

COMPETITIVENESS AND DIFFICULTY DURING PHYSICAL EDUCATION CLASSES

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TEKMOVALNOST IN TEŽAVNOST PRI URAH ŠPORTNE VZGOJE

(Received: 29. 5. 2002 – Accepted: 15. 12. 2002)

Abstract

In this article the perceived competitiveness and difficulty during physical education classes will be introduced. Previous researches have confirmed that the perception of classroom climate, and thus also that of competitiveness and difficulty, changes from primary to secondary school, and that gender differences occur as well. In this research we tried to establish which variables significantly differentiate groups of pupils who perceive low or high competitiveness and difficulty. The second goal was practical application of the findings. We used questionnaires for measuring classroom climate, motivation and attitudes in the sample of 1152 pupils from primary and secondary schools. The discriminant analysis was used. Considering the mentioned variables, it confirmed two groups of pupils. The group which perceives a high level of competitiveness and difficulty can be described with the motivational-attitudinal function, which offers the teacher relatively precise guidelines for the work in physical education classes. Competitiveness is related to extrinsic motivation, while difficulty with the intrinsic one. At the same time a new question arises, namely, which pedagogical methods a physical education teacher should employ with the pupils who perceive a lower level of competitiveness and difficulty, since this group does not sufficiently relate to the selected variables.

Key words: competitiveness, difficulty, motivation, attitudes, pupils, physical education

Izveček

V tem prispevku bo predstavljena zaznana tekmovalnost in težavnost pri urah športne vzgoje. Raziskave so potrdile, da se zaznavanje razredne klime in s tem v zvezi tudi tekmovalnosti in težavnosti spreminja iz osnovne v srednjo šolo in da razlike nastopajo tudi med spoloma. V raziskavi smo ugotavljali, katere spremenljivke pomembno razlikujejo med skupinami učencev, ki zaznavajo nizko oz. visoko tekmovalnost in težavnost. Drugi cilj raziskave pa je praktična aplikacija dobljenih rezultatov v prakso. Uporabljeni so bili vprašalniki za merjenje razredne klime, motivacije in stališč. V raziskavo je bilo vključenih 1152 učencev osnovnih in gimnazij, petih, sedmih razredov ter prvih in tretjih letnikov. Uporabljena je bila diskriminantna analiza, ki je potrdila dve skupini učencev glede na vključene spremenljivke. Skupino, ki zaznava visoko stopnjo tekmovalnosti in težavnosti, opisuje motivacijsko-stališčna funkcija, ki daje učitelju relativno natančne napotke za delo pri urah športne vzgoje. Tekmovalnost je povezana z zunanjo motivacijo, težavnost pa z notranjo. Hkrati pa se pojavlja še novo vprašanje, kakšno pa naj bo delo s tistimi učenci, ki zaznavajo nižjo tekmovalnost in težavnost, saj ta skupina ni v zadostni meri povezana z izbranimi spremenljivkami.

Ključne besede: tekmovalnost, težavnost, motivacija, stališča, učenci, športna vzgoja

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INTRODUCTION

The article deals with the perception of competitiveness and difficulty in physical education. Previous studies (Zabukovec, Škof, Boben, Cecić Erpič, & Tomažin, 2001a) have confirmed the differences in the perception of the actual and the preferred classroom climate in physical education classes, among both teachers and pupils. As a rule, teachers achieve higher scores, meaning that compared with pupils they rate the classroom climate in physical education classes as better. Primary school pupils achieve higher scores than secondary school pupils regarding both the actual and the preferred classroom climate.

The study of motivation in physical education classes involved 5th and 7th grade primary school pupils, 1st and 3rd year secondary school pupil and physical education teachers. It yielded the following conclusions:

- The level of motivation in physical education classes declines as the pupils progress from primary school to secondary school;
- Boys have a higher level of motivation than girls;
- All pupils show a stronger intrinsic than extrinsic motivation;
- Physical education teachers also have a stronger intrinsic motivation for work, particularly those with a longer teaching career.

