

## INTRINSIC MOTIVATION AND GOAL ORIENTATION IN TRACK-AND-FIELD CHILDREN

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### Abstract:

The purpose of this study was to determine the relationship of goal orientation to a multidimensional measure of intrinsic motivation in young track-and-field athletes. Also, the gender differences in task and ego orientations and in the indicators of intrinsic motivation were examined. The sample consisted of children aged between 11 to 15 years (N=246), enrolled in a track-and-field after-school activity. Goal orientation was assessed by the Task and Ego Orientation in Sport Questionnaire, whereas the Intrinsic Motivation Inventory was used for assessing the intrinsic motivation. Results showed that gender significantly influenced task or ego goal orientation in sport, as well as two components of intrinsic motivation: interest/enjoyment and pressure/tension. Analysis of the multivariate relationship between goal orientation and intrinsic motivation showed that task orientation in participants corresponded with the much greater interest and enjoyment in particular sporting activities that children were engaged in, and to a greater investment of effort. Ego orientation was, on the other hand, associated with higher perceived competence and stronger feelings of pressure/tension in track-and-field. The practical value of this study is to remind the coaches, who work with young athletes, to reinforce task orientation and intrinsic motivation in order to enhance adherence to sporting activities.

**Key words:** children, track-and-field, intrinsic motivation, goal orientation

### INTRINSISCHE MOTIVATION UND ZWECKSBEOZUGENHEIT BEI DEN LEICHTATHLETIK TREIBENDEN KINDERN

#### Zusammenfassung:

Das Ziel dieser Studie war, den Zusammenhang der Zwecksbezogenheit und multidimensionaler Bewertung intrinsischer Motivation bei den jungen Leichtathletikern festzustellen. Es wurden auch Geschlechtsunterschiede bei der Aufgabe- bzw. Selbstbezogenheit und bei den Kennzeichnungen der intrinsischen Motivation geprüft. Die Stichprobe umfaßte 246 Kinder im Alter von 11-15 Jahren, die sich ausser Schule mit Leichtathletik befassten. Die Zwecksbezogenheit wurde mittels des Fragebogens „Task and Ego Orientation in Sport“ und die intrinsische Motivation mittels des Fragebogens „Intrinsic Motivation Inventory“ bewertet. Die Ergebnisse zeigen, dass Zwecks- oder Selbstbezogenheit im Sport, sowie zwei Komponenten der intrinsischen Motivation: Interesse/Vergnügen und Druck/Spannung durch die Geschlechtsunterschiede bedeutend beeinflusst sind. Die Analyse der multivariaten Korrelation zwischen Zwecksbezogenheit und intrinsischer Motivation zeigte, dass die Be-zogenheit zur Aufgabe mit viel größerem Interesse und Vergnügen am bestimmten Sport (besonders am Sport, den die Kinder treiben), sowie auch mit dem höheren Leistungseinsatz korrelierte.

Andererseits wurde die Selbstbezogenheit mit der höheren Perzeption eigener Kompetenz und stärkeren Spannungsgefühlen in Leichtathletik bezogen.

Der praktische Wert dieser Studie ist, die Trainer junger Leichtathletiker daran zu erinnern, die Aufgabebezogenheit, sowie die intrinsische Motivation anzuregen, um den Anhang zum Sport zu behalten.

**Schlüsselwörter:** Kinder, Leichtathletik, intrinsische Motivation, Zwecksbezogenheit

## Introduction

The growing popularity of youth sport has led to a large amount of research studying children's motivation to participate. A relatively high dropout rate from sport makes the understanding of children's sport situation perceptions and their motivational concepts very important (Roberts, 1993; Weinberg, 2001). Achievement-oriented settings such as competitive sports, are appropriate environments for the investigation of sport participation motivation in children. In sport competition, while striving to achieve goals and standards of excellence, an individual is responsible for behaviors that lead to a certain outcome that is expressed in terms of either success or failure.

According to Roberts (1993), achievement behavior can be explained in terms of behavioral intensity (trying hard), persistence (continuing to try hard), choice of action (sport discipline choice), and performance (outcome). Thus, these behaviors should be used to assess the levels of motivation in individuals. At the same time, achievement behaviors are premises that should be worked on in order to enhance an athlete's motivation. To understand why children exercise, one must realize what young athletes think about themselves, what they think about their tasks and how they consider their performance. The child's perception of reality is a powerful predictor of his/her behavior (Roberts & Treasure, 1992), and consequently, it has a significant influence on his/her perception of a sporting experience. It is therefore necessary to study children's sport performance goals and motivation in order to understand and be able to predict their achievement behavior in sport contexts. Such knowledge may help coaches enhance the positive attitudes toward sporting activities, and consequently improve a child's adherence to competitive sport programs.

