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Comparison of Psychological Skills, Athlete's Identity, and Habits of Physical Exercise of Students of Faculties of Sport in Four Balkan Countries

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ABSTRACT The goals of the research were to determine the construct validity and reliability of two psychological instruments (AIMS) and (PSICA) applied on samples of college sport students; the correlations between the students' competition rank, years of engaging in sport, and level of physical exercise; the differences among the universities in different countries, as well as among students from different years of study. The stratified sample included students from six universities, in total 1498 female and male college sport students, with an average age of 20.35±1.76 years (males) and 20.14±1.55 years (females). Both psychological measuring instruments showed very satisfactory psychometric properties. Reliability is particularly high for males for AIMS, while the reliabilities for PSICA are mainly moderate to high and lower than for AIMS. The results could be explained in terms of cultural and organizational differences, and provide the information about directions in designing efficient programs for physical exercise.

KEY WORDS Physical Activity, Psychology, Sport, Gender, Health.

Introduction

There are few studies about physical exercise and related psychological concepts in the countries of the ex-Yugoslavia, which are conducted on sport students and their sport-related behaviours (Furjan-Mandić, Kondrič M., Tušak, Rausavljević & Kondrič L., 2010; Kondrič, Furjan-Mandić & Munivrana, 2011; Kondrič, Sindik, Furjan-Mandić & Schiefler, 2013; Sindik, Furjan-Mandić, Schiefler & Kondrič, 2013). Therefore, the main issue of this article is to compare the level of physical exercise and two psychological concepts, between six universities in four countries that were part the ex-Yugoslavia.

The organization of sport in EU and ex-Yugoslavia countries

The organization of sport in the EU countries on the national level varies from state to state, but the so-called organized sport pyramid model is common for the world, including Europe. The pyramid structure of the organization reflects a system in which the subjects in the area of one sport join in regional, then national, and finally, in the European and international (world) federation. The foundation of the pyramid are sports clubs that allow everyone to be involved in sport, and thereby promote the idea of sport for all (White Paper on Sport, 2007).

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The Treaty of Amsterdam, signed in 1997, included a Declaration on Sport, which emphasizes the social importance of sport and its role as the origin of identity and bringing people together and calls for broader cooperation between the Community institutions and the sports movement (Amsterdam Declaration on Sport, 1997). The Treaty of Nice (2000) also contained a declaration on the specific characteristics of sport, which highlights its significant social, educational, and cultural functions (Nice Declaration on Sport, 2000).

In 2007, the European Commission developed and adopted a White Paper on Sport (White Paper on Sport, 2007), the most comprehensive document on sport, which aims to define its role in the EU, recognizing its importance for social and economic development. It states that sports organizations should have autonomy, and it recognizes the specific role of sport, but within the European competition law. The White Paper proposes the implementation of the Action Plan Pierre de Coubertin, outlining the social and economic aspects of sport, such as public health, education, social inclusion, and the financing of sport. In addition to the White Paper on Sport, the EU has adopted a number of analytical and policy documents for different areas of sport over the years.

However, countries within and outside the EU have different legal solutions in certain specific areas, such as the financing of sport, but also physical (sport) education in schools, violence in sports arenas, doping, etc.

After the breakup of Yugoslavia, each of the former Yugoslav republics started its own path to the identity formation of newly independent states. Although each new country has its own objectives in the formation of their national identity, the roots, and heritage of the coexistence in the former joint country are reflected in a number of socio-economic areas. One of them is the establishment of sports identity, both in terms of competition, as well as recreational. In order to raise awareness about the importance of physical exercise, it is certainly important to invest in infrastructure (sports halls and courts, fitness centres, school sports hall), but also the establishment of new sports colleges.

Research conducted in European countries showed that countries with the highest standard have the largest shares of consumption of sport recreation in total personal consumption (for example, Sweden 2.2%, Ireland 1.9% United Kingdom 1.7%), while countries with lower living standard generally have lower shares (for example, Slovakia 0.51%, Croatia 0.47%, Hungary 0.44%).

The share of the total funding of sport in GDP in Slovenia and Croatia was below 1% (Andreff, 2006; Škorić, Bartoluci & Čustonja, 2012). Slovenian tax legislation indirectly contributes to the financing of sport. Activities associated with the sport are taxed at a reduced VAT rate of 8%. A reduced rate of 8.5% applies to tickets for sporting events or the use of sports infrastructure (Jurak, Andreff, Popović, Jakšić & Bednarik, 2014).

Athletic identity and psychological skills

As university society continues to emphasize sport, many students around the world are developing a better understanding of participation in sports activities. Once a student is involved in any sports activity, he/she will experience a process of sport socialization.

In literature, some social psychological theories that could provide additional information on which factors should be included or excluded in an athletic identity model can be found (Stryker & Burke, 2000; Visek, Hurst, Maxwell & Watson, 2008; Whipple, 2009). According to Brewer, Van Raalte and Linder (1993), athletic identity has been defined as the degree of strength and exclusivity to which a person identifies him/herself with the athletic role.

Therefore, students often focus on only one aspect of their personality and neglect the salience of other identities (e.g. partner relation, friendship, academic career, family, etc.). University students develop a variety of identities, because they are involved in several social networks. However, this strong involvement can cause a lack of participation in other activities, such as sports activities: identity foreclosure (Whipple, 2009). "Identity foreclosure is a construct used to describe people who have committed to an occupation or an ideology without first engaging in exploratory behaviour" (Good, Brewer, Petitpas, Van Raalte & Mahar, 1993, p. 2). Lally and Kerr (2005) determined that student athletes may invest in both the sports and the students' role identities simultaneously. Miller and Kerr (2002, 2003) also reported that sport students pass through multiple stages of identity. These authors observed that students in the first two years of study were more committed to their athletic roles, but changed their approach in the next two years to academic roles to prepare themselves for future careers. Gaston-Gayles (2004) examined academic and athletic motivations and how these impacted academic performance in student athletes. This study found that the pursuit of a professional athletic career does not impact academic success. Changes in students' self-determined motivation and goal orientation are mostly directed toward increasing task-involvement during physical activity (Yopyk & Prentice, 2005; Jaakkola & Liukkonen, 2006; Proios M., Proios M.C., Mavrovouniotis, & Theofanis, 2012).

