A Comparison of Two Conative Characteristics of Top Basketball and Recreational Table Tennis Players

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ABSTRACT

The purpose of this study is to adapt imported instruments for measuring multidimensional perfectionism in sport situations and perceived group cohesion, in terms of construct validity and reliability, as well as from the aspect of interpretability, addressed on Croatian samples of athletes. Group Environment Questionnaire (GEQ) and Sport Multidimensional Perfectionism Scale (MSSP) are applied. The sample of 223 male Croatian athletes comprises of $N_1=107$ top basketball players from nine teams in A-1 Croatian Basketball League and $N_2= 116$ recreational table tennis players who play in Table Tennis Organization of Clubs and Actives in Zagreb. Principal Components Analyses at both instruments showed two-component structures: combined social-task cohesion and friendship were latent dimensions of perceived group cohesion, while the internalized standards and externalized standards revealed two aspects of multidimensional perfectionism in sport situations. In perceived group cohesion, basketball players achieved higher average results than table tennis players in the friendship, while the table tennis players showed higher combined social and task orientation than basketball players. In multidimensional sport perfectionism, basketball players have higher average result than table tennis players in the dimension of internalized perfectionism, but in externalized perfectionism there is no statistical significant difference. Younger players showed higher average results than older players in the dimension of friendship, while older players showed higher combined social and task orientation than younger players. Younger players have higher average scores in internalized perfectionism. The main importance of the research is adjustment of multidimensional perfectionism in sport situations and perceived group cohesion to Croatian athletes, providing additional possibility of cross-cultural adjustment of both concepts, psychometrically and theoretically.

Key words: basketball, perceived cohesion, perfectionism, table tennis

Introduction

The characteristics that determine success in different types of sports are defined by the specification equation, which determines optimal set of anthropological characteristics connected with maximum sport achievement[1]. In relation to the game characteristics and numerous limitations defined by the rules of the game, playing sports requires anthropological characteristics, primarily: morphological, functional capacities and motor skills. However, in the specification equation for the success in any of the sports, personality is one of major determinants[2] and the diagnostics of conative characteristics of an athlete is often extremely important, for the selection process and for the targeted process of training of top athletes. When researching the personal charac-

teristics of the athletes in any sport, it's very important to consider choosing the type of personality models: some personality models attempt to interpret the complete personality, while others consider only some aspects of an individual's functioning. For example, there are 17 specific characteristics of elite athletes in team sports games which probably have influence on the functioning and performance of individual athletes and the whole team[3]. Finding differences in relevant personality characteristics of the athletes engaged in different sports can enable coach to correct unwanted deviations from desirable conative characteristics for (say) basketball or table tennis players, as well as to obtain personality adjusted defining of certain players' roles in sport teams[4]. On the

other side, many characteristics are important for the success in different sports, individual and team ones: the ability to focus, mental toughness, hope/goal setting ability, sport intelligence, ability to cope, competitiveness, confidence, coachability, high drive, intrinsic motivation, high optimism, adaptive perfectionism, automacy (the ability to click into automatic performance), emotional control (ability to relax and activate)[5]. Namely, various studies have indicated that differences exist in psychological skills between athletes engaged in individual and team sports[6,7]. Six main psychological skills relevant to exceptional athletic performance, measured with Psychological Skills Inventory for Sports (PSIS-R-5) are defined with scales: motivation, confidence, anxiety control, mental preparation, team emphasis and concentration[6,7]. In this research, the main issue is a consideration of two conative characteristics, which are close to the above-mentioned lists of important psychological characteristics: perfectionism and perceived group cohesion. Perfectionism is relevant personality characteristic for success in many sports, team or individual[5]. Perceived group cohesion has been chosen as an indicator of group (team) functioning, and it is inherent part of team emphasis, an aspect of six main psychological skills[7].

Perfectionism is a tendency to reach very high standards and it is mostly studied as a permanent personal characteristic. Its main feature is the »high performance standards«[8,9]. Perfectionism is a network of cognitions that includes expectations and interpretations of events and self-evaluations and evaluations of others, characterized with a series of unrealistic standards, rigid and inflexible. Perfectionism equalizes self-evaluation with success[8]. Perfectionism can be »normal« when an individual feels satisfied while trying to achieve high standards, simultaneously recognizing and accepting his own limitations. But perfectionism becomes a problem when an individual has unrealistic expectations and is never satisfied enough with his/her performance[8]. Perfectionism is very often observed as neurotic disposition that is correlated with many psychopathological attributes: depression, feeding disorders, with the feelings of loss and anxiety, guilt, delaying tasks, suicidal ideas, low self-esteem[10], or social phobia/anxiety and obsessive-compulsive disorders[11].

