dominance – Submissiveness, Surgency – Desurgency, Super Ego Strength, Parmia – Threctia, Premria – Harria, coasthenia, tranquility – self-accusation, Group Adherence – Self-Sufficiency, self-sentiment and the level of Ergic Tension (Cattell, et al., 1984; Mladenović, 2011).

The personality dimensions denoted as Affectothymia – Sizothymia relate to openness, a readiness for cooperation, cheerfulness, adaptability rather than restraint, a rigid attitude, skepticism, a reduced inclination towards communication. Cattell defined crystallized intelligence as the ability to understand ideas, the speed of learning and problem solving, which to a large extent depends on the culture of the individual. The ego strength dimension is measured by the constancy of feeling, maturity and veracity of viewing life problems, a tendency towards exhilaration, the tolerance level for frustration, which all point to the ability of integrating instinctive tendencies and demands of the social environment, which is manifested by the possibility of rationally managing inner impulses and emotions.

One end of the temperament dimension points to impassivity, a tendency towards contemplation, constancy, placidity, and the other one relates to the tendency of excitability, overstated activity, impatience, and fluid attention. A significant dynamic disposition relates to dominance, that is, submissiveness. For competitive success, the inclination for competitive attestation, self-affirmation, controlled aggression is significant, as opposed to the tendency towards submissiveness, dependency, obedience, and conformism. Surgency is marked by showing joyfulness, casualness, enthusiasm, level of activation, while desurgency relates to taciturnity, withdrawal, apprehension, vigilance, and sluggishness.

Super ego strength is the personality dimension which relates to the behavior determined by super-personal aims and ideals. The basis of such behavior are moral principles which condition the displaying of personal features such as conscientiousness, responsibility, feeling of duty, perseverance. Parmia as opposed to trectia indicates the degree of domination of the sympathetic, that is, the parasympathetic nervous system.
The dimension which Cattell calls Premia–Harria has a strong motivational component and relates to a “soft” or a “hard” temperament. Coasphenia denotes the tendency of being cut off, personal wariness and reticence. The opposing end of this dimension points to the tendency of being within a group or with a group, accepting general standards and setting the group before the personality.

The dimension of “tranquility” as opposed to “self-accusation” relates to the tendency of feeling guilt, an inclination towards negativity, and worry and anxiety in any challenging situation. Group dependency unlike self-sufficiency is a dimension which speaks of the fact whether the athlete is dependent and insecure in bringing her/his own decisions or s/he ignores other people’s opinions as s/he is in no need of support and help. Cattell described the dimension he called “self-sentiment” as an internalizing of attitudes which are subject to social influences and values, and it is displayed as self-controlling behavior and tendency to leave a favorable impression. The last personality dimension refers to the level of Ergic Tension.

**Motivation, achievement and sport**

It was McClelland (1987) who first defined achievement motivation as a tendency to invest effort, to achieve and realize something considered valuable. The first research into achievement motivation pointed to some significant features of this motivation (Raphelson, 1957; Voegel, Baker, & Lazarus, 1958). It was shown that persons with a low score of achievement motivation showed a larger physiological awareness and level of activation, as typically they had high scores in the fear of failure whose direct product is anxiety, which led to heightened physiological awareness. A direct opposite to achievement motivation and the desire for success is fear of failure (McClelland, 1987). In the foundation of achievement, motivation is the desire to do something better than others, but not every task is equally discriminatory in this sense. McClelland considered that persons with stressed achievement motivation prefer moderately difficult tasks. If the task is too easy there is no issue of someone “better,” as everyone can carry it out, while in the case of very difficult tasks there is a large risk of failure which does not seem stimulating for persons with strong achievement motivation (McClelland, 1987). Endeavoring to explain these experimental results, Atkinson (1964) developed a formal model which showed that people with strong achievement motivation preferred moderately difficult tasks. The value of success was directly proportional to the difficulty of the task. The preference of different tasks was a multiplicative function of achievement motivation, the probability of success and the stimulating value of success.

Unlike Atkinson, Weiner (1980) considered that persons with strong achievement motivation preferred moderately difficult tasks, not because they find in them an inner satisfaction but because success in such tasks can attribute to their effort.