## Theoretical background

### Intrinsic motivation

Intrinsic motivation is the energy source that is the core of the active nature of a living organism (Deci & Ryan, 1985). Intrinsic motivation refers to engaging in an activity purely for pleasure and satisfaction from mere participation. Satisfaction and enjoyment are therefore derived from an activity and not from any external source. A person is intrinsically motivated when he/she performs the behavior voluntarily, without the expectation of material rewards or external constraints (Deci & Ryan, 1985). According to the cognitive evaluation theory (Ryan, 1982; Deci & Ryan, 1985), which is the

most frequently used theoretical framework for analyzing intrinsic motivation, intrinsic motivation is based on the innate, orgasmic needs for competence and self-determination. When people are free from the intrusion of drives and emotions, they seek challenges that suit their level of competence, and they look for situations that interest them and require their creativity and resourcefulness. It is assumed that intrinsic motivation varies depending on an individual's perception of self-determination (i.e., the experience of perceived locus of causality, which can be internal or external) or her/his perception of competence. Intrinsic motivation is enhanced when one's sense of competence is high, or one's feeling of internal control is salient (Deci & Ryan, 1985), whereas it is decreased when people feel less competent or less self-determined. Recently, various researchers (e.g., Pelletier, Fortier, Vallerand, Tuson, Briere and Blais, 1995; Vallerand, 2001; Vallerand & Losier, 1994) have developed initial ideas about intrinsic motivation in terms of varying degrees of self-determination. This line of research has established a continuum of different types of motivation that are postulated to run from high to low levels of self-determination (Vallerand & Losier, 1994). Generally, this continuum of motivation types regressively ranges from intrinsic motivation (participating in activity for the pure pleasure it provides), extrinsic motivation (participating in the activity for other reasons such as rewards, results, etc.) to a motivation (absence of motivation due to the lack of contingency between one's actions and effects; a person can not effectively influence the environment, and he/she experiences feelings of incompetence and lack of control). Some theorists have proposed that intrinsic motivation differentiates into more specific motives. Thus, a tripartite taxonomy of intrinsic motivation types has been postulated (Pelletier, Fortier, Vallerand, Tuson, Briere and Blais, 1995), identified as intrinsic motivation to know, intrinsic motivation toward accomplishments, and intrinsic motivation to experience stimulation. Intrinsic motivation to know is related to learning, exploration, curiosity, and a need to learn and understand. While participating in an activity, a person experiences pleasure and satisfaction from learning or exploring something new. Intrinsic motivation toward accomplishments can be defined as an engagement in an activity for the sake of pleasure experienced when attempting to accomplish certain goals or create something, or when trying to master a demanding task. Intrinsic motivation to experience stimulation drives an individual to participate in an activity in order to experience sensory pleasure, aesthetic experience, fun, and excitement.

Social environment factors can significantly influence intrinsic motivation in an individual (Deci & Ryan, 1985). Some environmental factors, such as positive feedback and freedom of choice in behavior, can be described as informational events that exert a positive influence on intrinsic motivation. On the other hand, factors such as negative feedback, competition, deadlines, rewards, criticism, punishment, and evaluations tend to be experienced as controlling factors and therefore they decrease self-competence and intrinsic motivation.

### Goal perspective approach

By definition, a goal is something that an individual tries to accomplish, i.e., the object or aim of the undertaken action (Weinberg, 2001), or it can also be defined as a standard to be reached on a task within a predetermined time frame. To understand someone's motivation and achievement behavior it is necessary to recognize and understand her/his goals of action. According to the goal perspective theory (Nicholls, 1989, in Newton & Duda, 1999), the characteristics of both a person and situation can interact and impact the state of goal involvement, which in turn results in achievement behaviors. Therefore, many behavioral variations are possible, due to different individual perceptions of what is an appropriate goal within a particular social context. In general, personal goals influence the way people think, feel and act in achievement situations, such as competitive sport (Duda, Newton, Walling & Catley, 1995).