Perfectionism is linked with worse success in sport competition, traits of anxiety and burnout syndrome in sport situations[12]. Comprehension of conative, affective and behaviourist correlates of perfectionism is inevitable on the way to success in competitive sports[13]. For example, unconditional self-acceptance has desirable influence on the correlation between the perfectionism and burnout of top junior football players: high level of self-acceptance affect burnout reduction, while the perfectionism becomes positively directed[14]. Some theoreticians presume that perfectionism tendencies are not general trait that affects all life situations for an individual. They believe that perfectionism can function only in some areas of life[15]. Analogous, many researchers of perfectionism in sport try to adjust multi-dimensional per-

fectionism just for specific sports situations and for specific types of sports[15]. The latent structure of adapted Hewitt's scale of multidimensional perfectionism in sport situations[8] (applied on the sample of athletes) revealed four dimensions of perfectionism in sport situations: personal standards, anxiety over mistakes, parents' criticism, and coach's criticism[16]. The inventory Multi-dimensional Perfectionism Scale for football (hereinafter MSP-F) players is adapted to American football, and showed the existence of four dimensions: personal standards, anxiety over mistakes, perceived pressure from parents and perceived pressure from coach[9]. Psychometric properties of the Sport Multi-dimensional Perfectionism Scale (hereinafter MSSP), adapted to sports in general, showed good compatibility between factor structure of the MSSP and Hewitt's general perfectionism dimensions[17]. Four factors of multi-dimensional perfectionism in sport (MSSP) were the same as in MSP-F. Multi-dimensional perfectionism in sport is linked with two goal orientations in sports (ego-orientation and task orientation)[17]. Anxiety over mistakes and perceived pressure from parents showed a significant correlation with competitive anxiety[18]. However, it seems that research on perfectionism must consider that specific types of perfectionism occurred in the area of specific types of sport activities.

Perceived group cohesion is especially important feature that must not be forgotten or neglected in all team sports[19], interactive or co-active. For example, in basketball harmonious composition of player's decision making and motor skill execution is inevitable, compliant with team solutions to problems in the game. High competitive achievement of the entire team as a collective goal is the dominant motivation resource for each individual player's performance. The actual quality of an individual player (in any team competition) can be divided in the individual and team aspect[20]. Team aspect of the actual quality recognized in individual's ability to contribute in the team successful performance and in achieving good competitive results. Individual qualities of players must be coordinated and synchronized within the agreed concept of play, where individual players have to perform their specific role(s) within the play concept, which comprises strategy and tactics[20]. In cases of co-active sports, individual has to adjust his/her motivation level in accordance to a team, not only considering his/her individual aspirations. Very important characteristics for an individual player in interactive team sports are: tactical discipline, tactical responsibility and cooperation[20]. Social structures can be regarded in two directions: micro-level structures (focused on individuals and their interactions) and macro-level structures (description of social structure, social processes and problems, and their interrelationships)[21]. Micro social structure of one group of players that form a team can strongly influence the final score in team sports, especially in interactive team sports, but also in co-active team sports. In cross-cultural aspect, the importance of micro-structure of the sport team as a special case of small group can be reflected in the repre-

sentation of relationships of some aspects of social system. In other words, sport teams are microcosms that reflect its individual characteristics: ethical principles, division of labour, history, everyday life, ideology, ranking by prestige, cooperation etc.[21].

The team cohesion is a dynamic process, reflected in the tendency for a team to stick together and remain united in the pursuit of goals and objectives[19]. The research of the correlation between team cohesion and results in sport competitions showed a high level of significantly positive correlations between team cohesion and success (ranged from 0.55 to 0.67), at elite US university basketball and football teams. Group integration regarding task was higher correlated to team success for basketball players, comparing with football players[22]. In preliminary basketball competition, the relationship between cohesion, perceived group efficacy and achievement for professional basketball teams was analysed[23]. Significant positive correlations between three dimensions of cohesion (group integration with respect to task, group social integration, and attractiveness of group task for an individual) and perceived group efficacy were determined[23]. Similarly, it is showed that two group cohesion aspects for top basketball and football players were highly correlated to team success: the most successful teams showed the highest results in both group cohesion aspects[22].