The research carried out by Elliot and associates in the 1990s pointed to other important features of achievement motivation which can also be important in a sports context (Elliot & Harackiewicz, 1996; Elliot & Church, 1997; Elliot & Sheldon, 1997). This involved three different and relatively independent motivational orientations. These are orientations directed towards developing competence, an orientation focused on avoiding negative assessment about competence and an orientation focused on gaining a positive mark on competence. The first orientation is directed towards acquiring new knowledge and skills, while the referential point for assessing success is in the individual. There are high expectations in regards to the aims which individuals set for themselves and a generalized
desire for success. Totally opposite in regards to the former, an orientation directed at avoiding a negative assessment about competencies is rooted in the fear of failure. The consequence of fear of failure is a general tendency to avoid mistakes, as individuals usually set very low expectations for themselves. Unlike McClelland who considered that fear of failure is only another side of the coin of achievement motivation, Elliot and associates showed that there are two totally separate tendencies (Elliot & Church, 1997). The orientation focused on gaining a positive assessment of competence is the most complex and represents a mixture of the former two. While the first orientation stems from achievement motivation and the other from fear of failure, the third orientation at the same time contains the desire to succeed as well as fear of failure. An individual with such an orientation has high expectations from themselves, but the impellers for action alternate the desire to succeed and the fear of failure. The orientation directed towards developing competence and the orientation directed towards avoiding a negative assessment of competence are relatively stable and immutable. The orientation directed towards gaining a positive assessment of competence is subject to the influence of the environment, which can be used in order to orient this type of orientation through a didactic and educational process towards a more positive and productive direction (Elliot & Church, 1997; Elliot & Sheldon, 1997).

In the sports context, it has been shown that it is more significant to test the motivation of sports, and not general achievement, even though top athletes show better results than non-athletes on the tests of general achievement motivation as well due to a positive transfer of achievement motivation for different activities (Havelka & Lazarević, 1981). Considering that achievement motivation differs in accordance with individual interests, it can be said that for the assessing of tenacity and success in sport, the most discriminating motive is sports achievement. Considering that the situations of achievement in sport are very often linked with emotions, Havelka & Lazarević (1981) concluded that for understanding achievement motivation in sports it is important to also take into consideration two dimensions of emotional reactions in a sports context. One dimension relates to the level of positive emotional engagement, self-control and stability. The second dimension of emotional reaction in sports situations relates to emotional inhibition and instability in situations of achievement. Affirmed active athletes are less prone to experiencing emotional blocks and losing control over emotions in emotionally tense situations, such as situations in which there is the open and inevitable question of success or failure and the result of sports competing. Top athletes actively endeavor to eliminate the “failure expectation” attitude and to use different defense strategies and mechanisms in a sports achievement situation as little as possible (Havelka & Lazarević, 1981).

METHOD

Participants

A total of 56 respondents were tested: 28 young football players from the Partizan club and 28 boys who were not involved in sports. The largest number of respondents were 12 years old (73.2%), and 26.8% were 13 years old.
Instruments

Two measuring instruments were used in the research. For measuring dimensions, HSPQ, form A was used (Cattell et al., 1984), and MSP for testing sports achievement motivation (Havelka & Lazarević, 1981). The HSPQ test dimensions were the following: A (Sizothymia – Affectothymia), B (Crystallized Intelligence), C (Ego Strength), D (Temperament), E (Dominance – Submissiveness), F (Surgency – Desurgency), G (Super Ego Strength), H (Parmia – Threctia), I (Premsia – Harria), J (Coasthenia), O (Tranquility – Self-Accusation), Q2 (Group Dependency – Self-Sufficiency), Q3 (Self-Sentiment) and Q4 (Ergic Tension). The MSP scale contained three components: sports achievement motivation (P), Emotional Self-Control (F+) and Emotional Inhibition (F-).

Statistical analysis

Mean and standard deviation were measured for every dimension on the HSPQ and MSP test for the subsample of child athletes and for the subsample of child non-athletes. The significance of the differences between the two subsamples was tested by the t-test for independent samples.

RESULTS

By testing the differences in certain personality dimensions and motivation it was shown that there are some statistically significant differences between children who are actively involved in sport and children non-athletes.

As can be seen in Tables 1 and 2, there are some statistically significant differences between the young football players from the Partizan club and children non-athletes from the control sample, regarding certain personality dimensions and on all the dimensions of the test of sports achievement motivation.