Research on students' sports performance and their physical condition remains in its relative infancy, although students are beginning to realize the importance of the mental aspects of sport. However, a number of studies that suggest that various psychological skills contribute to active engagement in sport activities among students can be found (Moreno, Lopez de San Roman Blanco, Martinez Galindo, Alonso Villodre & Gonzales-Cutre Coll, 2008; Moreno, Gonzales-CutreMartin-Albo & Cervello, 2010; Egli, Bland, Melton

& Czech, 2011; Verloigne et al., 2011; Kondrič et al., 2013; Sindik et al., 2013). The Psychological Skills Inventory for Sports (PSIS R-5; Mahoney, Gabriel, & Perkins, 1987) contains 51 items designed to measure six psychological skills related to sports performance, which has been used in its various forms by a number of investigators in many studies at different levels of sport: from sports for all to high-level sport (Spieler, 2006; Elferink-Gemser, Visscher & Lemmink, 2008; Ebben & Gagnon, 2012; Sindik, 2014). Mahoney (1989) later modified the instrument, which became known as the PSIS R-5, with 45 Likert-scale items.

In most research throughout the world, a key issue in physical activity is developing an understanding of motivation, as one of the psychological skills (Buckworth & Nigg, 2004; Kilpatrick, Hebert & Bartholomew, 2005; Ebben & Brudzynski, 2008; Afsanepurak, Seyed Hossini, Seyfari & Fathi, 2012; Kondrič et al., 2013; van Heerden, 2014). The value of participation in sport and the great potential future that sport has in college education should be presented to these students to increase interest and motivation in their efforts for healthier lives. This may also increase the intrinsic motivation among students. If motivation is not addressed and countered, students may cease further participation in sport (van Heerden, 2014). The most commonly reported reasons by many researchers throughout the world for the college students' non-participation were insufficient time due to study or additional work to earn some money for their living expenses. Conversely, the same researchers report that health and fitness were more commonly indicated as the main reasons for participating by those students who participated regularly compared with those who did so on a less regular basis (Kolar et al., 2009; Kondrič et al., 2013; Turkmen, 2013).

Importance of regular physical activity

Daily physical activity on a moderate basis is not recommended only for young people but for people of all ages. Many studies have shown that young people are not as physically active as they need to be (Fang, 2007; Goudas & Hassandra, 2006; Lutz et al., 2008; Strel & Sila, 2010; Kondrič et al., 2013). Nowadays, there is increasing pressure and stress on students, but physical activity among students has been found to reduce stress and depression (Morgan, 1994; Shashank et al., 2013). Increasing physical activity in the college-aged population is a priority for every government. Better scientific approaches are needed to investigate how required health and physical education courses can increase students' physical activity. College students are particularly prone to sedentary lifestyles because of the transitional nature of college life (especially freshmen), which is quite different from the life of middle school students (Buckworth & Nigg, 2004; Melendez, 2006; Fountaine et al., 2011). Students' time being physically active students might be influenced by their ability to effectively cope with study responsibilities, increased workload and change of eating and sleeping habits (Carney et al., 2006; Bobek & Caldwell, 2007). Woodruff and Schallert (2008) described the relationship between motivation and the self within the domains of academics and athletics as a motivational sense of self.

Although there are thousands of clear benefits of a sports active lifestyle, in the college population significant health problems because of lack of physical activity continue to occur. Some studies investigating the physical activity behaviours in college students found approximately 35% to 42% of students fail to obtain the recommended amount of physical activity (Miller, Staten, Rayens, & Nolan, 2005; Racette, Deusinger, Strube, Highstein, & Deusinger, 2008). Given this observation, we would expect participation in physical activity to be the norm in college students. However, some epidemiological studies indicate that globally there is a problem of declining of physical activity, especially in the transition from high school to college (Van Dyck et al., 2015). Physical activity participation statistics indicate a significant decline in physical activity in the 18-24-year-old age group (Caspersen, Pereira & Curran, 2000). The physical activity of high school students appears to be higher than that of college students (Kilpatrick, Herbert & Bartholomew, 2005; Judge et al., 2012).

The benefits of a physically active lifestyle among college students are well documented and can lead to improvements in their physiological and psychological health. In a study on relationships between body mass and body image and relative autonomy for exercise Markland and Ingledew (2007) found that introjected, identified, and intrinsic regulation were positively related to exercise behaviour in adolescents. However, motivation was negatively related to their exercise behaviour. According to the authors, it could be important to enhance more autonomous types of motivation to increase continuous participation in college students. To maintain health, the American College of Sports Medicine and the American Heart Association recommend engaging in at least 30 minutes of moderate-intensity aerobic physical activity five or more days per week, or 20 minutes of vigorous-intensity aerobic physical activity three or more days per week, or a combination of the two (Haskell et al., 2007).

The choices students make how to spend their free time influence their level of physical activity, and there are various factors that influence those choices. The problems and situations encountered by the college students in their need to be physically active may differ from place to place. The places where college students live are quite different and not every city/country has enough sports facilities that could give students the possibility to be involved in sport. Particularly among freshmen, there is an enormous pressure to earn good grades and be successful in their studies. However, this is not the only source of stress, since students increasingly need to earn some money for their daily living expenses, in addition to the heavy demands of their studies (Browder, 2001). Physical inactivity has also been consistently associated with the risk of different chronic diseases and health problems, foremost among which is obesity (Keating et al., 2005; Taras, 2005; Pauline, 2013). Even

though much research has been conducted, it remains unclear whether sedentary behaviour leads to the risks of physical inactivity.

Exercise and physical activity have been described in many studies; however, there are few studies in the countries of the former Yugoslavia (Majerič & Markelj, 2009; Furjan-Mandič et al., 2010; Kondrič et al., 2011; Kondrič et al., 2013; Sindik et al., 2013) that have dealt with this topic related to sport students and their study behaviours. In the research of Kondrič et al. (2013) the results revealed the latent structure of the types of sport students' motives consisted of six factors (sport action with friend, popularity, fitness & health, social status, sports events, relaxation through sports). They also found significant sex differences in the motivation to participate in sport activities for all sport students from the three different countries. Results in the research of Majerič and Markelj (2009) revealed that sport is one of the most common extracurricular activities of students, which is also appreciated as an important value in life. Interestingly, Sindik and Vojinović (2012) determined that there are no differences between male and female students of kinesiology in relation to the current ways of using free time, preferred ways to spend winter/summer holidays, wishes for learning new sport activities, and the preferred ways of using free time. Gadžić and Vučković (2009) reported that approximately 23% of secondary school students from central Serbia were actively engaged in sports at various levels: local (11%), regional (8%), national (3%), the others were classified as sedentary. The sport-active subjects scored significantly higher sociometric acceptance and sociometric status and lower sociometric rejection than the sedentary ones. However, no significant correlations were found between sport-engagement variables and the sociometric ones. Interesting results are seen in the work of Mihajlovic et al. (2010) as they conclude that the prevalent number of students, regardless of the faculty which they belong, rarely volunteered in areas outside of sport.