Cooperative (co-active) or interactive sports require different levels of cooperation or interactive dependence: cohesion has an important role in soccer, but it doesn't have such a crucial role in baseball[24]. The research of tennis players who participated in college sports teams in Taiwan established the relationship between team support and team cohesion. The results obtained show that there was a positive correlation between team support and team cohesion among college table tennis players[25]. The research about the relation between emotional intelligence and team cohesion among elite and amateur table tennis players (from West Azerbaijan, Tehran, Kurdistan, Mashhad and Yazd) showed two important facts. First, there is not a significant relation between emotional intelligence and team cohesion and its subscales in amateur players, while there is a significant relation between emotional intelligence and group cohesion in elite athletes[26].

The analysis of the results of the study about relationship between coaching leadership style and team cohesion in team and individual sports showed a significant positive relationship between all aspects of team cohesion and three aspects of leadership styles: training and practice, task-oriented and relationship-oriented. Zero-level relationship is found between team cohesion dimensions and directive leadership style[27]. In other words, cohesion depends on leadership style of the coach. Team cohesion among sport teams indicated that each coach's power supplies play a decisive role in the athletes' team cohesion[28]. However, there are some potential disadvantages of too high cohesion in sports teams, because the co-existence of negative effects can appear on both as-

pects of group cohesion, both on group and individual level[29].

The main goal of this study is to reveal the basic psychometric properties of the imported instruments (questionnaires) for measuring multidimensional perfectionism in sport situations and perceived group cohesion, applied on Croatian samples of athletes. These constructs have already been studied using belonging measuring instruments with its original scales[30,31], however in this research, these instruments were adapted for certain research samples. The second goal is to determine the differences in all dimensions of multidimensional perfectionism in sport situations and perceived group cohesion, between top basketball players (as representatives of extremely interactive team sport) and recreational table tennis players (representatives of individual and co-active team sport). Finally, the third aim is to determine the differences in all dimensions of multidimensional perfectionism in sport situations and perceived group cohesion, among older and younger athletes.

Methods

Subjects

Two samples of male participants were examined. First and intentional sample of participants consisted of $N_1 = 107$ top senior Croatian basketball players from nine teams in A-1 Croatian Men Basketball League in the 2006/2007 championship: Cedevita, Svjetlost, Borik, Kvarner, Dubrava, Dubrovnik, Alkar, Šibenik and Osijek. Age range of basketball players was large (17-40), with average age of 23.94±4.89. The second sample of participants was randomized sample of recreational table tennis players ($N_2 = 116$) who play in SOKAZ (acronym for the Table Tennis Organization of Clubs and Actives in Zagreb, in Croatian), who play in various SOKAZ leagues (from first to twenty second one). The average age of table tennis players was 37±7.25 years (range 17–72 years). Basketball players were examined between sixth and eighth round of A-1 league championship (from December 2006 until mid January 2007), during their trainings, while recreational table tennis players were examined using online survey, distributed by e-mail to random players, during the summer 2012. All participants in both samples were men and they were informed about general research purposes but without direct informing of the specific aims of the study. Basketball players were examined with a permission of the Croatian Basketball Association and certain clubs.

Variables

Group Environment Questionnaire (GEQ)

Group Environment Questionnaire (hereinafter GEQ)[32] was used to measure perceived group cohesion in the (basketball and table tennis) team. GEQ is based on self-evaluation and contains 18 items. Four aspects of group cohesion are evaluated: attractiveness of group task for an individual (hereinafter AGTI, 4 items), social

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attractiveness of a group to an individual (hereinafter SAGI; contains 5 items), group integration over task (hereinafter GIT; contains 5 items), group social integration (hereinafter GSI; contains 4 items). The subjects rate their usual attitudes pertaining to various aspects of group functioning on Likert 9-point scale, in a range from strongly disagree (1) to strongly agree (9). The instrument showed an acceptable internal consistency, indicated by the values of Cronbach's alpha-coefficients, ranged from 0,68 to 0,75 for different scales[32], from 0,61 to 0,76[33] and from 0,64 to 0,76[34]. In the same earlier research at selected sample of basketball players (included in this research as a subset, too), it appears that all original dimensions of the translated and adapted instrument have a low but satisfactory reliability, with Cronbach's alpha-coefficients as follows: AGTI (0,55), SAGI (0,66), GIT (0,68), and GSI (0,68), while the overall reliability of the questionnaire was 0.86[30].

