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Kratko saopštenje

Short notice

LATENTNA STRUKTURA INDIKATORA ZA PROCJENU OSOBINA TRENERA MLADIH SPORTISTA

LATENT STRUCTURE INDICATORS FOR ASSESSING FEATRES OF YOUNG SPORTSMEN COACHES

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Apstrakt: Istraživanje je provedeno na uzorku od ukupno 121 ispitanika – sportiste uzrasta 14 – 16 godina iz pet različitih sportova (smučanje, boks, plivanje, odbojka i košarka), putem anketnog upitnika koji sadrži 19 reprezentativnih indikatora – osobina, koje bi trener trebalo da posjeduje. Ispitani su stavovi mladih i perspektivnih sportista o poželjnim osobinama dobrog trenera. Radi se o selektovanim mladim i perspektivnim sportistima, čiji je kvalitet utvrđen na osnovu ostvarenih sportskih rezultata na zvaničnim prvenstvima Republike Srpske, Bosne i Hercegovine i međunarodnim takmičenjima. U istraživanju je primijenjen anketni upitnik u kojem svaka tvrdnja ima 5 odgovora i to: uvijek, često, povremeno, rijetko i nikad. Radi se o petostepenoj Likertovoj skali. Anketa sadrži i pitanja koja se odnose na pol, dužinu trenažnog staža i vrstu sporta. Osnovni cilj istraživanja bio je utvrđivanje latentne strukture indikatora za procjenu osobina trenera mladih i perspektivnih sportista. U cilju utvrđivanja latentne strukture primijenjenih indikatora primijenjena je faktorska analiza s rotacijom u Varimax soluciji. Dobijeni rezultati faktorske analize s rotacijom u Varimax soluciji pokazali su stabilan skup od četiri izolovane latentne dimenzije koje se mogu opisati kao: (1) stručni kvaliteti trenera (2) opšte ljudske osobine trenera (3) spoljašnje osobine trenera i (4) odnos trenera prema sportistima. Rezultati ukazuju na činjenicu da su osobine koje trener posjeduje i ispoljava u radu sa mladim i perspektivnim sportistima na treningu i takmičenju od izuzetnog značaja za formiranje cjelokupne i svestrane ličnosti mladog sportiste u njegovom sportskom napredovanju.

Ključne riječi: osobine trenera, mladi sportisti, anketa, faktorska analiza.

Uvod

Sport kao masovna društvena pojava, odnosno njegova primjena najbolje je vidljiva u zastupljenosti kod djece i mladih. Nesumnjivo je da sport pored škole i po-

Abstract: Research was conducted on a sample of 121 respondents in total-sportsmen aged 14-16 years old from five different sports (skiing, boxing, swimming, volleyball and basketball), through a questionnaire containing 19 representative indicators – qualities that the coach should possess. Examined are the attitudes of young and promising sportsmen of the desirable characteristics of a good coach. It's about the selected young and promising sportsmen, whose quality is determined on the basis of achieved results at official championships in of Republic of Srpska, Bosnia and Herzegovina and international competitions. The survey questionnaire was administered in which any claim has 5 replies as follows: always, often, sometimes, rarely did I ever. It's about five-point Liker scale. The survey contains questions related to gender, length of training period and type of sport. In order to determine the latent structure of the appropriateness of indicators was used factor analysis with Varimax rotation in solution. Given results of the factor analysis with Varimax rotation in solutions showed stable set of four isolated latent dimensions that can be described as: (1) technical quality of the trainers (2) the general human traits coaches (3) external characteristics of trainers and (4) the ratio of coaches to the sportsmen. The results point to the fact that the qualities that a coach has to exhibit the work of young and promising sportsmen in training and competition is of great importance for the formation of the whole personality and versatile young sportsmen in his sport promotion.

Keywords: features of the trainer, young sportsmen, survey, factor analysis.

