4th INTERNATIONAL SCIENTIFIC CONFERENCE ON KINESIOLOGY

“SCIENCE AND PROFESSION – CHALLENGE FOR THE FUTURE”

Proceedings Book

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Science and Profession – Challenge for the Future

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Proceedings Book

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Dragan Milanović and Franjo Prot

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EVALUATION OF THE NEUROTIC SYMPTOMS EXTENSITY IN HIGH SCHOOL ATHLETES

Tonči Bavčević, Josip Babin and Lidija Vlahović
Department of Kinesiology, Faculty of Natural Sciences, Mathematics and Education, University of Split, Croatia

Abstract

By using the N-test on the sample of 186 athletes and non-athletes high school students, the neurotic symptoms incidence has been estimated. Carrying out the T-test did not show any significant difference in the dimensions of the general neuroticism between the athletes and non-athletes, nor between male and female athletes. The obtained results show a low degree of the sport activity effect on the development of personality, which is possible to claim by series of other relevant factors in the process of forming conative space which either cancel or minimise the influence of sport.

Key words: personality, conative dimensions, neuroticism, N-test, high school population

Introduction

The analysis of the conative characteristics or the dimensions of personality in athletes has definitely a significant place in the corps of the study in the area of sport psychology. That is to say, if we agree with the statement that the equation of sport efficiency is the function of sport situation and of all dimensions of athletes, it is clearly seen that the conative factors represent an important component in the subsystem of anthropological dimensions of athletes (Figure 1).

Since the structure of personality, defined as the group of features which ensure the adaptation of man on outside and inside conditions of environment (Horga, 1993), is extremely important for human functioning in all situations, as well as in sport, the necessity of analysis of previously mentioned dimensions also imposes in the case of athletes.

According to the Eysenck’s theory, personality could be described by using three mutually independent dimensions of a wide range: neuroticism, extroversion, and psychoticism (Horga, 1993). In this research our attention will be focused on the dimensions of neuroticism, defined as emotional instability, which is characterised in the behaviour inclined to worrying all the time, being easily excited, having troubled sleep, loss of appetite, anxiety, etc.

The aim of this research is to evaluate the neurotic dimensions in high school athletes, that is, to make tendency diagnosis of the participants according to, so called, general neuroticism (Hújas & Radošević, 1998).

Methods

The sample of participants was taken out, for the purpose of this study, from the population of students from the V. High school Vladimir Nazor, in Split, Croatia, school year 2004/2005. This school has in it's system sport classes, attended by young athletes who are active in their sport clubs. This research has included all four sport classes, as well as four regular ones, that is, non-sport classes; two classes from each grade, 1st to 4th. The research comprised the sample of 186 participants in total. The experimental group (N = 76 male = 29 female) consisted of sport classes students and students from regular classes who regularly take part in sport in sports clubs, while the control group (N = 31 male = 50 female) consisted of students who do not take part in any sport (Table 1).

Table 1. Sample of participants

<table>
<thead>
<tr>
<th>Grade</th>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Athletes</td>
<td>Non-Athletes</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>1</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>14</td>
<td>6</td>
</tr>
</tbody>
</table>
According to the aim of this research, the participants were subjected to the N-test (Bujas & Radosević, 1998), composed for the tendency diagnosis according to general neuroticism which estimates the neurotic symptom externality. The N-test is composed of 77 items/questions to which the participants answers: ES or NO, and which include different neurotic symptoms, such as excessive sensibility, irritability, neuro-vegetative disfunctions, phobias, obsessive and paranoid disorders, mild exhaustion, etc. The result of participants represent the sum of answers which point out at the tendency towards neurotic reactions (Bujas & Radosević, 1998).

The parameters of descriptive statistics were processed on the data: number of participants (N), mean (\( \bar{X} \)), and standard deviation (SD). The differences between the means of particular groups were tested by using the T-test. The statistical package statistics for Windows, release 6.0, was used for processing the data.

**Results**

The results of the carried out N-test (Table 2) do not imply on the increased neurotic symptoms externality, neither in experimental, neither in control group of participants. If we compare the obtained results with the results of Bujas et al. (Bujas & Radosević, 1998), which established the value of means \( \bar{X} \) on the level M=36.8 for men and M=39.3 for women by testing manifest neurotics, we can see the positive quantitative deviation in participants of all ages.

<table>
<thead>
<tr>
<th>Group</th>
<th>Athletes (Male)</th>
<th>Non-Athletes vs. Athletes (Male)</th>
<th>T-test</th>
<th>Non-Athletes vs. Athletes (Female)</th>
<th>T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>t</td>
<td>df</td>
<td>p</td>
</tr>
<tr>
<td>1</td>
<td>24</td>
<td>17.46</td>
<td>0.03</td>
<td>11</td>
<td>0.74</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>18.90</td>
<td>0.33</td>
<td>31</td>
<td>0.01</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>14.28</td>
<td>0.70</td>
<td>22</td>
<td>0.27</td>
</tr>
<tr>
<td>4</td>
<td>16</td>
<td>15.29</td>
<td>0.84</td>
<td>22</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Legend: number of participants (N), mean (\( \bar{X} \)), standard deviation (SD). Final value (p), degree of freedom (df), level of significance.