Sport Multidimensional Perfectionism Scale (MSSP)

To measure perfectionism, Sport Multidimensional Perfectionism Scale (hereinafter MSSP) is used, constructed for athletes in team sports[9]. In its original form, MSSP has 30 items, with four dimensions: personal standards (7 items), anxiety over mistakes (8 items), perceived pressure from parents (9 items) and perceived pressure from coach (6 items). Participants rate their usual behaviour on Likert 5-point scale, from strongly disagree (1) to strongly agree (5). Cronbach's alpha-coefficients for all scales in the questionnaire indicate high level of internal consistency reliability, ranging from 0.76 to 0.89, but factor structure of dimensions might significantly vary depending on the type of sport and specific samples of athletes[15]. Previous research analyzed only smaller sample of basketball players that are included in this research, and showed that all original dimensions of the translated and adapted instrument have a low but satisfactory reliability: personal standards (Cronbach's $\alpha = 0.62$), anxiety over mistakes ($\alpha = 0.77$), perceived pressure from parents ($\alpha = 0.61$), and perceived pressure from coach ($\alpha = 0.68$), while the reliability of the whole MSSP was $\alpha = 0.87$[30]. In same research, four fixed factors explained 43% of total variance in MSSP.

According to data available, both instruments were used for the first time in Croatia. The correct meaning of the items content is checked by back-translation and during preliminary research.

Statistical methods

Statistical analyses were performed using the statistical program SPSS 7.5. Descriptive statistics were calculated for all the research data. For determining construct validity, exploratory factor analysis was used (Principle Components Analysis method with Varimax rotation) on the entire sample of 107 basketball players, together with 116 recreational table tennis players. This methodological strategy has two methodological aims: to get more stable factor structure (because of the small number of participants in general), as well as to enable direct comparison of two samples of participants, using the same common dimensions. At first, the number of the principal components (hereinafter factors) was fixed to the four, according to original scales of measuring instrument Sport Multidimensional Perfectionism Scale (MSSP), as well as to the four factors for the Group Environment Questionnaire (GEQ). Afterwards, a few criteria were combined during extracting factors while looking for the best solution: Guttman-Kaiser's criteria, Scree Plot and the interpretability of the factors. As the final result, all mentioned criteria have to be satisfied. Regression factor scores in factors obtained are used in further analyses: to find the differences between top basketball players and recreational table tennis players. For determining the differences between younger and older players, as well as for comparison recreational table tennis players with basketball players, t-tests for independent samples are used. The categorization of younger and older players was done by the median of the age for all participants.

Results

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (0.847) and Bartlett's test of Sphericity (Chi-Square= 1019; df=136; p<0.01) showed that correlation matrix is good for factorization. Principal Component Analysis (Table 1) and a scree plot of the component structure indicated a steep drop of eigenvalues that revealed a two--component structure, with principal components of perceived group cohesion named: *combined social-task cohesion* (1) and f*riendship* (2). Both components accounted for 39.364% of the total variance explained. First component showed very good value of reliability (0.840), while the second showed low (0.537) but also satisfying reliability. As a basis for the interpretation of test reliability coefficients, used the criterion proposed by Nunnally[30], who held that a sufficient degree of reliability needed a measuring instrument used to assess personality is one that varies in the range from 0.50 to 0.80. Other data, such as descriptives and communalities are also presented in the Table 1.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (.894) and Bartlett's test of Sphericity (χ^2=2068.927; df=276; p<0.01) showed that correlation matrix is good for factorization. Principal Component Analysis (Table 2) and a scree plot of the component structure indicated a steep drop of eigenvalues that revealed a two-component structure of multidimensional perfectionism in sport situations, with principal components named: internalized standards (1) and externalized standards (2). Both components accounted for 41.929% of the total variance explained and showed high reliability (0.896 and 0.799 respectively). Other data, such as descriptives and communalities are also presented in the Table 2.