It was shown that children who were actively involved in sports are emotionally more stable and mature (HSPQ-C), with more consistent interests, a greater tranquility especially in stressful situations or in situations when it is important to pay attention to facts and not one’s emotional needs. A significant difference in favor of the children involved in sports was also obtained in the super ego dimension (HSPQ-G). This means that the young athletes were more serious, conscientious, responsible and more aware of their commitments and duties. The results of this research also showed that young athletes were more open and friendly, active, intrepid and statistically significantly less shy than children who were not involved in sports (HSPQ-H). Also, children athletes were more significantly and steadily self-confident and joyous, while children who were not involved in sports were more prone to insecurity, fear, anxiety, self-accusation and displayed a tendency towards less stable self-confidence which changed easily under the impact of momentary praise or criticism (HSPQ-O). Along with this, it was established that there was a significant difference in regards to the self-sentiment which goes in favor of young athletes (HSPQ-Q3). This means that children athletes had better self-control, managed their emotions and behavior with more ease, and were socially more aware and vigilant. On the other hand, there was a significant difference also in the dimension of personality which indicates the level of ergic tension (HSPQ-Q4). It was shown that young athletes were less tense, more relaxed, stable, controlled their physical tension more easily, while young non-athletes were more prone to being tense, restless and irritable.
Table 1 Differences in HSPQ test dimensions between young FC Partizan football players and the control sample (N=56)

<table>
<thead>
<tr>
<th>HSPQ</th>
<th>FC Partizan M</th>
<th>SD</th>
<th>Control sample M</th>
<th>SD</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>6.07</td>
<td>1.88</td>
<td>6.00</td>
<td>0.77</td>
<td>0.186</td>
</tr>
<tr>
<td>B</td>
<td>4.79</td>
<td>1.66</td>
<td>4.50</td>
<td>2.38</td>
<td>0.521</td>
</tr>
<tr>
<td>C</td>
<td>7.00</td>
<td>1.39</td>
<td>5.29</td>
<td>1.44</td>
<td>4.542*</td>
</tr>
<tr>
<td>D</td>
<td>5.14</td>
<td>1.51</td>
<td>5.54</td>
<td>1.71</td>
<td>-0.912</td>
</tr>
<tr>
<td>E</td>
<td>5.71</td>
<td>1.51</td>
<td>5.96</td>
<td>1.43</td>
<td>-0.636</td>
</tr>
<tr>
<td>F</td>
<td>4.57</td>
<td>2.15</td>
<td>4.93</td>
<td>1.90</td>
<td>-0.658</td>
</tr>
<tr>
<td>G</td>
<td>6.38</td>
<td>1.52</td>
<td>5.18</td>
<td>1.25</td>
<td>3.169**</td>
</tr>
<tr>
<td>H</td>
<td>6.25</td>
<td>1.62</td>
<td>5.25</td>
<td>1.51</td>
<td>2.389*</td>
</tr>
<tr>
<td>I</td>
<td>6.39</td>
<td>2.36</td>
<td>6.61</td>
<td>1.97</td>
<td>-0.369</td>
</tr>
<tr>
<td>J</td>
<td>5.36</td>
<td>1.87</td>
<td>6.14</td>
<td>1.38</td>
<td>-1.789</td>
</tr>
<tr>
<td>O</td>
<td>2.74</td>
<td>1.46</td>
<td>4.57</td>
<td>1.57</td>
<td>-4.495**</td>
</tr>
<tr>
<td>Q2</td>
<td>4.82</td>
<td>2.02</td>
<td>5.68</td>
<td>1.28</td>
<td>-1.898</td>
</tr>
<tr>
<td>Q1</td>
<td>6.61</td>
<td>1.71</td>
<td>4.79</td>
<td>1.42</td>
<td>4.336**</td>
</tr>
<tr>
<td>Q4</td>
<td>4.14</td>
<td>2.05</td>
<td>5.36</td>
<td>1.79</td>
<td>-2.362*</td>
</tr>
</tbody>
</table>

*p<0.01;  **p<0.05

In regards to sports achievement motivation, it was shown that children athletes were more significantly motivated for success in sports (MSP-P). There were also significant differences in regards to positive (MSP-F+), as well as negative (MSP-F-) emotions which are an inevitable part of sports competitions. A significant difference in positive emotional engagement in sports speaks in favor of young athletes, which means that already at the age of 12 - 13 they managed to develop a positive and stable affective relationship towards competition and a stable achievement motivation. On the other hand, a negative emotional reaction linked with sports competitions was statistically more significantly present in children non-athletes, and thus we can in the future expect more spectators who change TV channels during uncertain moments in a sports match.