A few studies about pupils' and teachers' attitudes towards the subject of physical education and towards specific contents have been conducted in Slovenia as well. Škof, Zabukovec, Boben, Cecić Erpič and Tomažin (2000; Škof, Cecić Erpič, Zabukovec, Boben, & Tomažin, 2001), for example, studied the attitudes of pupils and teachers towards endurance contents. They discovered that teachers with a longer teaching career (over 20 years) rate pupils' attitudes towards running higher than teachers with a shorter career. There were also differences between teachers and pupils, as teachers rated the endurance contents lower than pupils. Pupils' positive attitude towards endurance contents declines at the transition from primary to secondary school. They have a particularly negative attitude towards the competitive forms of endurance contents. There are also differences between pupils and teachers regarding the evaluation of teaching methods employed by the teachers. The overwhelming majority of teachers are convinced that theoretical awareness of the importance of en-

durance activities for the quality of life, clear and precise instructions and their own active and healthy lifestyle have an important influence on pupils' attitude towards running. Only about half of the pupils agree with this conviction.

Although the school and the teacher play an important role in discovering the value of sports activity, the teacher's socialising role is limited (Johnson, & Johnson, 1995). The family and the social environment with a more or less sports-oriented climate are equally important to the process of socialisation in the area of sports. The social factors of the educational process are specifically explained by the sociopsychological theory of teaching, which emphasises the importance of the communication process enabling the teachers to pass on their knowledge to pupils (Johnson, & Johnson, 1995). This process is basically about the exchange of ideas, convictions and attitudes. Cankar (1994) established that schoolgirls in particular state open communication as the most important attribute of a physical education teacher, while schoolboys consider class management and the choice of teaching methods as the most important criteria in evaluating a teacher. The same study revealed that the 7th grade primary school pupils emphasise the following qualities of a physical education teacher: ability to involve pupils in the organisation and execution of classwork and acknowledge their interests.

In short, the educational process is the result of the efforts of pupils and teachers alike and of their cooperation. According to Grossman (1995), the effectiveness of a teacher in the educational process depends on six factors:

1. His or her expert knowledge, both general and specific, as well as the knowledge of methodology, which is specifically connected with the chosen subject;
2. A more detailed knowledge of pupils and teaching than the knowledge of the theories of teaching, the developmental characteristics of pupils and the theories of motivation;
3. His or her pedagogical knowledge, which includes a general pedagogical knowledge of class management, methods and approaches;
4. His or her curricular knowledge, which encompasses the knowledge of the development of curriculum and more specifically the curriculum of individual classes;

5. His or her contextual knowledge, which includes the knowledge of the functioning and the influence of the social environment;
6. The awareness of his or her own convictions, values, personal goals and motives for teaching.

The aim of this research was to determine the following:

1. The level of the perceived competitiveness and difficulty in physical education classes.
2. Which variables (motivation, attitudes) significantly discriminate between groups of pupils with a low level of perceived competitiveness and difficulty and those with a high level of perceived competitiveness and difficulty?
3. The practical application of research results.

METHODS

Subjects

The study involved 1,152 pupils from 21 Slovene primary and secondary schools. The sample was composed of 5th and 7th grade pupils from primary schools and 1st and 3rd year pupils from secondary schools. 5 primary schools were chosen from urban environments and 7 from the provinces (from settlements with less than 6,000 inhabitants). Secondary schools were chosen according to the same regional criterion. 4 secondary schools were chosen from urban environments and 5 from the provinces.

Table 1: Characteristics of the sample

Male	521 schoolboys
Female	627 schoolgirls
5 th grade	313 pupils
7 th grade	285 pupils
1 st year	301 pupils
3 rd year	253 pupils