Table 3 presents the differences in the dimensions of perceived group cohesion (friendship and combined social and task orientation) and multidimensional sport perfectionism (externalized perfectionism and internal-

TABLE 1

PRINCIPAL COMPONENTS ANALYSIS OF THE PERCEIVED GROUP COHESION ON THE SAMPLES OF CROATIAN ATHLETES

Items	Dimensions		Commu-nalities	X	Standard Deviation
	Component combined cohesion	Friend-ship			
I do not enjoy being a part of social activities in this team. (R)	0.517		0.315	7.356	2.558
I'm not happy with a amount playing time I get. (R)	0.438		0.196	6.454	2.492
I'm not going to miss the members of this team when season ends.		0.562	0.438	7.067	2.172
I'm unhappy with my team's level of desire to win. (R)	0.462		0.214	6.175	2.773
Some of my best friends are on this team.		0.639	0.441	6.747	2.249
This team doesn't give me enough opportunities to improve my personal performance. (R)	0.611		0.374	6.036	2.558
I enjoy other parties rather than team parties. (R)	0.522		0.324	6.160	2.452
I don't like a style of play on this team. (R)	0.713		0.515	6.521	2.344
For me. this team is one of the most important social groups that I belong.		0.690	0.482	6.402	2.418
Our team is united in trying to reach its goals for performance.	0.501		0.309	5.943	2.386
Members of our team is rather go out on their own than get together as a team. (R)	0.671		0.534	6.634	2.327
Our team members rarely party together. (R)	0.698		0.562	6.531	2.162
Our team members have conflicting aspirations for the team's performance. (R)	0.569		0.327	5.753	2.233
Our team would like to spend time together in the off season.	0.514		0.374	7.351	1.861
If members of our team have problems in practice. everyone wants to help them so we can get back together again.	0.608		0.486	6.784	2.220
Members of our team do not stick together outside of practice and games. (R)		0.577	0.395	7.268	2.183
Our team members do not communicate freely about each athlete's responsibilities during competition or practice. (R)	0.634		0.406	6.175	2.539
Eigenvalue	4.598	2.090			
Variance Explained	27.046%	12.318%	39.364%		
Reliability (Cronbach's α)	0.840	0.537			

Legend: (R) recoded items

ized perfectionism), between the table tennis players and basketball players. According to our results, statistical significant differences are found in both dimensions of perceived group cohesion, between analyzed groups of athletes. Basketball players showed higher average results than table tennis players in the dimension of friendship, while the table tennis players showed higher combined social and task orientation than basketball players. On the other hand, among two aspects of multidimensional sport perfectionism, only statistical significant difference is found in the dimension of internalized perfectionism, where the basketball players seems to have higher results than table tennis players.

Table 4 presents the differences in the dimensions of perceived group cohesion (friendship and combined social and task orientation) and multidimensional sport perfectionism (externalized perfectionism and internalized perfectionism), between younger and older players in the entire sample of athletes included in our research. Presented results are very much in concordance with those from the Table 3. Both dimensions of perceived group cohesion and internalized perfectionism are statistically significant different, among two age groups of athletes. Younger players showed higher average results than older players in the dimension of friendship, while older players showed higher combined social and task orientation than younger players. Younger players have higher average scores in internalized perfectionism.

Based on all presented results it is evident that externalized perfectionism doesn't differentiate age groups of athletes, as well as athletes from different sports. On the other hand, other three dimensions of these two conative characteristics showed their relevance in differentiating age groups or these two types of athletes. (In general, there are no statistically significant interactions among age group and type of sport: the interaction of fixed factors is checked using General Linear Model. However, only univariate interaction is found in the aspect of internalized perfectionism, where the difference between age groups is present only at table tennis players.)