By using the T-test none of the statistically significant differences between the means of the N-test results have not been registered is athletes (both men and women), not even in one grade apart from 3rd grade where female students demonstrate the higher degree of neurotic symptom externality on the level of significance \( p=0.01 \) (Table 2). The results comparison of 1st and 2nd grade female and male students demonstrate a statistically insignificant, but quantitatively higher results in the case of male students, while in 3rd and 4th grade situation is reverse, that is, female students achieve higher results by which they demonstrate a higher externality in the neurotic symptom incidence, in the conformity with research of Bujas et al. (Bujas & Radosević, 1998), which imply on statistically significant higher neurotic symptoms externality in women of all development stages; from elementary, over high school, to college.

Results of the carried out T-tests (Table 2) did not show statistical significance of the differences in the mean results of the N-test between athletes and non-athletes. The same results were obtained in the male and female subgroups in all four grades.

**Discussion and conclusion**

The analysis of the obtained results did not show a significant difference in the neurotic symptoms externality among the samples of male and female athletes, except in the 3rd grade. The reason could be explained by the fact that students involved in the research participate in different sports and by different qualitative levels. If we agree with the assumption that among athletes exist important differences in the structure of personality according to sport they participate in, what is also proved in the research of Horga et al. (Horga & Bujanovic-Panovic, 1987), than it is not surprising that the quantitative difference of the results obtained by the research (Figure 2) is not statistically significant (Table 2).
It is also evident that athletes, comprised by this reseach do not show more significant neurotic symptoms incidence than non-athlete population (Figure 2). The similarity of athletes and non-athletes participants could be explained, in the first place by methodology of athletes sample which did not enable the participants differentiation according to qualitative criteria, that is according to sport rank. The aforementioned corresponds to the results of the research of Horga et al. (Horga & Bujanović-Pastoviović, 1987), who by investigating the differences of athletes and non-athletes conative factors did not find statistically significant differences among participants, and the obtained results interpreted exactly as the impossibility of controlling the real involvement of participants in sport and with the fact that athletes of the lower qualitative level are mostly similar to the population of non-athletes. We also have to take into consideration that the sample of participants comprised by this research, consists of 14 to 19 years old students. Since we deal with the age of sensitive development of all human aspects, it is impossible to expect definitely formed space of conative dimensions, so therefore the unclear boundary in the area of the observed characteristics among the samples of athletes and non-athletes is not surprising.

So, the question which imposes is how participating in sport globally influences on the development and the structure of personality, and especially on the development of the neurotic dimension. Three hypothesis are possible, and according to them participating in sport may have or positive or neutral or negative effect on the development of the aforesaid characteristics (Horga, 1993).

Taking into consideration all relevant facts about forming the sample which did not allow the differentiation of athletes according to rank and type of sport, what definitively affects the structure of personality, it is possible to state that the results of this research are the closest to the hypothesis about the neutral effect of sport activity on forming the personality structure as well as the dimensions of neuroticism. It is obvious that organisational level of sport activity, coverage of population, and competition of other activities might appear as factors which cancel or does not allow the appearance of sport activities conative effects. Also, sport activity represent only one among many possible effects on the dimension of personality. The other influences, such as family, school, and other activities, are so numerous and strong that they can mask, cancel, or not even leave any space for the sport activity influences on the structure of personality (Horga, 1993).

The problem of defining genetic determination of conative characteristics imposes in parallel with the previously mentioned. It is absolutely sure that in forming of the personality, a great role have genetic (inherited) and environmental factors, but the question is in which proportion. According to the recent scientific point of view genetic, that is inherited factors are more important (Petz, 2001). It is necessary, in this connection, to ask a question how big are possibilities of isolated sport activity impact on the development of conative dimensions in such a genetic highly predefined anthropological space. If we take into consideration a whole series of other environmental factors which determine the development of personality within genetically defined boundaries, it is a logical conclusion that the influence of sport in forming conative dimensions can not have a dominant role. Thus, it is difficult to say whether a sport builds a personality. On the other hand, it is possible to assume that specific features of personality direct an individual in his choice of sport activity, and at the same time they are an important condition of persistence and success in that sport (Horga, 1999).

All in all, conative dimensions or features of personality represent a determinant of human behaviour in all situations, as well as in sport. Hence, it is, in the aim of defining a model of sport success along with studying other factors, necessary to define a conative space and the position of its subdivisions in the system of anthropological characteristics.

References