Therefore, the focus of this study was to examine and analyse the level of physical activity of college sport students among four countries in ex-Yugoslavia, together with their athletic identity and psychological skills. We conducted separate analysis for male and female students, as well as for two age groups. In some previous studies, different researchers found significant gender and age differences (Wallace et al., 2000; Wallace & Buckworth, 2001; Killpatrick, Hebert & Bartholomew, 2005; Bobek & Caldwell, 2007; Egli et al., 2011).

The first goal of this research was to determine the construct validity and reliability of two psychological instruments (measuring sport identity and basic psychological skills for athletes), applied on the samples of male and female college sport students in four Balkan countries: Athletic Identity Measurement Scale (AIMS) and Psychological Skills Inventory for Chinese Athletes (PSICA).

The second goal was to determine the correlations between the students' competition rank and years of engaging in sports, the level of the exercise and strenuous and light physical exercise, with the latent variables of AIMS and PSICA.

The third goal was to determine the differences among the universities in different Balkan countries in the abovementioned main variables in research, while the fourth goal was focused on determining the differences among the students from different years of study in these variables.

Methods

Participants

The stratified sample included students from six (6) universities in ex-Yugoslavia. The participants in this study included 1498 (100%) female and male college sport students from the University of Mostar (100/6.68%), University of Ljubljana (320/21.36%), University of Split (133/8.88%), University of Zagreb (390/26.3%), University of Niš (330/22.03%) and University of Leposavić (225/15,2%) from whom we have collected questionnaire data. The students were attending a Physical Education (PE) course and the average age (M±SD) of the respondents was 20.35±1.76 (males) and 20.14±1.55 (females). According to the year of study, 853 (57%) students (610 male and 243 female) were from the first year of study, while 645 (43%) students (445 male and 200 female) were from the third year of study.

As seen in Table 1, a significant difference in the number of female and male students is found (Chi square=56.571; df=5; $p<0.01$). The biggest gender differences are observed in Leposavić (Kosovo), Niš (Serbia) and Mostar (Bosnia and Herzegovina), while the smallest difference is at the University of Ljubljana (Slovenia). Furthermore, there is a significant difference in the number of respondents by individual universities, which is caused by enrolment quotas, which depends on the budget which the state allocates for specific training of personnel in the sport. The universities are mainly financed from the state budget. Due to

TABLE 1 Structure of the sample of participants, by university and gender

	Mostar		Ljubljana		Split		Zagreb		Niš		Leposavić		Σ	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Males	79	79	194	61	85	64	250	64	261	79	186	83	1055	70,4
Females	21	21	126	39	48	36	140	36	69	21	39	17	443	29,6
All	100	100	320	100	133	100	390	100	330	100	225	100	1498	100,0

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the involvement of sports, most of the respondents are engaged in recreational sports (593 or 39.6%), then on the lower competition level (331 or 22.1%), the second division (221 or 14.8%), the first division (205 or 13.7%), while the smallest number are the members of the national team (148 or 9.9%).

Procedure

Data were collected during lessons and exercises for each group. At the time the questionnaires were distributed, these students had had basic lessons in PE. The authors of this paper declare that the research reported was undertaken in compliance with the Helsinki Declaration.

In this study, 1600 questionnaires were disseminated among students at the University of Mostar (100), University of Ljubljana (320), University of Split (133), University of Zagreb (390), University of Niš (330) and University of Leposavić (225). According to the instructions provided, 1498 students returned the questionnaires: 1055 male (70.4%) and 443 (29.6%) female students (more detailed information is presented in Table 1 and Table 2).

Instruments

Within this study, we have used the Athletic Identity Measurement Scale (AIMS), developed by Brewer, Van Raalte, and Linder (1993), which is made up of 10 items that are designed to assess the strength of athletic identity. Authors have defined athletic identity as the degree to which an individual identifies himself with an athletic role. All 10 items in the scales are answered on a 7-point Likert scale with response options ranging from 1-strongly disagree to 7-strongly agree. A total score was calculated for each respondent, which consisted of the sum of the responses to the 10 questionnaire items. Brewer et al. (1993) also demonstrated findings that AIMS scores are highly correlated with scores on the importance of the sports competence scale of the Perceived Importance Profile (PIP), ($r=0.83$, $p<0.0005$). They also found high internal consistency with an alpha coefficient of 0.93, as well as a test-retest reliability coefficient of 0.83 over a two-week period.

The second instrument used was the Psychological Skills Inventory for Chinese Athletes (PSICA). This inventory is for assessing the psychological skills of participants. We have used a modified 23-item scale which demonstrated good factorial validity. PSICA was developed based on a two-order structure of both Howe's (1993), and Hardy and Jones' (1994) conceptualizations. The revised 23-item PSICA was administered to 713 subjects ranging from college level to international level athletes. Cross-validation test revealed some problems with the model, and/or the inventory, but the convergent and discriminant validity test, and the test-retest reliability results indicated that the PSICA is a psychometrically suitable measuring instrument (Xiaochung, 1997).

Statistical analysis

The data were analysed with the IBM SPSS Statistics (24.0) software. The basic descriptive statistics were calculated (mean, standard deviation, frequency of answers). To determine the construct validity (separately for each gender) of the questionnaires (AIMS, PSICA), Principal Components Analysis with (or without, for AIMS) Varimax Rotation were used. The results in extracted principal components (factors) in questionnaires are expressed as simple linear combinations, and then used in further analysis. The reliability type internal consistency for all dimensions (components) of relevant factors about the engagement of women in sports was determined using Cronbach's alpha coefficients of internal consistency. Univariate ANOVAs, t-tests and two-factorial ANOVA were used to test the differences in the latent dimensions of the questionnaires, according to the gender, region and year of study. Pearson's correlation coefficient was used to determine the correlations between the relevant variables in the research (as a prerequisite, all the conditions for using the abovementioned statistical procedures are checked before application). Verification of the hypotheses was conducted at a 5 per cent level of statistical risk ($p\leq0.05$).

Results

The results showed that for the Athletic Identity Measuring Scale (AIMS) variables in a sample of male sport students from South-Eastern European countries, one principal component was obtained, which showed very high and very satisfactory reliability, explaining about 55% of the total variance (Table 2). All ten items very highly saturated the unique principal component, in a range from 0.446 to 0.855. In a sample of female students from South-Eastern European countries, one principal component was obtained, which showed very high and very satisfactory reliability, explaining about 50% of the total variance. All ten items very highly saturated the unique principal component, in a range from 0.495 to 0.826 (Table 2).

