The syllabus of the track and field subject at the Faculty of Sport and Physical Education includes cross-country running - running in nature. The main objective of this study was to determine the structure and intensity of students' attitude toward the cross-country running. Besides, the objective was to check the connection of the students' attitude towards the cross-country running and the achieved results of cross-country running, as well as of doing sport and recreational running. The sample comprised 69 students of the second year of studies who attended the cross-country running classes. For measuring the attitude toward the cross-country running, the Connotative differential instrument was used consisting of 15 pairs of opposite adjectives presented in a form of seven-part bipolar scale grouped into three dimensions: affective, cognitive and conative. This instrument was applied within an extensive questionnaire which included questions about doing sports, jogging, as well as the results of cross-country running at the end of the teaching period. The descriptive analysis has shown that students have a positive attitude of moderate intensity toward cross-country running, observed through all three dimensions of attitude. The correlation analysis between the dimensions of attitude toward cross country running and the results achieved at cross country running showed that the correlations are negative and statistically significant, suggesting that if the result of running is better, the students' attitude toward cross country running is more positive. Competitive sport is not connected with the quality of attitude toward cross-country running. The results obtained by the study give grounds for assuming that the students' positive attitude toward cross-country running would contribute to cross-country running application in their future professional activity and encourage this form of physical activity.

Key words: TEACHING / CONNOTATIVE DIFFERENTIAL / RUNNING

INTRODUCTION

One of the efficient ways to eliminate the harmful consequences of sedentary way of life is to use running as a natural form of movement. Running provides the necessary quantities of oxygen to the body, improves heart and lungs function, activates blood circulation and metabolism, improves sleep, work ability, and plays an important role in health preservation (Stefanovic, Juhas, Jankovic, 2008). In addition, it has numerous positive psychological effects such as emotional tension and anxiety reduction as well as good general psychological condition (Weinberg & Gould, 2007). With this in mind, it is important to develop interest in this type of physical activity in young people through the educational process, so that it would become an integral part of their daily lives as a component of a healthy lifestyle. A teacher of physical education and sport, who shall influence the development of these interests in young
people with his/her professional knowledge, physical preparedness, and a positive attitude toward running, has an important role in it.

Because of its distinctive explanatory and predictive power, the term attitude is used in various fields of social sciences, both for theoretical and practical purposes. Among a number of definitions in this paper, we have chosen a definition according to which an attitude is “a permanent system of positive or negative assessment, feelings and tendencies to take action for or against – in relation to different objects” (Krech, Crutchfield & Ballachey, 1972; according to Rot, 2003, p. 318). The complexity of attitudes has been in the foreground because of this definition, which means they also include cognitive, emotional, and conative component. Cognitive component of an attitude comprises knowledge and understanding about objects or phenomena to which there is an attitude, as well as value judgments for the object or phenomenon evaluated. The emotional component includes feelings related to the object of an attitude, which may be more or less complex. Conative component represents the tendency to take concrete action in relation to the object toward which there is an attitude. The expression “a permanent system” emphasizes the dispositional character of an attitude and its role in manifesting the relative consistency in the treatment of the object. Therefore, based on knowledge of attitudes toward specific objects, behaviour can be predicted with some degree of confidence. With this in mind, the knowledge of the structure and intensity of attitudes of the Faculty of Sport and Physical Education students to the various forms of physical exercise is important for predicting the quality of their future professional engagement.

Since 1983, the Faculty of Sport and Physical Education has developed a program of educating students for cross-country running application, as one of the methods for developing aerobic endurance (Stefanovic, Juhas, Jankovic & Matic, 2009). In this study, the object of the research is the students’ attitude toward cross-country running, since they, as experts in the field of physical education and sport, can affect the development of young people’s interests toward cross-country running. Besides, a positive attitude toward cross-country running can have effects on their success in running, on better understanding of running, and thus on their professional competence.

The main objective of this study was to determine the structure and intensity of the attitude of the Faculty of Sport Physical Education students toward cross-country running. Another aim was to verify the connection of students’ attitude toward cross-country running and the results achieved in it. In addition, it was aimed at evaluating the relationship between attitude towards cross-country running and doing sports in general, and in particular towards recreational running.

**METHOD**

**Participants**

The study included 77 participants, the second year students of the Faculty of Sport and Physical Education, University of Belgrade, who were involved in cross-country running program within track and field classes. The final sample comprised 69 students (54 male and 15 female) who had a correctly completed questionnaire.