The understanding of achievement goals can help in providing meaning to an athlete's action and may facilitate the interpretation of her/his behavior within the specific sport situation. Versatile types of achievement goals are identified in literature, but two main dispositional points generally persist in sport science studies (Duda, 1993; Kim & Gill, 1997; Newton & Duda, 1999). These achievement goals are "task" and "ego" goal orientation. Task and ego goal orientations reflect two distinct theoretical approaches to a subjective definition of success, failure and self-assessment of demonstrated competence (Lochbaum & Roberts, 1993; Newton & Duda, 1999). These goal orientations have been found to be mutually orthogonal (Roberts, 1993; Newton & Duda, 1999) and in some studies they have been investigated under different names. For example, goals were contrasted as task versus ego orientation (Duda, 1989, Lochbaum & Roberts, 1993; Newton & Duda, 1999; Kokkonen & Papaioannou, 2001), learning versus performance orientation (Papaioannou, 1994, 1998;

Christodoulidis, Papaioannous, Digelis & Lapidis, 2001), and mastery versus ability criteria of performance (Ames, 1984, in Roberts, 1993; Goudas, 1998; Theboom, De Knop & Wiess, 1995).

It can be summarized that the athlete who is mainly task-oriented perceives her/his ability in terms of personal achievement criteria and personal improvement, and rates her/his success according to the effort invested in mastering the task as well as her/his self-referenced performance. The mainly ego-oriented athlete, on the other hand, estimates her/his ability and competence according to normative criteria by evaluating it through a comparison to others, and only if the comparison outcome proves that her/his performance is better, he/she will experience success. Furthermore, an ego-oriented athlete believes that the success achieved is a consequence of her/his superior abilities, not invested effort. Ego goal orientation eventually leads to negative achievement behavior (deterioration of performance and decreased persistence in sport) and maladaptive cognitive responses (Duda et. al, 1995; Roberts, 1993). Conversely, a task involvement orientation is manifested in adaptive cognitions and positive behaviors, regardless of a person's ability level (Duda et al., 1995). When task involvement is salient, an athlete is more focused on the process than on the outcome or result, which is typical for the ego involvement orientation. Expressing the above discussion in more practical terms, sport psychologists distinguish between the outcome, performance, and process goals in a sport setting (Weinberg, 2001). Outcome goals usually refer to winning or losing, and the achievement of a particular goal depends partially on the abilities and performance of the opponent. Performance goals address individual differences and compare a person's past performance to her/his present performance. Process goals refer to the manner in which an athlete performs a particular skill and progresses through particular steps during practice. Weinberg (2001) emphasized that the understanding of proper goal setting procedures can be a powerful tool in enhancing sport performance.

### Theoretical links between goal perspectives and intrinsic motivation

Analyses of goal perspectives should provide an insight into the variations in the intrinsic motivation observed in achievement settings such as competitive sport. It is presumed that task involvement will be positively associated with intrinsic motivation, whereas ego involvement will correspond to decreased intrinsic motivation (Duda et.

al., 1995). Since a task-oriented person is focused on an activity and not on an outcome, he/she is liberated from the controlling impact of expected results. Therefore, such a person is more self-determined and the intrinsic features of sport engagement are most salient in her/his behavior. The described behavior corresponds to the postulates of the cognitive evaluation theory (Deci & Ryan, 1985) stating that intrinsic motivation is enhanced when a person feels competent and self-determined in her/his behavior, which, consequently, produces a feeling of personal autonomy. According to Duda and her associates (1995) it is presumed that "*task involvement is associated with a reduced probability that people feel incompetent in sport activities*" (p. 43). Conversely, ego involvement reflects externally regulated behavior of an athlete with a constraining demand for the expected outcome. Thus, an externally oriented person is engaged in the sport activity to achieve results, he/she enjoys the activity less, and intrinsic motivation is reduced (Deci & Ryan, 1985). When the perceptions of ability and success are based on the normative criteria of the evaluation, i.e., an athlete's behavior is under the control of the external locus of causality, it is more plausible to expect that the athlete will feel incompetent and unsuccessful. Under these conditions the behavior of an ego-oriented athlete is less self-determined. His/her focus is on controlling (external) the aspects of environmental events, such as results, evaluations and punishments. This, in turn, may cause decrements in intrinsic motivation. A typical intrinsically motivated individual performs better under challenging as compared to easy-to-achieve goals. Under the extrinsic reward conditions people prefer easy goals (Deci & Ryan, 1985). Decrements in the intrinsic motivation may also be caused by goals that are imposed by others (e.g. coaches or parents).

The purpose of the present study was to examine the associations between goal orientations and indices of intrinsic motivation in young Croatian track-and-field athletes. Track-and-field practitioners are faced with rapid increases in dropout rates from selected sporting events, even at early stages of children's engagement. In order to help coaches and teachers understand the problem and to be able to devise the means to prevent it, the authors have conducted this study on the motivational concepts in young athletes. The present study serves as the first step in an ongoing project entitled "The Influence of Training on Psychological Status Changes," supported by the Croatian Ministry of Science and Technology.