For the Psychological Skills Inventory for Chinese Athletes (PSICA) variables in a sample of male sport students from South-Eastern European countries, the results showed that four principal components were obtained, which showed moderate high to high and thus satisfactory reliability (ranging from 0.664 to 0.868), explaining from 9% to 18% of the overall variance. Eight items highly saturated the component named (on the basis of item contents) Motivation and Concentration; six items highly saturated the component named Anxiety Control; five items highly saturated the component named Visualization; four items highly saturated the component named Mental Preparation (Table 3a). The components with more items that are saturated show higher reliability and amount of variance explained.

TABLE 2 Construct validity and reliability of the athletic identity measuring scale (AIMS) for males and females

Males	Athletic identity	Communalities	Alpha if item deleted	Corrected item-total correlation
Sport is an important part of my life	.855	.731	.904	.769
To feel good, I have to play sports	.837	.700	.879	.765
Other people see me as an athlete	.831	.690	.880	.744
Many of my life goals are related to sports	.826	.682	.880	.744
I consider myself to be an athlete.	.813	.660	.882	.720
Most of the time I spend thinking about the sport	.769	.591	.882	.709
I would be very depressed if I could not continue to play sports because of the injury	.725	.526	.886	.656
Most of my friends are athletes	.642	.412	.892	.558
I think poorly about myself when I'm not good at sports	.535	.286	.900	.480
Sport is the only important thing in my life	.446	.199	.879	.398
Reliability	0.897	Kolmogorov-Smirnov Z	**2.031****	
Eigenvalue	5.478	Mean = 47.342		
Variance Explained (%)	54.784	Std. Dev.=11.180		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	**0.928**	**Bartlett's Test**	**5930.981****	df=45
Females	Athletic identity	Communalities	Alpha if item deleted	Corrected item-total correlation
Sport is an important part of my life	.826	.682	.744	.853
To feel good, I have to play sports	.818	.670	.858	.715
Other people see me as an athlete	.787	.620	.859	.675
Many of my life goals are related to sports	.780	.609	.859	.683
I consider myself to be an athlete.	.777	.604	.855	.713
Most of the time I spend thinking about the sport	.761	.580	.860	.650
I would be very depressed if I could not continue to play sports because of the injury	.642	.412	.867	.561
Most of my friends are athletes	.581	.338	.873	.491
I think poorly about myself when I'm not good at sports	.535	.286	.877	.472
Sport is the only important thing in my life	.495	.245	.878	.443
Reliability	0.876	Kolmogorov-Smirnov Z	**1.601***	
Eigenvalue	5.045	Mean = 49.928		
Variance Explained (%)	50.454	Std. Dev.=10.208		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	**0.892**	**Bartlett's Test**	**2153.994****	df=45

Legend: **significant at a level of p< .01; *significant at a level of p< .05
Note: only saturations above 0.40 are presented

In a sample of female sport students from South-Eastern European countries, four principal components were obtained, which showed moderate high to high and thus satisfactory reliability (ranging from 0.554 to 0.851), explaining from 8% to 17% of the overall variance. Eight items highly saturated the component named (on the base of item contents) Motivation and Concentration; seven items highly saturated the component named Visualization and Mental Preparation; five items highly saturated the component named Anxiety Control; three items highly saturated the component named Mental Preparation (Table 3b). The components with more items that are saturated generally show the higher reliability and amount of variance explained.

Overall, among male students, 33 statistically significant correlations between age, competition rank and years of engaging in sports, with the variables of questionnaires (as well as among the variables from the questionnaires) are found. Eighteen obtained significant correlations have negative direction, while the others are positive. The size of all correlations is very low, and it could be the result of the large sample size. Low-size of inter-correlations among the components revealed from the same instrument (PSICA) could be the consequence of the method of obtaining factor scores and methods of factorization. The highest size of significant (positive) correlations with Godin leisure time exercise are seen in the variables competition rank, years of engaging in sports, and athletic identity. In contrast, the highest size of significant (negative) correlations with Godin leisure time exercise is with Visualization and Motivation / concentration. The highest size of significant (positive) correlations with athletic identity is with the variables Competition rank and Years of

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TABLE 3A Construct validity and reliability of the Psychological Skills inventory for Chinese Athletes (PSICA) for males

Males	Motivation and concentration	Anxiety control	Visualization	Mental preparation	Communalities
I do not perceive the expectations of my coaches and relatives as pressure but as motivation.	**.706**				.540
Sports objectives motivate me to constantly improve my sports performance.	**.700**				.657
I perceive competition to be a test of my sporting abilities.	**.693**				.562
I can concentrate on the next moves in the game even if I made a mistake before.	**.688**				.568
I can concentrate on the key techniques and tactics without any problem.	**.657**				.520
With the help of incentive words, I can concentrate on some key moments of the competition.	**.519**				
I try to calm myself down when I start making errors in competition.	**.516**	.456			.533
Of course, I can imagine my athletic performance.	**.487**	.464			.515
I have certain methods to control my mental states before a competition.		**.681**			.490
I try to calm myself with words when I am tense.		**.656**			.475
When my confidence wavers, I say to myself that there will be no problem because I'm well trained	.426	**.553**			.553
During a very important competition, I try to reduce anxiety by treating it as everyday ordinary game.		**.547**			.400
I try to be mentally prepared.		**.540**			.504
I breathe deeply when I feel tense.		**.480**			
On the night before competition, I try to visualize the next day's competition.			**.761**		.625
A few days before the competition, I think about the competition course.			**.716**		.599
By visualizing the competition, I prepare myself for it.			**.686**		.706
I visualize images of the competition to boost my self-confidence.		.434	**.612**		.619
I visualize my techniques and tactics before the competition.		.489	**.552**		.636
When an opponent is better than me, I tell myself that I do not have to be afraid.				**.699**	.537
When I notice that I am losing concentration, I remind myself to concentrate on the key techniques and tactics.				**.654**	.548
I set realistic goals, and I try to achieve them.				**.608**	.522
Competitions are challenges for me.				**.572**	.633
Mean	17.344	14.777	11.815	7.306	
Std. Dev.	6.223	4.968	4.410	2.843	
Reliability	**0.868**	**0.785**	**0.826**	**0.664**	
Eigenvalue	4.124	3.586	2.928	2.004	
Variance Explained (%)	17.929	15.593	12.728	8.712	∑= **54.962%**
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	**0.945**	**Bartlett's Test**	**9863.279****	df=253	

Legend: **significant at a level of p< .01; *significant at a level of p< .05
Note: only saturations above 0.40 are presented

engaging in sports. The highest size of significant (negative) correlations athletic identity is with Visualization and Motivation / concentration (as compared with Godin's questionnaire, 1997) (Table 4).