Instruments

The pupils filled in the Classroom climate in physical education classes questionnaire (Zabukovec et al., 2001a), which consists of the actual and the preferred form. It pertains to the perception of classroom climate in physical education classes. The form about the actual classroom climate refers to the perception of the actual physical education

classes and the preferred one refers to the preferred physical education classes. Both forms consist of 50 items encompassing seven dimensions of classroom climate: satisfaction, teaching methods, pupils' activity, appropriateness of classes, personal relationships, competitiveness and difficulty. This article will mainly focus on pupils' answers in the dimensions of competitiveness and difficulty of the actual classroom climate form. The *dimension of competitiveness* refers to competition between individuals in physical education classes and the desire to be better than others, to group competition, to competition in terms of encouragement and to competition with oneself. The *dimension of difficulty* refers to the perceived difficulty of physical education classes and to strategies that pupils employ to surmount it (mutual help, teacher's help, appropriate goals, more difficult contents as a factor of progress). The pupils rated the items on a four-point scale, on which 4 represents strong agreement, 3 agreement, 2 disagreement and 1 strong disagreement. The reliability of the dimension of competitiveness (Cronbach alpha) is 0.78, while that of the dimension of difficulty is 0.66.

Another instrument was Motivation in physical education questionnaire, which consists of two factors: intrinsic and extrinsic motivation (Cecić Erpič, Škof, Boben, Zabukovec, & Marcina, in press; Zabukovec, Boben, Škof, Cecić Erpič, & Tomažin, 2001b). The first factor consists of 8 items and the second one of 7 items. A four-point scale was used, on which 4 means always, 3 often, 2 sometimes and 1 never. The reliability of the intrinsic motivation factor is 0.85, while that of the extrinsic motivation is 0.81 (Cronbach alpha).

The third questionnaire used refers to the attitudes towards physical education classes (Attitude toward physical education questionnaire – endurance activities; Škof, Zabukovec, Boben, Cecić Erpič, & Zabukovec, 2000) and consists of three factors: cognitive component (9 items), affective component (13 items) and pedagogical approach (5 items). The cognitive factor includes the knowledge and awareness of the positive effects of sports activity, the affective factor indicates the attitude towards physical education and its contents, and the pedagogical approach factor includes teaching methods and pupils' opinion about the motivational methods of the physical education teacher. A five point Likert scale was used, on which 5 represents strong agreement and 1 strong disagreement.

The average reliability of factors is 0.87 (Cronbach alpha).

Procedures

The pupils filled in all the aforementioned questionnaires during physical education classes.

RESULTS

1. The perceived competitiveness and difficulty in physical education classes

Pupils perceive competitiveness and difficulty as fairly high (Mcom=22.44 and Mdif=16.61), considering the highest possible values (max.com=32 and max.dif=24). In both dimensions, the values fall into the last third. A more detailed distribution of answers can be found in the table below. It illustrates the fact that a great majority of pupils' answers had a high value, which means they perceive a high level of competitiveness and difficulty.

Table 2: The distribution of pupils' answers in the dimensions of competitiveness and difficulty

Competitiveness				
Number of points	f	cum f	%	cum %
5-10	1	1	0.08	0.08
11-15	55	56	4.77	4.86
16-20	300	356	26.04	30.9
21-25	428	784	37.15	68.05
26-30	220	1004	19.09	87.15
31-35	31	1035	2.69	89.84
missing	117	1152	10.16	100
Difficulty				
Number of points	f	cum f	%	cum %
5-10	17	17	1.47	1.47
11-15	348	365	30.21	31.68
16-20	609	974	52.86	84.55
21-25	95	1069	8.25	92.79
missing	83	1152	7.22	100

The comparison between boys and girls regarding their perception of competitiveness and difficulty in physical education classes showed that boys perceive a higher level of competitiveness and difficulty than girls. In spite of the statistical significance of the differences in the dimension of difficulty, the actual differences (considering the scale) are not that great, since both boys and girls mostly answered »I agree«. The fact that there are 8 items in the dimension of competitiveness and 6 in the dimension of difficulty has to be taken into account.