TABLE 2
PRINCIPAL COMPONENTS ANALYSIS OF MULTI-DIMENSIONAL SPORT PERFECTIONISM SCALE ON THE SAMPLES OF CROATIAN ATHLETES

Items	Dimensions		Commu-nalities	X	Standard Deviation
	Internal-ized stan-dards	External-ized stan-dards			
If I do not set the highest standards for myself in my sport. I am likely to end up a second-rate player.	0.680		0.467	2.350	1.377
Even if I fail slightly in competition. for me. it is as bad as being a complete failure.	0.688		0.476	2.277	1.337
My parents set very high standards for me in my sport.		0.708	0.510	1.575	1.061
I feel like my coach criticizes me for doing things less than perfectly in competition	0.446		0.279	2.091	1.240
I hate being less than the best at things in my sport	0.615		0.465	3.012	1.662
If I fail in competition. I feel like a failure as a person	0.526		0.312	1.928	1.278
Only outstanding performance during competition is good enough in my family		0.593	0.406	1.321	0.772
Only outstanding performance in competition is good enough for my coach	0.671		0.505	2.133	1.346
My parents have always had higher expectations for my future in sport than I have.		0.574	0.350	1.455	0.961
The fewer mistakes I make in competition. the more people will like me	0.437		0.318	1.998	1.270
It is important to me that I be thoroughly competent in everything I do in my sport.	0.702		0.498	3.487	1.366
I feel like I am criticized by my parents for doing things less than per-fectly in competition.		0.575	0.331	1.325	0.706
I think I expect higher performance and greater results in my daily sport-training than most players.	0.661		0.446	2.890	1.358
I feel that other players generally accept lower standards for themselves in sport than I do.	0.578		0.345	2.350	1.191
parMy coach sets very high standards for me in competition.	0.632		0.455	2.981	1.375
If a team-mate or opponent (who plays a similar position to me) plays better than me during competition than I feel like I failed to some degree.	0.435		0.329	2.027	1.181
My parents expect excellence from me in my sport		0.772	0.602	1.382	0.833
My coach expects excellence from me at all times: both in training and competition	0.578		0.482	2.166	1.333
If I do not do well all the time in competition. I feel that people will not respect me as an athlete.	0.447	0.448	0.400	1.946	1.169
I have extremely high goals for myself in my sport	0.693		0.523	2.605	1.384
I set higher achievement goals than most athletes who play my sport	0.662		0.442	2.499	1.262
I feel like my parents never try to fully understand the mistakes I make in competition.		0.624	0.401	1.427	0.859
People will probably think less of me if I make mistakes in competition		0.489	0.378	1.785	1.106
My parents want me to be better than all other players who play my sport		0.539	0.343	1.739	1.252
Eigenvalue	6.028	4.04			
Variance Explained	25.115%	16.814%	41.929%		
Reliability (Cronbach's α)	0.8956	0.7993			

Discussion and Conclusions

The first goal of this research was exploring the latent structure of perceived group cohesion and multidimensional perfectionism in sport situations at Croatian men athletes: top basketball players and recreational table tennis players. Using the exploratory factor analysis method, a two-component structure was found, both for multidimensional perfectionism (internalized and externalized standards) and for perceived group cohesion (combined social-task cohesion and friendship). Namely, when quasi-confirmatory factor analysis (Principal Com-

TABLE 3
DIFFERENCES IN DIMENSIONS OF PERCEIVED GROUP COHESION AND SPORT MULTIDIMENSIONAL PERFECTIONISM AMONG BASKETBALL AND TABLE TENNIS PLAYERS

Sport differences	Mean basketball players (107)	Mean table tennis players (116)	Standard Dev. basketball players (107)	Standard Dev. table tennis players (116)	t-test (df=221)	p
friendship	0.527	–0.486	0.866	0.862	8.750**	<0.01
social-task orientation	–0.353	0.326	0.929	0.955	–5.370**	<0.01
externalized perfectionism	0.116	–0.107	1.117	0.869	1.647	>0.05
internalized perfectionism	0.617	–0.569	0.801	0.811	10.980**	<0.01

Legend: **test significant with p<0.01; not significant with p>0.05

TABLE 4
DIFFERENCES IN DIMENSIONS OF PERCEIVED GROUP COHESION AND SPORT MULTIDIMENSIONAL PERFECTIONISM AMONG DIFFFERENT AGE GROUPS

Age differences	Mean younger players (110)	Mean older players (113)	Standard Dev. younger players (110)	Standard Dev. older players (113)	t-test (df=221)	p
friendship	0.368	–0.357	0.920	0.947	5.801**	<0.01
social-task orientation	–0.218	0.218	0.949	1.005	–3.368**	<0.01
externalized perfectionism	0.112	–0.109	1.108	0.874	1.652	>0.05
internalized perfectionism	0.415	–0.404	0.881	0.945	6.680**	<0.01

Legend: **test significant with p<0.01; not significant with p>0.05

ponents method with fixed number of principal components that correspond to the number of dimensions expected for certain instrument) is used, a few items decline from expected (original) scales, at both measuring instruments[30]. So, finding psychometrically proper but simultaneously interpretable factor solutions is considered reasonable strategy in adapting imported psychological constructs.