In female students, 26 statistically significant correlations between age, competition rank, and years of engaging in sports, with the variables of questionnaires (as well as among the variables from the questionnaires) are found. Twelve obtained significant correlations have negative direction, while the others are positive. The size of all correlations is very low or low, which could be the result of a big sample size. The low size of inter-correlations among the components revealed from the same instrument (PSICA) could be the consequence of the method of obtaining factor scores and methods of factorization. The highest size of significant (positive) correlations with Godin leisure time exercise are with the variables Competition rank and Years of engaging in Sports, Athletic identity. The highest size of significant (negative) correlations with Godin leisure time exercise are with Visualization/ mental preparation and Motivation/concentration. The highest size of significant (positive) correlations with athletic identity are with the variables Competition rank and Years of engaging in sports. The highest size of significant (negative) correlations with athletic identity are with Visualization/ mental preparation and General mental preparation (as compared with Godin's questionnaire) (Table 4).

TABLE 3B Construct validity and reliability of the Psychological Skills inventory for Chinese Athletes (PSICA) for females

Females	Motivation and concentration	Anxiety control	Visualization	Mental preparation	Communalities
I breathe deeply when I feel tense.	**.749**				.587
With the help of incentive words, I can concentrate on some key moments of the competition.	**.712**				.618
I perceive competition to be a test of my sporting abilities.	**.643**				.528
Sports objectives motivate me to constantly improve my sports performance.	**.642**				.587
I try to calm myself down when I start making errors in competition	**.578**				.481
I am trying to calm myself with words when I am tense.	**.573**				.479
Of course, I can imagine my athletic performance.	**.485**				.478
I do not perceive expectations of my coaches and relatives as pressure but as motivation.	**.473**				.402
By visualizing the competition, I prepare myself for it.		**.733**			.660
On the night before competition, I am trying to visualize it.		**.726**			.646
I visualize images of a competition in order to boost my self-confidence.		**.707**			.604
A few days before a competition, I think about the competition course.		**.661**		.401	.624
I visualize my techniques and tactics before a competition.		**.657**			.569
I have certain methods to control my mental states before a competition.		**.568**			.497
I try to be mentally prepared.		**.568**			.510
I can concentrate on the next moves in the game even if I have made a mistake.			**.760**		.643
I can concentrate on the techniques and tactics without any problem.			**.681**		.565
When my confidence wavers, I tell myself that there will be no problem because I'm well trained.	.434		**.618**		.610
When the opponent is better than me, I tell myself that I do not have to be afraid.			**.476**	.467	.445
With a very important competition, I try to reduce anxiety by telling myself that it's an everyday ordinary game.			**.401**		.410
Competitions are the challenges for me.				**.655**	.536
I'm set realistic goals, and I try to achieve them.				**.612**	.497
When I notice that I am losing concentration, I remind myself to concentrate on key techniques and tactics.				**.510**	.450
Mean	16.411	16.187	11.474	5.178	
Std. Dev.	5.637	5.609	3.598	**1.771**	
Reliability	**0.843**	**0.851**	**0.734**	**0.554**	
Eigenvalue	3.993	3.807	2.673	1.953	
Variance Explained (%)	17.362	16.553	11.622	8.490	∑= **54.027%**
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	**0.922**	**Bartlett's Test**	**4061.333****	df=253	

Legend: **significant at a level of p< .01; *significant at a level of p< .05
Note: only saturations above 0.40 are presented

Table 5 displays the differences (tested by ANOVA) among the college sport students at the universities in different Balkan countries in the abovementioned main variables in research. The results revealed that statistically significant differences are found in the majority of the variables in the research. Differences among college sport students in four Balkan countries are not statistically significant only in Godin leisure time exercise (in females) and in two psychological skills: Visualization (in males) and Mental Preparation (in females). Among statistically significant differences in male college sport students, students from Ljubljana (Slovenia) have the highest means for the majority of the variables: Strenuous physical exercise, Light physical exercise, Level of the exercise, Sport identity, Anxiety control, and Time spent in exercising. Male students from Leposavić (Serbia) have the lowest means for Strenuous physical exercise, Light physical exercise, Level of the exercise, and Mental preparation. Among statistically significant differences, in female college sport students, students from the Ljubljana (Slovenia) have the highest means for the majority of the variables: Strenuous physical exercise, Level of the exercise, Sport identity, Anxiety Control, and Visualization. There are no clear trends for the lowest means in female students.

UDC 796.01-057.875(497)

TABLE 4 Correlations among the variables in the research for males and females

Males	Strenuous physical exercise	Light physical exercise	Godin leisure time exercise	males AIMS factor	Motivation / concentration	Anxiety Control	Visualization	Mental preparation
Age	-.103**	.070*	-.141**	.054	.036	-.062*	.076*	.014
Competition rank	.337**	.002	.356**	.226**	-.132**	.032	-.167**	.012
Years of engaging in sports	.313**	.030	.300**	.218**	-.149**	.016	-.121**	-.030
Strenuous physical exercise	1	.130**	.260**	.087**	-.095**	.090**	-.072*	.003
Light physical exercise		1	.140**	.016	-.001	-.079*	-.048	.005
Godin leisure time exercise			1	.208**	-.130**	-.084**	-.150**	-.065*
Males AIMS factor				1	-.152**	.029	-.213**	-.029
Motivation / Concentration					1	-.099**	.005	.062*
Anxiety Control						1	.045	.068*
Visualization							1	-.031
Mental preparation								1

Females	Strenuous physical exercise	Light physical exercise	Godin leisure time exercise	females AIMS factor	Motivation / concentration	Anxiety Control	Visualization / mental preparation	General mental preparation
Age	-.085	-.023	-.127**	.051	.126**	-.012	-.032	.040
Competition rank	.398**	.041	.449**	.326**	-.080	-.014	-.116*	-.193**
Years of engaging in sports	.361**	.023	.399**	.326**	-.064	.014	-.093*	-.185**
Strenuous physical exerc.	1	.114*	.290**	.184**	-.049	.111*	-.103*	.003
Light physical exercise		1	.051	.084	-.042	.009	-.150**	-.003
Godin leisure time exercise			1	.281**	-.122**	.014	-.155**	-.101*
Females AIMS factor				1	-.108*	-.014	-.193**	-.191**
Motivation / concentration					1	-.076	.015	.160**
Visualization/mental prepar.						.029	.029	.016
Anxiety Control							1	.039
General mental preparation								1

Legend: ** Correlation is significant at the .01 level (2-tailed); * Correlation is significant at the .05 level (2-tailed).