Table 3: The differences in the perception of competitiveness and difficulty in physical education classes between boys and girls

Dimension of classroom climate	M		SD		t-value	df	p
	Boys	Girls	Boys	Girls			
Competitiveness	23.33	21.73	4.31	4.19	5.99	1031	0.000
Difficulty	16.87	16.41	3.04	2.64	2.64	1065	0.008

The comparison between primary and secondary school pupils showed that younger pupils perceive a higher level of competitiveness and difficulty in physical education classes. Taking into account the scale and the number of items in an individual dimension, we could say that primary school pupils more often answered »I agree«, while the answers of secondary school pupils fall somewhere between »I agree« and »I disagree«. A closer inspection of the results reveals that the perception of competitiveness and difficulty gradually decreases as the pupils progress from the 5th to the 7th grade of primary school and then to the 1st and the 3rd year of secondary school. A more detailed account of the results is shown in the figure below.

Table 4: The differences in the perception of competitiveness and difficulty in physical education classes between primary school and secondary school pupils

Dimension of classroom climate	M		SD		t-value	df	p
	Primary school	Secondary school	Primary school	Secondary school			
Competitiveness	24.63	20.28	3.86	3.6	18.73	1033	0.000
Difficulty	17.5	15.69	2.96	2.35	11.04	1067	0.000

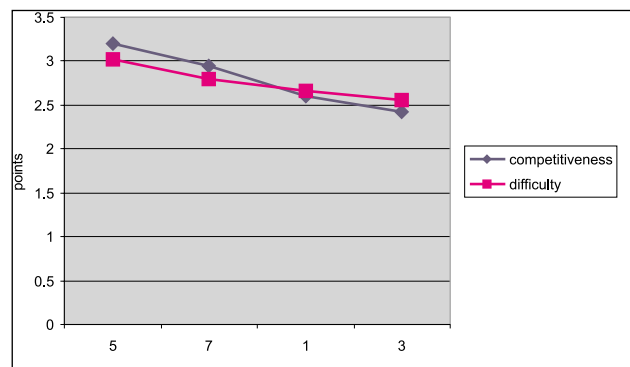


Figure 1: The dynamics of the perception of competitiveness and difficulty

The differences between the decrease in the perception of competitiveness and of difficulty are very small, if the number of items in the individual dimensions is taken into account, as the transformation of scores will show.

2. The differences between pupils regarding the low or high perception of competitiveness and difficulty in physical education classes

Pupils were further divided into two groups, a higher and a lower one, depending on the perceived competitiveness and difficulty. The so-called higher group consists of approximately 20% of pupils with a high score in the dimension of competitiveness. The so-called lower group consists of approximately 20% of pupils with a lower score in the dimension of competitiveness. The same division into two groups was implemented in the dimension of difficulty.

The lower group, i.e. the one with low scores in the dimension of competitiveness, consists mostly of secondary school pupils, particularly from the 3rd year. There is a prevalence of girls in this group. The limits are from 8 to 19 points. The group of high 20% in terms of the number of points consists mostly of primary school pupils with a predominance of boys. The limits are from 26 to 32 points.

The group of low 20 % in the dimension of difficulty consists of secondary school pupils, in which there are more girls than boys. Pupils in this group have scored between 6 and 14 points in this dimension. The group of high 20% consists of primary school pupils with a slight predominance of boys. The limits are from 19 to 24 points.

Because the goal of this study was to discover in what way the lower and the higher group differ in the dimensions of competitiveness and difficulty regarding the level and type of motivation and the prominence of attitudes towards physical education, a discriminant analysis was used, which included the following variables:

1. Two factors of motivation: intrinsic and extrinsic motivation;
 2. Three factors of attitudes: cognitive factor, affective factor and the factor of pedagogical actions.
- 2.1. The differences between the groups of pupils that perceive a low and a high level of competitiveness in physical education classes

The group with higher scores in the dimension of competitiveness displayed higher values in all variables. A statistical analysis has confirmed significant differences between these two groups at $p=0.000$. The group with high scores in the dimension of competitiveness therefore achieved higher values in all the variables included in the study, as is evident from the table 5.

Table 5: Means and standard deviations in the dimension of competitiveness for the lower and the higher group of pupils

Variable	Lower		Higher	
	M	SD	M	SD
Intrinsic motivation	18.59	4.32	25.76	4.03
Extrinsic motivation	10.63	3.64	18.2	5.43
Cognitive factor	33.67	5.87	38.91	4.23
Affective factor	32.02	11.21	47.34	10.97
Factor of pedagogical actions	14.49	4.49	18.37	4.17

The discriminant analysis has shown that four variables significantly discriminate between the lower and the higher group, while one variable, i.e. the factor of pedagogical actions, was eliminated as irrelevant.