Two facets of perceived group cohesion have better construct validity than original ones, with in general lower reliability in terms of Cronbach's Alpha coefficient (ranged from 0.58 to 0.68)[31]. However, the aspects of combined social-task cohesion and friendship are conceptualized in terms of orientation of perceived group cohesion. Contrary to the expectations[32], tendencies towards group integration or group attractiveness are not confirmed by factor structure obtained in this research, as well as task or social group orientation. Combined social-task perceived cohesion can be described in terms of mixed types of motivation to be a member of a sport team. This dimension describes perceived cohesion based on a tendency to achieve sport success, together with its task-oriented aspect. In other words, athletes have a mixed motivation, which is not clear task-oriented, nor socially oriented. On the other hand, the dimension of friendship describes clear motivation for belonging to a group (team) based on pure friendship tendencies. The results can be explained in terms of cultural differences. For example, the individualism/collectivism and homogeneity/heterogeneity of a group may have an influence on group dynamics as it relates to task performance[35]. Of course, this can lead to the better cooperation in more collectivistic cultures[36], like the one in Croatia might be. On the other side, it can reflect low productivity in former socialistic countries, with the fundamental contradiction between efficiency and socialist ethics. Collectivistic social politics, unlike Western (at the same level of development), tends to eliminate the fear of unemployment and to lower degree of inequality in the distribution of income[37], which inevitably contributes to inefficiency[38]. From the sports aspect, combined social-task perceived cohesion (and without such a potentially pretentious assumptions) can reflect the not so clear motivation to belong to a group. Mixing the simultaneous pursuit of responsible performance and maintaining good social relations can result in the diffusion of responsibility among team members and dissatisfaction with the social relations. On the level of sport recreation, competitive motives can be hidden within the context of typical recreational motives, such as physical exercising due to health and social contacts. This may result in different levels and different types of sports motivation: in this case recreational sports can practically separate people, instead of makes them closer.

The results show that two facets of multidimensional perfectionism in sport situations have better construct validity than original ones, which accounted similar percentage of the total variance explained, but in general

lower reliability in terms of Cronbach's Alpha coefficient (ranged from 0.61 to 0.77)[31]. However, internalized and externalized perfectionist standards are conceptualized in terms of sources of perfectionism. Internalized perfectionism can be described in terms of perfectionist tendencies which are inherent part of someone's self-monitoring and self-evaluation, without thoughts »what the others can say about my behaviour«. This aspect of perfectionism is conceptually very close to a sum of strict personal standards and anxiety over mistakes[9]. Externalized perfectionism can implicate perfectionist tendencies which are perceived as caused by external evaluation. In fact, a person believes that someone else has very high-level expectations about his/her performance or behaviour. This aspect of perfectionism is very close to a perceived parental pressure[9]. Of course, in spite of psychometrically good factor solution, the aspect of interpretability is not so clear: the aspect of perceived pressure from the coach (which can be conceptually very similar to a perceived parental pressure) saturates (almost as a whole) internalized perfectionist standards. An explanation can lead to a strong importance of sport achievement at the athletes, which influences strict perfectionist standards independent of a coach's presence and directly expressed coach's expectations.

The second goal was determining the differences in all dimensions of multidimensional perfectionism in sport situations and perceived group cohesion, among athletes that are engaged in different sports, as well as between younger and older athletes. Basketball players seem to have higher results than table tennis players in the dimension of internalized perfectionism: top basketball players have higher level of sport aspirations than table tennis recreational players. Higher level of aspirations means higher personal standards and higher fear over mistakes, but also trend for persistent hard working during hard trainings and sport competitions. To be a top sportsman, an athlete has to deeply internalize all external incentives, even when he/she is very young. So, that can be an explanation why younger athletes in both sports have higher average scores in internalized perfectionism. Seemingly unexpected, top basketball players and young athletes have a more pronounced (pure) friendship orientation than recreational table tennis players and older athletes. However, according to the abovementioned explanation, top basketball players might more readily accept responsibility for the accepted group tasks than recreational table tennis players. So, they can be more acceptable for the precise division of group tasks, but also for relaxed friendship after finishing all tasks. On the other hand, it may be a simple reflection of the differences between athletes in co-active and cooperative team sports[24].