Table 6 displays the differences (tested by t-test for independent samples) between college sport students at the two years of study (first and third) at universities in different Balkan countries in the main variables in this research. The results revealed that statistically significant differences are found for five (from a total of nine) variables in research for male sport students, while only two differences are statistically significant for female sport students. Female students in the first year of study are more engaged in Strenuous physical exercise and have higher scores in Godin leisure time exercise (as compared with female students from the third year of study). In contrast, male students in the first year of study are more engaged in Strenuous physical exercise and have higher scores in Godin leisure time exercise (the same as females) but also showed lower scores in Light physical exercising, Sport identity and Motivation and Concentration (than male students form the third year of study).

Statistically significant interaction is also found among the variables year of study and gender (using two-factorial ANOVA), both for males (Pillai's Trace= 0.171; F=4.082; p<0.001) and females (Pillai's Trace= 0.210; F=2.350; p<0.001). Among females, interactions are reflected in statistically significant (p<0.05) differences in the variables Strenuous physical exercise, Light physical exercise, Level of exercise, and Godin's leisure time exercise index. Among males, interactions are reflected in statistically significant (p<0.05) differences in the variables Godin's leisure time exercise index, Motivation / Concentration, and Athletic identity. Among females, interactions are reflected in statistically significant (p<0.05) differences in all variables for the third year of study, while for the first year, the differences were only reflected for Strenuous physical exercise and Light physical exercise. Among males, interactions are reflected in statistically significant (p<0.05) differences in all variables for the third year of study, while for the first year, the differences were only reflected for Godin's leisure time exercise index and Athletic identity.

Discussion

The results revealed that both psychological measuring instruments (the Athletic Identity Measurement Scale and the Psychological Skills Inventory for Chinese Athletes), applied on the samples of male and female college sport students in four Balkan countries, showed very satisfactory construct validity and reliability.

TABLE 5 Differences among the universities in different countries in main variables of the research

		Males			Females		
		Mean±Std.Dev.	F df (5, 1049)	Significant Differences (Bonferonni)	Mean±Std.Dev.	F df (5, 437)	Significant Differences (Bonferonni)
Strenuous physical exercise in minutes	Mostar	53.99±29.768	**18.461****	M-Lj, M-N, Lj-Z, Lj-S, Lj-L, S-L, Z-L, N-L	52.38±24.475	**5.957****	M-Lj, Lj-L, N-L, Lj-Z
	Ljubljana	**83.12**±28.837			**72.82**±36.086		
	Split	65.65±32.921			56.46±34.099		
	Zagreb	62.92±33.871			54.32±38.990		
	Niš	67.01±36.819			69.42±37.047		
	Leposavić	**52.72**±34.142			**46.54**±33.895		
Light physical exercise in minutes	Mostar	33.92±27.766	**5.791****	M-L, Lj-L, S-L, Z-L, N-L	41.19±13.314	**5.020****	S-Z, Lj-Z, S-Lj
	Ljubljana	**36.34**±28.202			43.10±21.372		
	Split	33.65±28.861			**51.46**±33.117		
	Zagreb	32.59±29.174			**32.32**±26.865		
	Niš	35.28±27.050			40.00±26.624		
	Leposavić	**23.06**±23.331			34.74±27.672		
Level of the exercise	Mostar	1.51±.904	**7.230****	M-Lj, M-S, N-Lj, N-S, Z-Lj, Z-S, L-Lj	1.29±.644	**3.151****	Lj-Z
	Ljubljana	**1.13**±.442			**1.21**±.511		
	Split	1.29±.704			1.48±.772		
	Zagreb	**1.53**±.923			**1.56**±.969		
	Niš	1.47±.787			1.42±.715		
	Leposavić	1.42±.776			1.46±.756		
AIMS	Mostar	-0.32±0.850	**32.502****	Lj-N, Lj-M, Lj-S, Lj-L, Lj-Z, Z-N, Z-M, N-L, M-L	0.00±1.136	**6.500****	Lj-N, M-N, Z-N, S-N, L-N, Lj-L
	Ljubljana	**0.57**±0.721			**0.29**±0.834		
	Split	-0.01±0.874			-0.03±0.985		
	Zagreb	0.17±0.953			0.05±1.020		
	Niš	**-0.49**±1.088			**-0.52**±1.007		
	Leposavić	0.00±0.923			-0.14±1.019		
Motivation and concentration	Mostar	-0.11±0.839	**12.085****	L-Lj, L-M, L-N, L-S, L-Z, Lj-Z	0.01±0.803	**11.342****	Lj-L, S-L, N-L, Z-L, M-L
	Ljubljana	**-0.28**±0.725			**-0.24**±0.785		
	Split	-0.04±0.632			-0.05±0.743		
	Zagreb	-0.02±0.840			0.05±0.870		
	Niš	-0.06±0.908			-0.19±0.837		
	Leposavić	**0.46**±1.501			**1.02**±1.795		
Anxiety control	Mostar	-0.05±1.001	**14.802****	Lj-N, Lj-S, Lj-M, Lj-L, Lj-Z	-0.04±0.770	**8.707****	Lj-N, Lj-L, N-Z, N-S, N-M, Lj-M, Lj-S, Lj-Z
	Ljubljana	**0.42**±0.928			**0.38**±0.888		
	Split	-0.14±0.901			-0.04±0.846		
	Zagreb	0.08±0.923			0.00±1.011		
	Niš	**-0.35**±0.953			**-0.54**±0.915		
	Leposavić	0.03±1.099			-0.21±1.245		
Visualization	Mostar	0.08±0.991	1.052	-	**-0.37**±0.789	**3.698****	M-Lj, N-Lj, S-Lj, M-L, M-Z
	Ljubljana	0.01±1.071			**0.27**±1.069		
	Split	-0.19±1.053			-0.16±0.932		
	Zagreb	-0.05±0.979			-0.01±1.103		
	Niš	0.06±1.034			-0.26±0.726		
	Leposavić	0.02±0.872			0.01±0.778		
Mental preparation	Mostar	-0.22±0.898	**10.471****	L-Z, L-Lj, L-N, L-S, M-Z, M-N, S-Z	-0.01±1.033	1.961	-
	Ljubljana	0.12±0.819			-0.02±0.830		
	Split	-0.06±0.881			-0.12±0.797		
	Zagreb	**0.20**±0.854			0.19±1.023		
	Niš	0.10±1.109			-0.11±0.987		
	Leposavić	**-0.41**±1.150			-0.28±1.480		
Godin leisure time exercise	Mostar	51.91±28.498	**7.150****	Lj-L, Lj-Z, Lj-S, N-L, N-Z	42.00±11.925	0.889	-
	Ljubljana	**57.28**±19.586			50.60±20.228		
	Split	50.19±25.821			48.94±20.140		
	Zagreb	47.93±19.459			47.91±21.833		
	Niš	53.68±17.987			50.83±18.882		
	Leposavić	**47.19**±17.069			48.31±16.050		