Table 6: Discriminant analysis of the variables included in the study

Variables	Wilks' lambda	Partial lambda	F-remove	p
Intrinsic motivation	0.51	0.906	21.189	0.000
Extrinsic motivation	0.55	0.885	66.92	0.000
Attitudes - affective	0.51	0.960	21.146	0.000
Attitudes - cognitive	0.5	0.984	8.22	0.004

The discriminant function has a significant discriminatory power between the group of pupils who achieved low scores in the dimension of competitiveness and those who achieved high scores.

Table 7: The discriminatory significance of the discriminant function

Function	Eigen value	Canonical correlation	Wilks' lambda	Chi-square	df	p
1	1.053	0.72	0.487	370.47	4	0.00

The standardised coefficients point to the fact that the greatest difference between the lower and the higher group is the factor of extrinsic motivation,

which pertains mainly to the tendency to compare oneself with others or to be better than others in physical education classes and to achieve important results (see table 8). The factor of intrinsic motivation and the affective factor also discriminate between the groups. The cognitive factor of attitudes partly contributes to the differences between them. In view of the variables that the analysis confirmed, the discriminant function can be called the motivational-attitudinal function (see tables 8, 9, 10).

Table 8: Standardised coefficients of the canonical discriminant function

Variable	Function 1
Intrinsic motivation	0.34
Extrinsic motivation	0.53
Affective factor of attitudes	0.33
Cognitive factor of attitudes	0.20

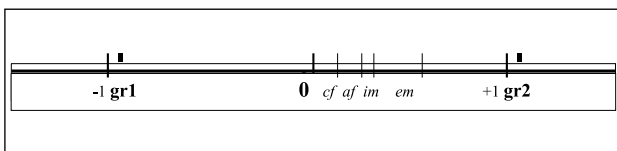
Table 9: Coefficients of factor saturation, correlations between discriminant variables and the canonical discriminant function

Variable	Function 1
Intrinsic motivation	0.79
Extrinsic motivation	0.77
Affective factor of attitudes	0.67
Cognitive factor of attitudes	0.49

Table 10: Canonical discriminant function, determined by group centroids

Group	Function 1
Lower - group 1	-0.991
Higher - group 2	1.058

Figure 2: Centroids and standardised coefficients of the discriminant function



The motivational-attitudinal function, which discriminates between the two groups of pupils, has confirmed that discriminant variables are more connected with the group of pupils who perceive a higher level of competitiveness. This group is best described by a pronounced extrinsic motivation,

intrinsic motivation and both attitudinal factors. In general, the discriminant function is more connected with the group of pupils who perceive a higher level of competitiveness in physical education classes.

2. 2. The differences between the groups of pupils that perceive a low and a high level of difficulty in physical education classes

The higher group has displayed higher values in all variables. The statistical analysis has confirmed significant differences between these two groups at $p=0.000$. The group with high scores in the dimension of difficulty therefore achieved higher values in all the variables included in the study.

Table 11: Means and standard deviations in the dimension of difficulty for the lower and the higher group of pupils

Variable	Lower		Higher	
	M	SD	M	SD
Intrinsic motivation	18.63	4.47	25.29	4.24
Extrinsic motivation	11.8	4.25	16.84	5.72
Cognitive factor of attitudes	33.3	6.15	38.81	4.74
Affective factor of attitudes	32.43	12.49	47.04	11.75
Factor of pedagogical actions	14.45	4.84	17.99	4.05

The discriminant analysis has shown that four variables significantly discriminate between the lower and the higher group, while one variable, the attitudinal factor of negative elements, was eliminated as irrelevant.