**Instrument**

Bearing in mind that, in this study, students’ attitudes were studied after educational program for cross-country running application, the approach for measuring attitudes based on the Osgood’s semantic differential was chosen (Osgood, Succi and Tannenbaum, 1957). The semantic differential was designed to measure the connotative meaning of words in the 50’s of the 20th century, and it proved to be a very solid technique for measuring attitudes towards different phenomena (Havelka, Kuzmanovic and Popadic, 1998). Recent studies conducted in our country, which start from the semantic differential technique, have resulted in constructing a new instrument, the connotative differential, the structure of which comprises affective, conative, and cognitive factor (Jankovic, 2000, a, b, c). Given that the structure of the attitude comprises exactly these three dimensions, this approach is considered to be suitable for research of attitudes as well.

Connotative differential is designed for quantitative measuring of the respondents’ subjective perception toward the object of an attitude. This instrument consists of 15 pairs of opposite adjectives presented in a form of seven-step bipolar rating-scale of estima-
tion (from –3 to 3). All adjectives are grouped into three dimensions. The first, affective dimension refers to the emotional-evaluative aspect of subjective experience, which consists of scales: unpleasant-pleasant, repulsive-attractive, disgusting-savory, bad-good and ugly-beautiful. The second, conative dimension refers to the motivational aspect of subjective experience, and comprises the scale unimpressive-impressive, un-inspiring-inspiring, boring-interesting, unimportant-important, and non-motivating-motivating. The last, cognitive dimension refers to the cognitive aspect of subjective experience and comprises the scale: meaningless-meaningful, incomprehensible-understandable, illogical-logical, unknown-known and unclear-clear. Kaiser-Mayer-Olkin representativeness measurement of the connotative differential is 0.92, and the reliability of certain dimensions (Cronbach $\alpha$) is 0.97 for the affective, 0.80 for the conative, and 0.86 for the cognitive dimension.

Connotative differential instrument is given within an extensive questionnaire which included the questions related to sports involvement (competitive and/or recreational), recreational running, as well as to the result that the students achieved at cross-country running at the end of the teaching period.

**Cross country running teaching characteristics**

Within the track and field classes, a program cross-country running has been implemented for a period of 6 weeks (2 hours per week) (Stefanovic, Juhas, Jankovic, 2007). The program was implemented in the period February-March 2010, on the cross-country running track in the Park Forest Košutnjak. At the beginning of implementation, the initial measurements were taken at a distance of 6,000m for male students and 4,000m for female students. Based on the results of initial measurements the individual program was made and it was carried out by each student. Specified loads at classes were in the zone which stimulated the development of aerobic energy potential - aerobic capacity. A student was required to monitor and record the following parameters of the load:

- pulse at the beginning, during and at the end of running,
- the length of the distance run,
- the number of repeated distances (volume)
- achieved time and
- duration of rest between the repetition of distances.

Each student wrote the accomplished values of these parameters into the Athletics Practicum, so as to analyze training later, aimed at knowing whether the given task was successfully accomplished. After the applied program, the final measurement was conducted within the competition, “Open championship of the Faculty of Sport and Physical Education in cross-country running”.

**The research procedure**

Upon completion of the classes and the final measurements, the Questionnaire for measuring attitude toward the cross-country running was applied. The participants were instructed to circle one of the numbers on a scale from -3 to +3 for each of the following pairs of adjectives to express their personal, subjective experience of cross-country running, and then to answer the remaining questions. The research was realized with the voluntary consent of students and it was anonymous.

**Statistical methods**

Descriptive statistics procedures (mean, standard deviation, frequencies, and percentages) and statistical reasoning (Pearson correlation coefficient and t-test for independent samples) were used in the data analysis. The data were processed by SPSS 17.0 statistical software package.

**RESULTS AND DISCUSSION**

**The intensity and structure of attitude toward cross country running**

Starting from the basic research objectives related to the determination of the structure and intensity of attitude of the Faculty of Sport and Physical Education students toward cross-country running, a descriptive analysis of data obtained by connotative differential was performed. In the beginning, the scale from -3 to +3 was transformed into a scale from 1 to 7, for the possibility of statistical analysis as required by data processing statistical software; so that the value -3 corresponds to the value 1, and the value 7 corresponds to the value +3. The means and standard deviations for all three dimensions of Connotative differential are given in Graph 1.
very intensively pronounced attitudes. A positive attitude of students toward cross-country running, in which all three components (emotional, conative and cognitive), are unified by the degree of expression, suggests that one can expect that they will be ready to apply cross-country running in their professional work and to motivate users for this form of running.

The connection of attitude toward cross-country running and the success in running

To check the connection of the respondents’ attitude towards cross-country running and the achieved result at the end of the classes, the analysis of correlations between all three attitude dimensions and the time that students have achieved in the running has been done. Pearson correlation coefficients and their statistical significance are shown in Table 1.