UDC 796.01-057.875(497)

TABLE 6 Differences among the students on different year of study in main variables of the research

	Females				Males		
	year of study	Mean	Std. Deviation	t-test (df=441)	Mean	Std. Deviation	t-test (df=441)
Strenuous physical exercise in minutes	1	65.35	36.994	**2.474***	69.02	35.035	**3.980****
	3	56.58	37.338		60.44	33.936	
Light physical exercise in minutes	1	39.77	25.537	0.427	30.93	27.151	**-2.096***
	3	38.70	27.318		34.54	28.311	
level of the exercise	1	1.37	.723	-1.130	1.37	.742	-1.728
	3	1.46	.832		1.45	.839	
AIMS factor	1	-0.04	1.003	-0.962	-.12	1.042	**-4.453****
	3	0.05	0.996		.16	.917	
Motivation and concentration	1	-0.07	1.001	-1.629	-0.09	0.969	**-3.478****
	3	0.09	0.995		0.12	1.029	
Visualization	1	0.03	1.024	0.734	-0.05	1.000	-1.945
	3	-0.04	0.971		0.07	0.998	
Anxiety control	1	0.03	1.032	0.593	0.02	0.990	0.871
	3	-0.03	0.961		-0.03	1.014	
Mental preparation	1	0.00	0.969	-0.065	.03	1.037	0.978
	3	0.00	1.039		-.04	.946	
Godin leisure time exercise	1	52.75	19.249	**4.473****	54.80	20.537	**6.400****
	3	44.43	19.778		46.79	19.386	

Reliability is especially high for males and for the instrument AIMS, while for PSICA it is mainly moderate to high, despite the fact that it is in general lower than for AIMS, in males and females. It seems that (with certain limitations) both concepts do not need gender-differentiated conceptualizations. Specifically, factor structures are relatively similar and not so different that they need separate factor solutions. Previous studies (e.g., Brewer & Cornelius, 2001; Hale, James & Stambulova, 1999) have examined the psychometric properties of the AIMS, including internal consistency, validity, and factor structure. These studies generally have shown AIMS to be a reliable and valid measurement in English-speaking cultures (when used as a multi-dimensional assessment tool) (Li, 2006). In addition to English-speaking cultures, AIMS appeared as an acceptable psychometric instrument for Russian athletes (Hale et al., 1999) and Hong Kong Chinese culture (Li, 2006), while AIMS-plus (which highly correlates with AIMS) seems to be a good measure for athletic identity in the Portuguese population (Cabrita, Rosado, Oliveira Leite & Malico Sousa, 2014). Therefore, the results of our study are in line with the thesis that athletic identity may be defined as being the degree of importance, strength, and exclusivity that is attached to the athlete's role which is maintained by him/herself and his/her context (Cieslak, 2004).

In this research, we have used unidimensional operationalization of AIMS, similar as in one of the conceptualizations in Hong Kong Chinese culture (Li, 2006), which appeared to be the most acceptable. The correlations between the students' Competition rank and Years of engaging in sports, Level of exercise, as well as Strenuous and Light physical exercise, with the dimensions of Athletic identity and Psychological skills are mainly low, and relatively similarly positively directed (somewhat more in females) and negatively (somewhat more in males). In males, relatively more positive correlations between the abovementioned variables are found. In both males and females, the highest positive correlations with Godin Leisure time exercise are with Competition rank, Years of engaging in sports, and Athletic identity, while the highest negative correlations are with Visualization/ Mental Preparation and Motivation/ concentration. Positive correlations of Competition rank, Years of engaging in sports, and Athletic identity with general leisure time exercise are easily explainable, with deeper involvement in sports for students who are more actively engaged in sports.

For the negative correlations obtained, which are mainly found with the variables of psychological skills, possible explanations could lead to two features of our study. First, our participants are mainly full-time students, who are primarily and currently not involved in top-level sport (therefore, the strong positive correlations of psychological skills with the variables of Competition rank, Years of engaging in sports, Athletic identity, and Physical exercise could not be expected). This explanation is supported by one US study (Whipple, 2009). The relationships between the level of athletic identity, identity foreclosure, and career maturity among the sample of NCAA Division III student-athletes were much weaker than in the sample of NCAA Division I student-athletes. These data suggest that NCAA Division III student-athletes may negotiate their identity hierarchies differently than student-athletes competing at the NCAA Division I level do (Whipple, 2009).

Second, all negative correlations are very low (because of the relatively high number of participants) and the meaning of "statistically significant correlations" is, in this case, overestimated. Differences in the correlations

in males and females, especially the trend that more positive significant correlations are found in males, could be explained by the fact that, despite the probable lower sport achievements in all full-time students, in most sports, male students have stronger competition concurrency. This concurrency could lead to the higher importance of sport psychological skills, as well as their relationship with athletic identity and other relevant variables, such as age, competition rank, years of engaging in sports, and intensity (level) of regular physical exercise. The results are in line with Pauline (2013), who revealed that males are engaged in more minutes per session of vigorous and moderate intensity physical activity than females are. However, the main difference is in different motivations for exercising: women were more motivated by weight management, appearance, nimbleness, positive health, and stress management, and men were motivated by performance and ego-oriented factors, such as challenge, strength, and endurance, competition, affiliation, having higher levels of coping and scheduling self-efficacy for physical activity than females were (Pauline, 2013).