Table 12: Discriminant analysis of the variables included in the study

Variables	Wilks' lambda	Partial lambda	F-remove	p
Intrinsic motivation	0.65	0.92	40.8	0.000
Attitudes - affective	0.62	0.97	15.83	0.000
Attitudes - cognitive	0.61	0.99	5.78	0.01
Extrinsic motivation	0.61	0.99	5.09	0.02

The discriminant function has a significant discriminatory power between the group of pupils who achieved low scores in the dimension of difficulty and those who achieved high scores.

Table 13: Discriminatory significance of the discriminant function

Function	Eigen value	Canonical correlation	Wilks' lambda	Chi-square	df	p
1	0.66	0.63	0.6	239.86	4	0.00

The standardised coefficients point to the fact that the greatest difference between the two groups is the factor of intrinsic motivation. The affective factor of attitudes also contributes to the differences, while the cognitive factor and the factor of extrinsic motivation are less significant. The discriminant function can again be called the motivational-attitudinal function.

Table 14: Standardised coefficients of the canonical discriminant function

Variable	Function 1
Intrinsic motivation	0.57
Affective factor of attitudes	0.35
Cognitive factor of attitudes	0.21
Extrinsic motivation	0.19

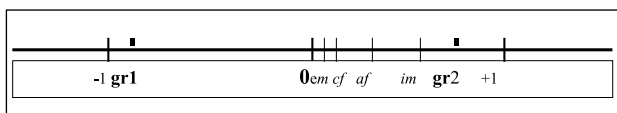
Table 15: Coefficients of factor saturation, correlations between discriminant variables and the canonical discriminant function

Variable	Function 1
Intrinsic motivation	0.89
Affective factor	0.74
Cognitive factor	0.62
Extrinsic motivation	0.59

Table 16: Canonical discriminant function, determined by group centroids

Group	Function 1
Lower – group 1	-0.87
Higher – group 2	0.76

Figure 3: Centroids and standardised coefficients of the discriminant function



The motivational-attitudinal function which discriminates between the lower and the higher group of pupils has confirmed that the group of pupils who perceive a higher level of difficulty in physical education classes is characterised by higher values regarding the factor of intrinsic motivation and the affective factor of attitudes. While it is true that this group is also characterised by higher values regarding the cognitive factor of attitudes and extrinsic motivation, these characteristics are not very pronounced. In conclusion, the motivational-attitudinal function is more prominent in the group of pu-

pils who perceive a higher level of difficulty in physical education classes.

DISCUSSION

Pupils perceive a relatively high level of competitiveness and difficulty in physical education classes, which can be attributed to the often competitive contents of physical education classes and to physical exertion needed to master more demanding tasks requiring mutual help or the help of the teacher. This induces the pupils to perceive the level of difficulty as high. The fact that boys perceive a higher level of competitiveness and difficulty in physical education classes than girls can be explained by the process of socialisation and the process of accepting gender roles. Cankar (1994) has confirmed that boys perceive physical education differently from girls. The fact that there is a steady decline in the perceived level of competitiveness and difficulty in physical education classes from the 5th grade of primary school to the 3rd year of secondary school is to a great extent connected with the period of adolescence, the changes in physical appearance and the changes in adolescents' values and goals. At the same time, there are also changes in physical education classes themselves, especially at the transition from primary to secondary school. Numerous authors (Martens, 1975; Schutz, Smoll, Carre, & Mosher, 1985) consider the period of middle childhood as the period when attitudes towards individual phenomena, including sports activity, begin to take shape. The middle years of schooling (from 10 to 15) mark the period of intense transformation of attitudes towards sports activity (DeMarco, & Sidney, 1989). These findings concur with the observations of Smoll and Schutz (1980), who believe that the attitudes of primary school pupils are still very changeable and that the attitudes towards sports activity do not stabilise until the period of late adolescence (after 15).