Based on the goal perspective theory (Duda, 1989,1993; Nicholls, 1989) and reports on gender differences in goal orientation and intrinsic motivation (Roberts, 1993; Kim & Gill, 1997; Barić, 2001) it was hypothesized that girls will demonstrate higher tendencies toward task orientation, whereas boys will score higher on ego orientation. It was further hypothesized that boys will report a greater perception of competence in sport and greater intrinsic interest and enjoyment, while experiencing higher pressure/tension. Consistent with previous studies (Duda et al., 1995; Kim & Gill, 1997; Newton & Duda, 1999), it was predicted that the association between task orientation and overall intrinsic motivation would be related to positive relationships between interest/enjoyment, perceived competence and effort dimensions of intrinsic motivation (Deci & Ryan, 1995), and task orientation, whereas negative relationships were expected in case of the pressure/tension dimension in young male track-and-field athletes. Further, it was presumed that ego oriented athletes would experience sport activity as enjoyable and interesting only if they succeeded in confirming their athletic competence. Consequently, a significant correlation between the interest/enjoyment dimension and ego orientation was not expected. Instead, ego orientation was expected to be positively related to the pressure/tension dimension. A significant association between ego orientation and overall intrinsic motivation was not predicted. Thirdly, no significant relationship between task and ego goal orientation was expected (Roberts, 1993; Duda et al., 1995).

## Methods

### Participants

The sample consisted of 246 Croatian primary school pupils (97 boys and 149 girls) engaged in track-and-field training either in school or in a sports club environment. The testing took place during the school sport track-and-field spring competition. All participants were from the Zagreb area, and were mostly beginners in track-and field. Participants' ages ranged between 11 and 15 years ( $M = 12.95$ ,  $SD = 1.27$ ).

### Instruments

In order to assess the individual differences in goal orientation the 13-item *Task and Ego Orientation in Sport Questionnaire* (TEOSQ; Duda et. al., 1995) was administered. It consists of the two orthogonal dimensions, represented by task and ego goal orientation, that are assessed by composite scores of correspondent items. The present study's results were consistent with the

reliability and validity scores reported in previous investigations (Cronbach alphas were 0.84 and 0.77 for the task subscale, and the ego subscale, respectively). Six items of the TEOSQ represent task orientation (e.g. 'I learn a new skill by trying hard'), and seven items represent ego orientation (e.g. 'I can do better than my friends').

The 18-item *Intrinsic Motivation Inventory* (IMI) (McAuley, Duncan and Tammen, 1989) was used to assess the general level of the participant's intrinsic motivation considered as an additive function of the four underlying dimensions of interest/enjoyment, perceived competence, effort and pressure/tension. Three dimensions are positive indicators of intrinsic motivation: interest/enjoyment - I/E (e.g. 'I enjoyed this sport activity very much'), perceived competence - PC (e.g. 'I think I am pretty good at this sport') and effort/importance - E/I (e.g. 'I tried very hard when practicing'). The fourth dimension, pressure/tension - P/T, is considered as a negative indicator of intrinsic motivation (e.g. 'I felt tense while practicing this sport').

The first step after the data had been collected, was to test for the questionnaires' reliability. The internal consistency of the intrinsic motivation subscales, determined via the Cronbach's alpha coefficients, showed an unacceptably low reliability for this sample. Alpha coefficients obtained from the comprehensive version of the IMI questionnaire for this sample ranged from 0.31 to 0.56. Due to the low reliability, a more detailed analysis of the items was performed. A factor analysis revealed that five items (12,13,15,17, and 18) were significantly saturated with more than one factor. Therefore, these five items were later excluded from the final version of the instrument. The internal reliability of the modified IMI questionnaire and its subscales were satisfactory. Cronbach's alpha coefficients for the I/E, PS, E/I, and P/T subscales

were quoted at 0.67, 0.74, 0.60, and 0.80, respectively and 0.71 for the entire IMI scale.

Items of both instruments were assessed on a 5-point Likert-type scale, where 1 represented strong disagreement and 5 represented strong agreement. The reversal items were rescaled prior to the data analysis. Composite scores of items represented the goal orientation and intrinsic motivation factors, and they were used in further data analysis.

## Procedure

Participants were asked to complete the TEOSQ (Duda et. al., 1995) and the IMI (McAuley et. al., 1989) questionnaires in the meeting room, either before or after their individual participation in the competition. Each group consisted of 25 examinees. The participants were instructed on what was expected of them, and how to mark their answers. Athletes were asked to recollect the moments when they had felt most successful in their sport activity. When everybody had understood the instructions and agreed to cooperate, a signal was given to start filling in the questionnaires, a task that took approximately 20 minutes to complete.