INTRODUCTION

Sport as a mass social phenomenon, and its use is best seen in the representation of children and young people. There is no doubt that sport by the school and the family significantly affects the formation of psychophysi-

rodice značajno utiče na formiranje psihofizičkih karakteristika ličnosti mladih sportista, odnosno njihovih moralnih i socijalnih obilježja. U formiranju ličnosti mladih sportista ključnu ulogu ima trener, odnosno njegov odnos prema sportistima, te posjedovanje i ispoljavanje poželjnih osobina. Kompleksna dinamika trenera i sportista sa kojima rade je, između ostaloga, pod uticajem njihovih osobina ličnosti (Jowett i sar., 2005). Prema Ćirkoviću i saradnicima (2010), trener je inicijator i realizator programa treninga, stalni kontrolor angažovanja sportiste na treninzima i takmičenjima – ‘stalno dežurno uho i oko’. Višedecenijska empirijska i naučna istraživanja potvrđuju da trener ima nemjerljiv značaj u formiranju ličnosti mladog sportiste. Trener ne samo da djeluje na sportski razvoj mladog sportiste, već se njegovo djelovanje odražava i na ostale aspekte djetetovog života (Smoll i Smith, 1989). Od osobina ličnosti koje posjeduje trener i koje ispoljava u radu sa mladim sportistima zavisi i nivo njihove identifikacije sa trenerom. Istraživanja sprovedena u SAD pokazuju da se oko 20 miliona djece starosti do 14 godina bavi nekim sportom, ali da čak troje od četvero djece koje se počinje baviti sportom u dobi 6 – 7 godina, od njega odustaje ulaskom u pubertet ili najkasnije do 15 godine (Papalia i sar., 1999).

Postoji veliki broj klasifikacija osobina trenera, ali ne postoji potpuna saglasnost koje su to najvažnije i najpoželjnije osobine trenera. Savremeni trener mora raspolagati dobrim teorijskim i praktičnim znanjem, kao i visokim moralnim vrijednostima. Svakodnevno ponašanje na treningu, takmičenju, ugled koji uživa u društvu, te karakterne osobine koje posjeduju utiču na formiranje stavova i ponašanje mladih sportista. Važno je da trener umije da prilagodi verbalno izražavanje uzrastu djeteta i da je upoznat sa osnovama razvoja djece u predškolskom uzrastu (Smiljanić, 1991; Pijaže, 1977). Tepavčević (2009) u svojoj studiji o poželjnim osobinama trenera izdvaja četiri faktora: kreativnost, harizmatičnost, komunikativnost i nametljivost. Demonstracija sigurnosti i odlučnosti se očekuje od trenera u prisustvu sportiste, a posebno se kao poželjna osobina trenera izdvaja pravičnost (Ivanović, 2016).

Bezbroj novih situacija postoji na takmičenju, a iste bi trener trebao uspješno rješavati da bi došao do željenog cilja (Kovač, M. i Kovač, J., 2007). Trener u radu sa mladim sportistima, u interpersonalnim odnosima utiče na razvijanje njihovih moralnih vrijednosti, socijalizaciju ličnosti, te formiranje radnih navika, radne discipline i odgovornosti. Lee i sar., (1993) pokazali su da mladi sportisti veliku važnost pridaju interesu trenera za njih kao ličnosti. Jasnim definisanjem pravila ponašanja na

cal personality of young sportsmen, and their moral and social characteristics. In the formation of the personality of young sportsmen coach has a key role, and his attitude towards the sportsmen, and the possession and expression of desirable traits. The complex dynamics of coaches and sportsmen with whom they work, among other things, influenced by their personality traits (Jowett et al., 2005). According to Ćirkovic and associates (2010), coach is the initiator and implementer of training programs, continuous controller engaging athletes in training and competition - ‘continuous-duty ear and eye’. Decades of empirical and scientific research confirms that the coach has immeasurable significance in the formation of the personality of the young athletes. Coach not only affects the sports development of young sportsmen, but its activity reflected in other aspects of the child’s life (Smoll and Smith, 1989). From a personality trait that has a coach and that manifests itself in working with young sportsmen depends on the level of their identification with the coach.

Surveys conducted in the United States show that about 20 million children aged under 14 engaged in some sport, or even three of the four children who are starting to play sports at age 6-7 years, than he gives up puberty or later than 15 years (Papalia et al., 1999). There are many classifications of coach characteristics but there is no complete agreement what are the most important and most desirable traits of the coaches. The modern coach must have good theoretical and practical knowledge, as well as high moral values. Everyday behavior in training, competition, reputation it enjoys in society, and character traits that have influenced the formation of attitudes and behavior of young sportsmen. It is important that the coach knows how to adjust the verbal expression of the age of the child and that he is familiar with the basics of the development of children in preschool age (Smiljanic, 1991; Piaget, 1977). Tepavčević (2009) in his study of the desirable characteristics of a coach identifies four factors: creativity, charisma, communication skills and assertiveness. The demonstration of safety and commitment is expected from the coach in the presence of athletes, especially as a desirable trait coach stands out justice (Ivanović, 2016).