The realisation that, given the results in the dimensions of competitiveness and difficulty, a cluster of motivational-attitudinal variables significantly discriminates between pupils is also very important. Competitiveness, which is defined as competition between individuals and groups as well as with oneself, is more pronounced in primary school boys, which means they have a clear desire to improve their achievements. As the discriminant analysis has shown, however, this group is characterised by a

higher level of extrinsic motivation, which means that in the group of primary school boys, the desire for external encouragement and the comparison with the established standards are predominant. This group is also characterised by high scores in the factor of intrinsic motivation and both affective and cognitive attitudinal factors, although to a lesser extent. The primary school boys therefore have a desire to further their own interests, a positive attitude towards physical education and a sound knowledge of the positive effects of sport. It is also interesting that pupils' attitudes towards physical education are changing. While they remain positive, their scores decline at the transition from primary to secondary school (Škof et al., 2000). Bocket (1994) and Schutz with his colleagues (1985) have reached a similar conclusion. Škof et al. (2000) have confirmed the tenet that pupils dislike competitive contents of physical education. This is particularly important for the development of physical education, as it encourages the teachers to include not only competitive contents, but also contents that emphasise co-operation between pupils and teachers. Physical education classes would also benefit from approaches which would enable the pupils to monitor their own progress. Other results (Zabukovec et al, 2001a) have also confirmed that pupils do not want a higher level of competitiveness. A valid conclusion would be that, if the teacher encourages competitiveness, this creates an increase in the pupils' extrinsic motivation. Nevertheless, the teacher can also encourage co-operation or perhaps competition between groups. The ideal solution is to find a suitable balance between different methods. Special attention should be paid to the group of girls, particularly from the 3rd year of secondary school, who perceive a lower level of competitiveness, which could mean that they are less committed in physical education classes (their attitudes towards physical education are lower), especially in terms of achieving good results, comparable with other pupils' results or with previously established standards. Furthermore, this group does not want a higher level of competitiveness and the abovementioned factors do not represent an important goal for them. Competitions and strenuous endurance tests are not the best course of action for them.

Difficulty in physical education classes was rated as high mainly by primary school boys. The discriminant analysis has confirmed that the motivational-attitudinal function discriminates this group

from the one that perceives a lower level of difficulty in physical education classes. The group that views physical education classes as more demanding is characterised by a high intrinsic motivation, which means that these pupils want to realise above all their own sports ambitions and they achieve their goals with persistence and hard work. Although the dimension of difficulty primarily describes the perceived difficulty in physical education classes, it also includes strategies to overcome difficulties, such as mutual help, the help of the teacher, appropriate goals and the ability to progress by tackling more difficult contents. This group is characterised by a positive attitude towards physical education, although not very pronounced, and by knowledge of physical education and its effects on an individual. It is also characterised by a tendency towards extrinsic motivation, but again not very pronounced. The results of the same study confirm that pupils want a higher level of difficulty, which means more demanding contents of physical education. In this way, they could further their own interests and achieve realistic goals with effort and persistence. Therefore, the teacher should above all be aware of the pupils' wishes and interests, so he or she can set appropriate goals and thus encourage a more positive attitude towards the contents of physical education. To increase the level of difficulty, the teacher should use methods that encourage intrinsic motivation. The development of a positive attitude towards physical education (affective factor of attitudes) and the construction of knowledge which would provide an insight into the area of physical education and its effects on an individual (cognitive factor of attitudes) should certainly not be overlooked, especially since it is evident that these attitudes are significantly lower in secondary school than in primary school. In this case, special attention should again be paid to secondary school girls, who perceive a lower level of difficulty, which means that they do not have the necessary strategies to cope with difficult contents and their goals are not set in this direction, because they want a lower level of difficulty than boys. But the variables that would describe this group of pupils have not yet been determined. The demands and goals should be adapted to their needs in terms of lower and above all more realistic goals.

In conclusion, pupils can be divided into two groups regarding the perception of competitiveness and difficulty in physical education classes. The group that perceives a high level of competi-

veness and difficulty can be described with the motivational-attitudinal function, which offers the teacher relatively precise guidelines for his or her work in physical education classes. Competitiveness is mostly connected with extrinsic motivation, while difficulty is mostly connected with intrinsic motivation.

Yet at the same time, a new question arises as to what pedagogical methods a teacher of physical education should employ for pupils who perceive a lower level of competitiveness and difficulty, since this group cannot be described by the chosen variables.

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