## Results

The influence of gender on task and ego orientations and indicators of intrinsic motivation, which was examined with a one-way between-subjects ANOVA, is presented in Table 1, together with the results of the descriptive statistics.

The ANOVA results show that gender significantly influences both the task and the ego orientation in sports. The female participants were more task-oriented in track-and-field than boys. On the other hand, the boys were more ego-oriented in sport than girls of the same age. Gender has a significant influence on the two of the intrinsic

Table 1: Means, standard deviations, and F values for the IMI and TEOSQ.

	Total (N = 246)		Boys (N = 97)		Girls (N = 149)		F <sub>1,244</sub>
	M	SD	M	SD	M	SD	
TEOSQ Scales							
Task orientation	4.06	0.90	3.79	1.00	4.24	0.78	15.96**
Ego orientation	2.39	0.86	2.54	0.85	2.29	0.86	4.79*
IMI Scales							
Enjoyment/ Interest	4.24	0.76	4.05	0.90	4.36	0.62	9.80*
Perceived Competence	4.17	0.71	4.15	0.83	4.19	0.62	0.15
Effort / Importance	4.31	0.74	4.26	0.89	4.35	0.63	0.84
Pressure / Tension	2.53	1.29	2.80	1.29	2.35	1.27	7.54**
Overall Intrinsic Motiv.	15.25	2.16	15.27	2.61	15.24	1.82	0.01

Note. \*  $p < 0.05$ ; \*\*  $p < 0.01$

motivation factors: interest/enjoyment and pressure/tension.

Simple correlation analyses were performed to determine the relationships of the goal orientations and factors of intrinsic motivation. Correlation coefficients were calculated separately for the boys and the girls. Results of the correlation analysis are presented in Table 2.

sqr.=28.19, df=3,  $p < 0.00$ , canonical corr. sqr.=0.11). The obtained correlations between the two sets of variables are very low - the first explains only 18% and the second 11% of the common variance among the sets. The correlations between the goal orientations and the subscales of intrinsic motivation with the canonical functions are presented in Table 3.

Table 2: The summary table of correlations between task and ego orientation and indices of intrinsic motivation.

IMI Scales	Total (N = 246)		Boys (N = 97)		Girls (N = 149)	
	Task orient.	Ego orient.	Task orient.	Ego orient.	Task orient.	Ego orient.
Enjoyment / Interest	0.25**	0.01	0.18	0.18	0.24**	-0.10
Perceived Competence	0.13*	0.28**	0.08	0.32**	0.19*	0.26**
Effort / Importance	0.35*	0.15*	0.28**	0.23*	0.43**	0.09
Pressure / Tension	-0.14*	0.12	-0.20*	0.11	-0.02	0.10
Overall Intrinsic Motivation	0.17**	0.22**	0.08	0.29**	0.28**	0.16
Task orientation	1.00	-0.02	1.00	0.03	1.00	0.01
Ego orientation	-0.02	1.00	0.03	1.00	0.01	1.00

Note. \*  $p < 0.05$ ; \*\*  $p < 0.01$

Results of correlation analysis for the total sample of participants showed that task orientation was significantly correlated with all the factors of intrinsic motivation, i.e., with interest/enjoyment in sport, perceived competence, sports' related effort/importance, and overall intrinsic motivation. The association between task orientation and perceived pressure/tension in sports was negative. Ego goal orientation was positively associated with perceived sports competence, effort/importance, and overall intrinsic motivation. Other associations were not statistically significant.

Among the boys, task orientation was positively correlated with the levels of effort and importance assigned to the sport activity. Task orientation was negatively associated with the reported tension and pressure experienced in sports. Ego orientation in the boys was significantly correlated with perceived competence in sports and overall intrinsic motivation. Excluding the pressure/tension orientation, results in the girls' sample demonstrated a significant association between all of the remaining intrinsic motivation factors. Ego orientation was positively associated with the girls' perception of their competence in sports. As it was hypothesized, no significant correlation between task and ego orientation was found (Table 2).

Multivariate relationship between goal orientations and intrinsic motivation for the whole sample was determined by means of canonical correlation analysis. Results showed two significant canonical functions (*the first*: Canonical R=0.42, Chi sqr.=74.66, df=8,  $p < 0.00$ , canonical corr. sqr.=0.18; *the second*: Canonical R=0.33, Chi

Table 3: Canonical analysis: goal orientation and subscales of intrinsic motivation (N = 246).