Countless new situation there is a competition, and the same would coach should be tackled in order to reach the desired goal (Kovač, M., & Kovač, J., 2007). The coach working with young athletes, in interpersonal relationships affect the development of their moral values, socialization of personality, and the formation of work habits, work discipline and responsibility. Lee et al., (1993) have shown that young athletes attach great importance to the interests of coaches for them as individuals. By clearly defining the

treningu i takmičenju i isticanjem fair – playa, trener utiče na formiranje moralnih vrijednosti, koje prije svega zavise od ličnog primjera dosljednosti, odgovornosti, poštenja i pravednosti. Kroz sistem nagrađivanja i kazni, trener potvrđuje svoja moralna načela i na taj način predstavlja poželjna moralna ponašanja. Prema Vasti i sar., (1997), najnepoželjnija metoda u radu sa mladim sportistima je pokazivanje moći, putem naredbe, prijetnje ili primjene sile, a najpoželjnija metoda u radu sa mladim sportistima je indukcija, odnosno razgovor kojim se mladom sportisti ukazuje na mogućnost posljedica ili štete koje njegovi postupci mogu izazvati.

Uvažavanjem primjedbi i mišljenja sportista, te podsticanju kolektivnog rada i ostvarivanja zajedničkih ciljeva djeluje na smanjivanje unutargrupnog suparništva. Veoma je bitno da trener izgradi pozitivan odnos povjerenja trener – sportista, da je ljubazan, duhovit, društven... Trener koji zanemari važnost odnosa sportista – trener na proces vođenja treninga direktno rizikuje razvoj sportskih potencijala (Lyle, 1999). Takođe, za trenera je veoma bitno da na treninzima stvari treba rješavati na demokratski način, ali postoje situacije u kojima je neophodno da trener preuzima odgovornost i autoritet u donošenju odluka. Treninzi ne smiju biti loše organizovani, trener mora biti stručan i ne smije praviti razlike među sportistima. Veliki broj sportskih psihologa naglašava značaj optimalnog odnosa između trenera i sportiste (Jowett i Cockerill, 2003; Jowett i Ntoumanis, 2004; Poczwardowski i sar., 2006).

Savremeni sport ne trpi improvizacije. Poštovanje reda, rada i discipline dio su sportskog sistema od kojeg zavisi uspjeh u sportu i trajanje sportske karijere. Kroz primjenu odgovarajućih pravila ponašanja i sistem rada u sportskoj organizaciji, te ličnim primjerom trenera, omogućava se razvoj individualnih kvaliteta i osobina sportiste ali i veća predanost grupi i kolektivna odgovornost. Prema Jowettu i Clark – Carteru (2006), odnos sportiste i trenera ima veliki psihološki uticaj za razvoj i stabilnost osoba uključenih u taj odnos.

Cilj ovog rada je istraživanje poželjnih osobina trenera koje je neophodno da trener posjeduje ili da ih razvija i primjenjuje u radu sa mladim i perspektivnim sportistima, a koje značajno utiču na bavljenje sportom i trajanje sportske karijere.

rules of conduct in training and competition, and emphasis on fair - play, coach influences the formation of moral values, which primarily depend on the personal example of consistency, responsibility, integrity and fairness. Through a system of rewards and penalties, the coach confirmed his moral principles and is thus a desirable moral behavior. According to Vasti et al., (1997), the least desirable method of working with young sportsmen is able to show, through orders, threats or use of force and the preferred method of working with young sportsmen is the induction or counseling to young sportsmen indicating the possibility or consequences damages actions can cause.