Statistically significant differences among the college sport students on the universities in different Balkan countries are mainly reflected in the highest means for male and female students from Ljubljana (Slovenia), with the lowest means in several variables for male students from Leposavić (Serbia). The biggest differences in all variables between students from Ljubljana and Leposavić could be explained by the traditional values of sport in these two countries: Slovenia valued sport as a healthy lifestyle, especially through the school system of the first years of primary school. Furthermore, in some of the sports (skiing, sports dancing, basketball, handball, etc.), Slovenian athletes achieved outstanding results in international competitions. Particularly significant large differences could be observed in Strenuous physical exercise (both for males and females) and in Light physical exercise (in males) between the students from Ljubljana and Leposavić, and slightly lower among students (both male and female) from other faculties.

Unlike the Faculty of Sport in Leposavić (which is located in Kosovo), Ljubljana, the capital of Slovenia has a long sporting tradition and the Faculty of Sport, which existed from the time of the former Yugoslavia. On the contrary, the Faculty in Leposavić was established after the breakup of Yugoslavia. Due to the small town of Leposavić in Kosovo, where the majority of inhabitants are Serbian (where Faculty of Sport is part of the University of Pristina), it could be assumed that better athletes prefer to study in Belgrade, Niš, and Novi Sad, which have a longer tradition and more sports clubs, in which students athletes can find better conditions for achieving top results. Additionally, in most countries, the sports clubs with the best working conditions are located in capital cities, with a consequence of attracting the best athletes, who afterward continue to live and study in their new city. According to the results of the study in Leposavić, those students who remain to study do not have sport as a lifestyle. They are studying at the Faculty of Sports for their passive interest for sport or because of a desire to work in education, which is a relatively secure job in the former states of Yugoslavia. Maslow (1970) compared needs for being a member of something, love and other social needs, which includes giving and accepting, and which are more dominant in the Western society. Athletes are content to be part of a team where they can fulfill such needs; they are content to be noticed, to have a certain status.

According to the level of physical exercise, the highest level is found in Ljubljana and the lowest in Zagreb. Explanation for this discrepancy could be the fact that in Zagreb, there are two modes of study: regular (full-time) and irregular (part-time). On the regular study are mainly included the students that are not top athletes, because regular studies are organized with mandatory lectures and exercises, which require the students' full-day engagement at the university. Top athletes who want to pursue a career as a coach, enroll in part-time study that allows the students to be engaged in the competitive sport even during the study. In part-time study, in the first year of study student-athletes are focused on the modules of sports, fitness, physical conditioning or recreation, with the possibility of completing their studies after three years (baccalareus), while the regular program lasts for five years and primarily educates students to work in education. We should bear in mind that in this research are included only the students from full-time study (and who are mainly not top-level athletes). Cultural influences of all four countries include beliefs, customs, values and generational status. Bosnia and Hercegovina, Croatia, Slovenia, and Serbia have developed under the impact of many different cultures (Greek, Roman, Celtic, Illyrian, Austrian, Hungarian, Byzantine, Islamic) whose influences have left their unique imprint on the history (Sindik et al., 2013). Related to the abovementioned fact, it can be assumed that, with respect to cultural heritage, sports involvement, athletic identity and physical exercise habits of students of the faculties of sport in the four states in former Yugoslavia are different, as is evident from the results (Table 5).

Male and female students who are in the first year of study are more engaged in strenuous physical exercise and have higher scores in Godin leisure time exercise (as compared with students from the third year of study). In male students, students from the third year of study have higher means in light physical exercise, athletic identity and motivation/concentration (Table 6). One of the most likely explanations should be decreasing the intensity of physical exercise in young people, even in sport students. The insufficient time due to study or additional work to earn some money for their living expenses, together with lack of motivation for physical exercise have already been confirmed to be the main reasons for less often participating in sports and physical exercise in sport students (Kolar, Cerar, Piletič, Svetlik & Kugovnik, 2009; Kondrič et al., 2013; Turkmen, 2013).

The main strength of this study is that it includes the wide range of ex-Yugoslav countries and universities with sport students, examining their level of physical exercise and very rarely studied concepts of athletic

identity and sport psychological skills (in this environment). One purpose of the present study was to determine whether the PSICA subscales demonstrated acceptable reliability and basic construct validity when administered to a sample of male and female students, and this purpose showed initially satisfactory results. Moreover, insights in correlations between main and relevant variables in the research, together with findings regarding the differences according to the year of study, between the universities, provide useful information for future researchers.

There are a few limitations to this study. One is almost the always present shortcoming which appears in psychological studies based on self-administered questionnaires: it is questionable how much the responses for each individual are biased by social desirability or the possibility of realistically estimating themselves. Also, the study has limited geographical coverage, since the study was conducted in a limited number of faculties in ex-Yugoslavia.

In future studies, there is still a need for further investigation of the psychometric properties of PSICA and AIMS across a group of male and female sport students, testing different conceptualizations of whether the athletic identity and psychological skills, applying different approaches (Sindik et al., 2013). Larger and more representative (simple randomized or pure stratified) sample(s) is/are always desirable.

Despite these shortcomings, the results provide information about the differences in relevant kinesiological and psychological sport-related variables in ex-Yugoslav countries and particular universities, stratified by gender. These insights could help in finding country-(or university-)differentiated programs for achieving higher motivation of sport college students for physical exercise.

Conclusions

Both psychological measuring instruments used in this study (Athletic Identity Measurement Scale and Psychological Skills Inventory for Chinese Athletes), applied on the samples of male and female college sport students in four Balkan countries, showed very satisfactory psychometric properties. Reliability is particularly high for males for AIMS, while the reliabilities for PSICA are mainly moderate to high and lower than for AIMS, both in males and females. In the future, it seems that (with certain limitations) both concepts do not need gender-differentiated conceptualizations.

The correlations between the variables in research, the students' competition rank, years of engaging in sports, level of exercise, strenuous and light physical exercise, with the variables of sport identity, and psychological skills are mainly low. Among males and females, the highest positive correlations with Godin leisure time exercise are the variables Competition rank, Years of engaging in sports, and Athletic identity. The highest negative correlations with Godin leisure time exercise are found with two composite psychological skills: Visualization/ Mental Preparation and Motivation/ Concentration. Statistically significant differences among the college sport students on the universities in different Balkan countries could be summarized in terms of the highest means obtained for male and female students from Ljubljana (Slovenia), with the lowest means in several variables for male students from Leposavić (Serbia). In females, the clear trend of the lowest means in particular countries is not found. In male and female college sport students, students from the first year of study are more engaged in strenuous physical exercise and have higher scores in Godin leisure time exercise (as compared with students from the third year of study). In male students, students from the third year of study have higher means in Light physical exercise, Sport identity, and Motivation/Concentration.

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