Canonical factor structure	Factor 1	Factor 2
Goal orientation		
Ego orientation	0.13	0.99
Task orientation	0.99*	-0.15
IMI Scales		
Enjoyment / Interest	0.58*	-0.08
Perceived Competence	0.42	0.78*
Effort / Importance	0.89*	0.30
Pressure / Tension	-0.29	0.43*

The correlations of indices of goal orientations and intrinsic motivation with canonical functions indicated that high task orientation corresponded to greater interest and enjoyment in sport activities and to the greater investment of effort. High ego orientation was associated with a higher perceived competence (not being congruent with the initial presumptions) and with the feeling of pressure/tension in track-and-field.

## Discussion and conclusions

The results of the study showed that gender significantly influenced both task and ego goal orientations in sports. As expected, female track-and-field subjects were more task oriented than male subjects, meaning that the girls were more focused on the improvement of their performance and on the very learning process. Task orientation in sport refers to self-referenced perceptions of sport ability, therefore a subjective estimation of success is based on personal improvement and

learning (Nicholls, 1984, 1989). Boys were more ego-oriented in sport than girls of the same age. It means that boys focused more often on adequacy and demonstration of their athletic ability as compared to girls. According to Duda (1989) ego-oriented athletes formulate their perceptions of competence by comparing their own ability to others' abilities, which means that they are more often focused on the issue of the adequacy of their athletic ability. The present results also showed that boys feel more often successful in sport when they have managed to outperform others, which was consistent with the findings of other studies (e.g., Roberts, 1993). In general, these stated gender differences were congruent with the findings of Marsh and Peart (1988), and Deci and Ryan (1985).

Gender also influenced the intrinsic motivation factors, such as interest/enjoyment and pressure/tension. Girls perceived involvement in track-and-field as more enjoyable and interesting, whereas boys perceived it more often as a source of stress. Barić (2000) reported similar gender differences in her study of intrinsic motivation in pre-pubertal girls and boys engaged in different sport programs. Results showed that during a sport activity the boys felt nervousness and pressure more often than the girls. Stronger feelings of pressure and nervousness, which accompany active sports involvement of boys, were also reported in studies by Deci and Ryan (1985) and Duda and her associates (1989). According to these studies the level of reported tension and pressure, experienced while participating in sports, should be considered as the negative indicator of intrinsic motivation.

Other factors of intrinsic motivation, particularly perceived competence and effort/importance, are not influenced by gender in young track-and-field competitors. Pubertal boys and girls appeared not to differ in their perceptions of competence in sport nor in the perceptions of exerted effort. Thus, the first hypothesis of the present study that girls will demonstrate higher tendencies toward task orientation, whereas boys will score higher on ego orientation, and that boys will report a greater perception of competence in sport and a greater intrinsic interest and enjoyment, while experiencing higher pressure/tension was not confirmed completely. Sports activity in track-and-field was equally important to the boys and girls. It was also expected that boys would enjoy track-and-field more than girls, but the results showed the opposite. This means that pubertal boys and girls perceived their competence in sport and exerted effort in a similar way. Duda and her colleagues (1995) argued about the different perceptions of

competence in relation to gender, as their research indicated that boys felt more competent in sports than girls.

Intrinsic motivation and self-determination theory (Deci & Ryan, 1985) predicts a significant relationship between goal orientations and perceived competence. Perceived competence was correlated with both types of goal orientation in the total sample and in the girls' sample. Higher correlations were reached between perceived competence and ego orientation in all groups, especially in boys, whereas the relation between task goal orientation and perceived competence was not significant. Task orientation was significantly related to all the intrinsic motivation factors. Perceived competence was positively associated with an interest/enjoyment in sport, perceived competence, sports' related effort/importance, and overall intrinsic motivation. Only one negative relation was observed between task orientation and perceived pressure/tension in sports.

Perceived sports competence, effort/importance, and overall intrinsic motivation were positively related to ego goal orientation. The positive relation between the intrinsic motivation factors and the ego goal orientation, which had not been expected, contradicted the findings of most of the mainstream studies (e.g. Duda, 1989; Duda et al., 1995). The results of the present study were more congruent with those of Kim and Gill (1997), who showed a similar interdependence between the indices of intrinsic motivation and ego goal orientation. It is presumed that the sample of young athletes investigated in the present study used multiple criteria for estimating their goals and conception of their ability to achieve success in sport by relying on personal improvement and demonstration of superiority. In the competitive sport setting athletes may be oriented to win (ego oriented), but they may also want to perform at the highest level of their abilities (task oriented). Both attitudes may have a high motivational power.