The advantages of this study are several. First, two measuring instruments are preliminary adapted for the sample of Croatian athletes, what can enable standardization of both instruments in the future for certain populations in Croatia (MSSP for the athletes, and GEQ for athletes and non-athletes)[30,31]. Secondly, the insight into the factor structure of both measuring instruments can provide the information about directions of theoretical modifications of both constructs, in Croatian or wider context. Thirdly, the findings obtained can be a guide to basketball coaches or to basketball or recreational table tennis player directly. Players can have the insight in their level or dominant type of perfectionism and perceived group cohesion, and they can modify it in desirable way to achieve competitive or recreational goals. Coaches can stimulate desirable balance of the »optimal« group cohesion and positive perfectionism, with precise defined playing strategies and roles of the players in a team, using projective-educational conversations and stimulating more »clear« task-based or social-based cohesion.

The shortcoming of this study may be the result of the examining process, carried out in non-standardized conditions. The basketball players are examined in nine different Croatian cities separately and not in exactly the same time, while recreational table tennis players fulfilled questionnaires individually, disseminated by e-mail. The other disadvantage is limited possibility of generalization of the results obtained, even on these two samples of participants. One of the directions for future research can be the adjustment of the content of some items in MSSP and GEQ specifically for the basketball or table tennis situations[31]. Basketball players are in general younger sub-sample of participants, what can also be the reason why the friendship is higher at top basketball players and younger athletes.

Major improvements in future research can be done in application of qualitative methodology combined with quantitative[30,31], especially in a case of the perceived group cohesion. Namely, coach's power supplies play a decisive role in the athletes team cohesion[28], while the disadvantages of too high cohesion in sports teams[29] make perceived group cohesion hardly measured, using only self-report measures, like the questionnaires are. The research of the combined social-task cohesion, both in top and recreational sport in Croatia (but also in other populations in Croatia and in other former socialistic countries), can be an interesting guideline for the future research. However, the concepts named externalized and internalized perfectionism need future research, too. These concepts can be a bridge between (multi)dimensional approach in investigating perfectionism[8], the approach based on striving for realistic or unrealistic standards[39] and positive and negative perfectionism[40].

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USPOREDBA DVIJE KONATIVNE KARAKTERISTIKE VRHUNSKIH KOŠARKAŠA I REKREATIVNIH STOLNOTENISAČA

SAŽETAK

Cilj ovog istraživanja bio je prilagoditi uvezene instrumente za mjerenje višedimenzionalnog perfekcionizma u sportskim situacijama i percipirane grupe kohezije, u smislu njihove konstruktne valjanosti i pouzdanosti, kao i s aspekta interpretabilnosti, na hrvatskim uzorcima sportaša. Primijenjeni su Upitnik Grupnog okruženja (GEQ) i Skala Multidimenzionalnog Perfekcionizma u Sportskim Situacijama (MSSP). Uzorak od 223 hrvatska sportaša obuhvaćao je $N_1=107$ vrhunskih košarkaša iz devet momčadi iz muške A-1 hrvatske košarkaške lige i $N_2=116$ rekreativnih stolno-tenisača koji igraju u Stolnoteniskoj organizaciji klubova i aktiva u Zagrebu. Analize glavnih komponenti kod oba instrumenta pokazale su dvokomponentne strukture: kombinacija društvene kohezije i kohezije usmjerene na zadatak te prijateljstvo su latentne dimenzije percipirane grupne kohezije, dok su se internalizirani i eksternaliziranih standardi pokazali kao dva aspekta multidimenzionalnog perfekcionizma u sportskim situacijama. U percipiranoj grupnoj kohezji, košarkaši su postigli više prosječne rezultate od stolnotenisača u aspektu prijateljstva, dok su stolnotenisači su pokazali veću kombiniranu usmjerenost društvo-zadatak, u odnosu na košarkaše. U multidimenzionalnom sportskom perfekcionizmu, košarkaši imaju više prosječne rezultate od stolnotenisača u dimenziji internaliziranog perfekcioniz-ma, dok u eksternaliziranom perfekcionizmu ne postoji statistički značajna razlika. Mlađi igrači pokazali su više pro-

sječne rezultate u odnosu na starije u dimenziji prijateljstva, dok stariji igrači pokazuju veću kombiniranu usmjerenost društvo-zadatak nego mlađi. Mlađi igrači imaju veći prosječni internalizirani perfekcionizam. Glavni značaj istraživanja je u prilagodbi multidimenzionalnog perfekcionizma u sportskim situacijama i percipirane grupne kohezije hrvatskim sportašima, pružajući dodatnu mogućnost međukulturalne prilagodbe oba koncepta, psihometrijski i teoretski.