DISCUSSION

Some research has shown that there are certain specificities in parental education and behavior which can lead to the development of achievement motivation (Weiner, 1980). For example, it was evident that those with a strong achievement motivation had parents which had early on in their childhood encouraged independence, setting high demands, rewarding success and punishing unacceptable behavior. For the development of
achievement motivation in boys, the father’s role is the key one, while the mother’s role is more important for girls. Women who develop achievement motivation grow up with non-traditional, permissive parents who stimulated and rewarded success, with mothers particularly holding success, independence and ambition in high esteem. Research has also shown that the line between parental behavior which encourages and excessively dominating behavior can be rather thin (Mladenović, 2007).

The results of this research are in agreement with the current theoretical positions and research in sports psychology, but they also offer important implications for education. The general opinion that there are no innate differences between athletes and non-athletes is present in sports psychology, which would a priori create conditions for some children to become affirmed athletes, and others not (Hoffmann, 2013). The differences in personality features are a matter of degree, and through the didactic, educational and training process, it is possible to impact the development of desired personality features (Lazarević, 2003; Guillen & Laborde, 2014).

This research has shown that children involved in sports are emotionally more stable and mature, have better self-control of their emotions and behavior, are more secure in themselves, responsible, more open and relaxed, more motivated to realize achievements and handle situations of achievement better.

Similar results were obtained in a research which used Cattell’s inventories of personality on junior athletes. It has been shown that dimensions of emotional stability and orientation on the group are of a predictive significance for affirmation in team sports (Aidman, 2007). Research in which Cattell’s 16PF questionnaire for adults was used shows that athletes, compared to non-athletes, have a more developed sense of responsibility and greater expectations from themselves, as well as greater emotional stability (Vipene, 2013). They are more tenacious, more prepared for cooperation and possess a larger capacity to remain calm and relaxed in stressful situations (Velichovska, Naumovski, Strezovski, Markovski, & Meshkovska, 2012). Similar results were also obtained with top athletes in Brazil, where it was shown that the athletes had an advantage in all the tested psychological dimensions compared to non-athletes (Filho, Ribeiro, & Garcia, 2005). Such findings for affirmed and top athletes, as well as the results of this research on children involved in sports confirm the significance of sports for developing and learning positive personality features.

The sports and teaching context could be a field within which positive personality features are developed, as well as achievement motivation. Not all children involved in sports become affirmed and top athletes, but the positive transfer of achievement motivation could be forced via the didactic process and the psychological approach of PE teachers and sports coaches to other areas of interest for young people. Stimulating the development of positive personality features via the sports and teaching context would also have a positive reflection on the total psychological functioning of the personality in development and success in other life areas.

A psychological-pedagogical approach which today is very influential in psychology ensues from the theory of self-determination (Deci & Ryan, 2000; Mladenović, 2009; 2015). One of the main premises of the self-determination theory is that there are universal psychological needs for autonomy, competence and connecting with others (Deci, 1996; Ryan & Deci, 2006; Chirkov, Ryan, Kim, & Kaplan, 2003; Chirkov, Ryan, & Wellness, 2005). When the social context, especially in regards to the superior-subordinate correlation, is conducive to satisfying these needs, there is an affirmation of positive capacities and personality features. There are individuals in the role of a superior who have the attitude
that the autonomy of the person in the subordinate position should be respected and valued, such as is the case with school children or athletes. Such people largely respect the feelings and personal circumstances of their subordinates and support their autonomy in work. The second type of person in a superior position values the use of control and gives more significance to the opinions of authority. Such a “controlling” superior attempts to dictate the way of thinking and behavior of the subordinates and uses extrinsic stimuli (Bartholomew, Ntoumanis, & Thogersen-Ntoumani, 2011). By stressing a positive approach within the sports context, the stimulation of the development of positive personality features and achievement motivation can be more efficient.

**CONCLUSION**

This research has shown some significant differences between children who are involved in sports and those who are not. The differences are significant in regards to some personality dimensions and achievement motivation. Children who are involved in sports at the early age of 12-13 show greater emotional stability and maturity, they are more conscientious and responsible, with more self-confidence, open towards others, more active, but also more relaxed and calm, more motivated for achievement and with a better control of their emotions and behavior in situations of achievement. Such results point to the positive character of a sports context for the development of desired personality features and achievement motivation. With an adequate pedagogical-psychological approach, it is possible to stimulate the development of desired personality features and motivation to a larger degree in all children.

**REFERENCES**


RAZLIKE U KARAKTERISTIKAMA LIČNOSTI I MOTIVACIJI ZA POSTIGNUĆE KOD DECE SPORTISTA I NESPORTISTA


Ključne reči: ličnost, motivacija, HSPQ, postignuće, fudbal