The correlation analysis between goal orientations and indices of intrinsic motivation showed several gender differences. Task orientation in boys was related to factors of effort/importance and pressure/tension, whereas the same orientation in girls was related to all the intrinsic motivation factors, except for the pressure/tension factor. There were also significant differences in the relations between ego orientation and factors of intrinsic motivation. Ego orientation in boys was related to overall intrinsic motivation, as well as to the factors of perceived competence and effort/importance. Ego orientation in girls was related

only to perceived competence. The results have also confirmed that task and ego goal orientations were orthogonal dimensions, a finding that was consistent with predictions of the goal perspective theory (Roberts, 1993; Weinberg, 2001).

A multivariate relationship between goal orientation and intrinsic motivation resulted in two significant canonical functions obtained by a canonical correlation analysis. The higher task orientation corresponded to a greater interest and enjoyment in sports activities and to a greater investment of effort. Also, a higher ego orientation was associated with a higher perceived competence and a feeling of pressure/tension in sports, that is congruent with previous findings. (Kim & Gill, 1997).

The investigated concepts of intrinsic motivation and goal orientations, as has been explained earlier, overlap to a certain degree, at least from the theoretical point of view. Therefore, it is necessary to investigate the relations between measures of these concepts. Whenever possible all the measures of these concepts should be taken into account. This investigation has tested the relations of indices of intrinsic motivation and goal orientations utilizing two questionnaires, one for each concept. Hence, the main value of this study is in its attempt to clarify the expected overlapping of intrinsic motivation and goal orientations. On the other hand, the main shortcoming of this study's experimental design was the omission of additional questionnaires and behavioral measures that address both intrinsic motivation and goal orientations. The obtained results have thus provided only a moderate corroboration for the predicted relationships between goal orientations and the indices of intrinsic motivation. The finding that ego orientation was not independent from intrinsic motivation contradicted the findings reported in the

mainstream literature. Many track-and-field events may be classified as 'closed skills' in which results depend exclusively on the athlete's internally regulated performance. The main criteria of high achievements are quality and mastery of skills. It may, therefore, be presumed that most track athletes are more task oriented than goal oriented, as confirmed in this study.

Relations between intrinsic motivation and ego orientation indicated that high perceptions of competence, together with the desire to win, can be powerful driving forces, which is a feasible characterization of high achievers (Weinberg, 2001). It is also plausible to presume that relations between the investigated concepts are not yet stable under the age of fifteen. Namely, it is expected that children under fifteen would be oriented toward seeking social approval and would compare themselves to others because they have not yet formed their own standards of excellence. In high achievement contexts such as sports, social comparison and relative ability (both related to ego orientation) there are important criteria for children in estimating their strivings in sport (Roberts, 1993). Therefore, these criteria may serve as the basis of children's motivation.

This research project has shown that the Croatian version of the IMI must be modified according to the obtained results if it is to be implemented in further studies. Future studies should focus on the investigation of the effects that intrinsic motivation and goal orientation indices may have on the motivational climate, as it relates to the development of the adaptive-achievement striving in sport context. The study of the relationship between intrinsic motivation, goal orientation and motivational climate would also have an applied value in serving as the guidelines for creating a more motivating and stimulating youth sport experience.

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## INTRINZIČKA MOTIVACIJA I CILJNA ORIJENTACIJA DJECE KOJA SE BAVE ATLETIKOM

### Sažetak

#### Uvod

S obzirom na rastući trend osipanja djece iz sporta i sa željom da se spriječi opadanje motivacije za vježbanje, u radu se pokušalo otkriti na koji način djeca percipiraju sportsku aktivnost te koji su njihovi motivacijski koncepti. A baš je sportsko okruženje prikladno za istraživanje ponašanja usmjerenoga ka postignuću. Zato je i cilj ovog istraživanja bio istražiti relacije između ciljne orijentacije i pokazatelja intrinzičke motivacije na uzorku djece koja se bave atletikom.

*Intrinzička motivacija* (IM) smatra se unutarnjom pokretačkom energijom koja objašnjava sudjelovanje u nekoj aktivnosti zbog osobnog uživanja i osjećaja zadovoljstva, a ne zbog vanjskih razloga. Temelji se na unutarnjoj potrebi za kompetentnošću i samoodređenjem. Moguće je razlikovati nekoliko vrsta IM: IM za znanjem, IM za postignućem i IM za senzornom stimulacijom. Okolinski faktori, kao što su negativne povratne informacije, nagrade, rokovi, kazne te bilo koji oblici vrednovanja umanjuju, dok pozitivne povratne informacije i mogućnost slobodnog izbora povećavaju intrinzičku motivaciju.