From the Graph 1 it can be seen that students, in general, have a positive attitude of moderate intensity toward cross-country running. The mean value for the affective dimension is $5.19 \pm 1.12$, for conative $5.67 \pm 0.94$ and for cognitive $5.52 \pm 1.13$, which means that the results for all three dimensions are relatively uniform. In other words, students assess cross-country running as something that is emotionally positive to them, what they like, what motivates them to be active and what is close and familiar to them. The obtained values which indicate that the students of the Faculty of Sport and Physical Education showed a moderate, but not a distinctively positive attitude, can be regarded as expected, given that cross-country running as an object of attitude does not belong to a group of phenomena, such as significant social ones, to which people most often have

Table 1 Height and significance of the correlation coefficient between the results achieved in cross-country running, and all three dimensions of Connotative differential

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Pearson coefficient of correlation (r)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result / Affective dimension</td>
<td>-0.27</td>
<td>.024</td>
<td></td>
</tr>
<tr>
<td>Result / Conative dimension</td>
<td>69</td>
<td>-0.32</td>
<td>.007</td>
</tr>
<tr>
<td>Result / Cognitive dimension</td>
<td>-0.31</td>
<td>.009</td>
<td></td>
</tr>
</tbody>
</table>
From Table 1 it can be seen that the correlation coefficients for all three dimensions of attitude and the results in running are negative and statistically significant. The correlation between the affective dimension and the results of running is -0.27 and is significant at the 0.05 level, between the conative dimension and the results of running is -0.32 and is significant at the 0.01 level and between the cognitive dimensions and the results is -0.31 and is significant at the 0.01 level. Such correlations indicate that the shorter time that students have achieved in running, or the better their result is, the more positive their attitude is toward cross-country running at the level of all three components. This is in concordance with the results of research on the importance of positive attitudes for success in certain sport activities (Havelka and Lazarevic, 1981) and willingness to engage in it.

**Attitude toward cross-country running and doing sports**

The third objective of this study was to investigate whether there was a correlation between the attitude toward cross-country running and doing sports, competitive and/or recreational, as well as practicing recreational running. The results of answers to these questions are presented in Table 2.

<table>
<thead>
<tr>
<th>Engaging in competitive sports</th>
<th>Answers</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td></td>
<td>45%</td>
</tr>
<tr>
<td>no</td>
<td></td>
<td>55%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Engaging in recreational sports</th>
<th>Answers</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td></td>
<td>91%</td>
</tr>
<tr>
<td>no</td>
<td></td>
<td>9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Engaging in recreational running</th>
<th>Answers</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td></td>
<td>90%</td>
</tr>
<tr>
<td>no</td>
<td></td>
<td>10%</td>
</tr>
</tbody>
</table>

Table 2 shows that the percentage of respondents who compete in sports is smaller compared to those who are not involved (45% compete, while 55% do not). T-test for independent samples showed that there was no statistically significant difference in the subjective experience of running in nature of any of the Connotative differential dimensions between the students who compete in sports and those who are not involved in them. From this, it can be concluded that competitive sport is not connected with the quality of attitude toward cross-country running.

Students had the opportunity to express in the questionnaire whether they do recreational sports in the addition to the competitive. Most of them (91%) stated that they do recreation sport. Recreational running, according to students, is practiced by 90% of them. Such structure of results does not provide the basis for statistical testing of differences in attitudes toward cross-country running.

**CONCLUSION**

In this paper, the attitude of students of the Faculty of Sport and Physical Education toward cross-country running was examined using the Connotative differential. The study included 69 students (54 males and 15 females) in the second year of the Faculty of Sport and Physical Education who were involved in cross-country running within the athletics classes. The results showed that students have a positive attitude of moderate intensity toward this form of physical activity. The data on the connection of attitude intensity and success in cross-country running obtained in this study support the findings of positive attitude importance for succeeding in a certain activity. Bearing in mind that attitudes represent an important component of the motivational aspect of personality (they encourage action and engagement), it can be expected that the positive attitude of students toward cross-country running shall contribute to their willingness to apply cross-country running and encourage students to practice this very attractive form of physical activity in nature in their future professional activity, especially as PE teachers. Observed in the long-run, this can contribute to the development of a healthy lifestyle.

The classes in which students are trained to use cross-country running or running in nature, as methods for developing aerobic endurance, by its contents and methodological approach, can be considered suitable for developing a positive attitude towards this form of physical activity. The individualization of teaching process and a high level of students’ involvement in monitoring their own progress can particularly be emphasized. In future research the focus
should be on more precise monitoring of direct teaching effects on the formation of students’ attitude toward cross-country running, but also on longer-term effects of education on this kind of running application in their future professional work.

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