Prema *teoriji ciljne orijentacije* svako je ponašanje određeno ciljevima koji ovise o karakteristikama pojedinca i situacije. U području sporta razlikuju se dvije grupe međusobno suprotstavljenih ciljeva: usmjerenost prema zadatku te usmjerenost prema rezultatu. Sportaš usmjeren prema zadatku teži razvoju vještine i prosuđuje osobni uspjeh na temelju uloženog napora. Sportaš usmjeren na rezultat prosuđuje osobni uspjeh na temelju usporedbe s drugima (biti uspješan = biti bolji) te smatra da je uspjeh posljedica vlastitih superiornih sposobnosti. Sukladno nalazima dosadašnjih istraživanja u području psihologije sporta, usmjerenost prema zadatku pozitivno je povezana s porastom IM, dok usmjerenost ka rezultatu može proizvesti pad IM.

#### Metode rada

Ispitivanje je provedeno adaptiranim upitnikom ciljne orijentacije (TEOSQ, Duda i sur., 1995) te intrinzičke motivacije (IMI; Mc Auley i sur., 1989) na uzorku od 246 djece (97 dječaka i 149 djevojčica) koja se bave atletikom u škol-

skim i sportskim atletskim klubovima. Prosječna dob uzorka je 12,95 godina. Odgovori su vrednovani na skali Likertova tipa (od 1 - uopće se ne slažem, do 5 – potpuno se slažem). Dobiiveni su rezultati prije obrade podataka kondenzirani na faktore ciljne orijentacije (f. usmjerenosti na zadatak, f. usmjerenosti na rezultat), te faktore intrinzičke motivacije (interes/uživanje, percipirana kompetentnost, napor/važnost, kao pozitivni prediktori, te pritisak/tenzija kao negativni prediktor IM).

#### Rezultati i diskusija

Univarijatnom analizom varijance utvrđene su statistički značajne razlike između spolova. Djevojčice su iskazale veću usmjerenost na zadatak i razvoj atletskih vještina, dok su dječaci bili više usmjereni na uspjeh i sportski rezultat. Osim toga, pokazalo se da djevojčice uživaju u vježbanju atletike više od dječaka, koji pak pri vježbanju osjećaju veći pritisak. Rezultati korelacijske analize pokazuju da usmjerenost na zadatak značajno i pozitivno korelira sa svim faktorima IM osim s faktorom pritisak/tenzija, gdje je dobivena povezanost negativnog smjera. Usmjerenost ka rezultatu u pozitivnoj je vezi sa samoprocijenjenom kompetentnošću te faktorom napora, kao i s generalnim faktorom IM. Pozitivna povezanost faktora IM i usmjerenost na rezultat nije bila očekivana, iako je u skladu s rezultatima nekih dosadašnjih istraživanja.

Kod dječaka je vidljiva značajna pozitivna povezanost usmjerenosti na zadatak i uloženog napora te negativna veza s faktorom pritisak/tenzija. S druge strane, usmjerenost na rezultat značajno korelira s percipiranom kompetentnošću i ukupnom razinom IM. Kod djevojčica je utvrđena značajna povezanost usmjerenosti na zadatak i svih faktora IM, osim faktora pritiska. Usmjerenost na rezultat kod djevojčica korelira s percipiranom kompetentnošću za sportsku izvedbu u području atletike.

Multivarijatna povezanost prostora IM i ciljne orijentacije utvrđena je kanoničkom korelacijskom analizom, što je rezultiralo dvjema značajnim kanoničkim funkcijama. Na temelju faktorske strukture prva kanonička funkcija određena je visokom razinom orijentiranosti na zadatak, što se povezuje s povećanim osjećajem uživanja u vježbanju te povećanim ulaganjem napora djece-atletičara. Drugi kanonički faktor određuje visoka usmjerenost na re-

zultat koja se povezuje s višom razinom percipirane kompetentnosti, ali i s većim osjećajem pritiska/napetosti pri vježbanju u atletičara-djece.

### **Zaključak**

Dobiveni su rezultati gotovo potpuno potvrdili poznate pretpostavke. Povezanost usmjerenosti na rezultat s pozitivnim prediktorima IM može biti rezultat specifičnosti populacije

(hrvatska djeca-sportaši) iz koje je uzorak odabran. Na temelju rezultata ovog istraživanja uočena je potreba za doradom adaptirane verzije upitnika intrinzičke motivacije, a u budućim se istraživanjima planira ispitati povezanost njenih faktora sa još nekim motivacijskim konceptima u sportskom okruženju.

***Ključne riječi:*** djeca, atletika, intrinzička motivacija, ciljna orijentacija

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