Respecting the comments and opinions of athletes and fostering collective work and achievement of common goals operates at reducing intergroup conflicts. It is very important that the coach builds a positive relationship of trust coach – sportsmen that is kind, humorous, sociable... Coach who ignores the importance of the relationship of sportsmen- coach in the process of training management is directly risking the development of sports resources (Lyle, 1999). Also, for the coach it is very important that the training actually be solved in a democratic way, but there are situations where it is necessary that the coach takes responsibility and authority to make decisions. Trainings should not be poorly organized, the coach must be competent and must not make distinctions among sportsmen. A large number of sports psychologists emphasizes the importance of optimal relationship between coach and sportsmen (Jowett and Cockerill, 2003; Jowett and Ntoumanis, 2004; Poczwardowski et al., 2006).

Modern sport does not tolerate improvisation. Respect for the order, work and discipline are part of the sports system, which depends on success in sports and duration sports career. Through the application of appropriate rules of conduct and system of work in the sports organizations, and personal example of trainers, allows the development of individual qualities and characteristics of sportsmen but also greater commitment to the group and collective responsibility. According Jowett and Clark - Carter (2006), the ratio of sportsmen and coaches has a great psychological impact on development and stability of the people involved in the relationship.

The aim of this study is to investigate desirable traits coaches that it is imperative that the coach possesses or that it develops and applies in working with young and promising sportsmen and are important in sports and duration sports career.

METOD RADA

Uzorak ispitanika

Uzorak ispitanika sačinjavali su perspektivni sportisti Republike Srpske, učesnici "Ljetne škole sporta Republike Srpske 2015", ukupno njih 121 sportista, iz pet sportova i to: smučanje, boks, plivanje, odbojka i košarka. Radi se o selektovanim mladim i perspektivnim sportistima, čiji je kvalitet utvrđen na osnovu ostvarenih sportskih rezultata na zvaničnim prvenstvima Republike Srpske, Bosne i Hercegovine i međunarodnim takmičenjima. Starost ispitanika je bila od 14 do 16 godina.

Uzorak varijabli

Mjerni instrument bila je anketa koja sadrži 19 reprezentativnih osobina koje bi trener mladih sportista trebao da posjeduje. Anketa za procjenu stavova je validirana i ranije korištena (Chelladurai i Saleh, 1980; Radovanović, 1997), a ista je konstruisana po modelu Likertove skale pri čemu je svaka tvrdnja označena sa pet modaliteta (uvijek, često, povremeno, rijetko i nikad). Anketa obuhvata ukupno 19 indikatora koji obuhvataju sljedeće tvrdnje: (1) ljubazan, (2) veseo, (3) prirodan, (4) društven, (5) duhovit, (6) pošten, (7) inteligentan, (8) marljiv, (9) skroman, (10) pravedan, (11) dosljedan, (12) nepristrasan, (13) stručan, (14) štiti naš interes, (15) dobar predavač, (16) entuzijasta, (17) svestran, (18) dobre fizičke kondicije, (19) uredan.

Pored pitanja za procjenu poželjnih osobina dobrog trenera, anketa sadrži pitanja koja se odnose na pol, trenajni staž i vrstu sporta.

Obrada podataka

Za utvrđivanje stavova/tvrdnji ispitivanih sportista o poželjnim osobinama trenera korištena je petostepena skala Likertovog tipa gdje za svaku tvrdnju postoji pet odgovora: uvijek, često, povremeno, rijetko, nikad. Rezultati istraživanja su obrađeni postupcima deskriptivne statistike, gdje su za svaku varijablu izračunati osnovni centralni i disperzioni parametri:

- Aritmetička sredina (Mean),
- Minimalni rezultat (Minimum),
- Maksimalni rezultat (Maksimum) i
- Standardna devijacija (Std Deviation).

Za utvrđivanje latentne strukture stavova/tvrdnji ispitanika primijenjena je faktorska analiza s rotacijom u Varimax soluciji.

REZULTATI I DISKUSIJA

U Tabeli 1 prikazani su osnovni statistički parametri stavova ispitanika o poželjnim osobinama trenera. Iz Ta-

METHOD OF WORK

The examiner sample

The sample consisted of promising sportsmen of the Republic of Srpska, participants of "Summer School of Sport of the Republic of Srpska in 2015", a total of 121 athletes from five sports including: skiing, boxing, swimming, volleyball and basketball. These are selected young and promising sportsmen, whose quality is determined on the basis of achieved results at official championships in Republic of Srpska, Bosnia and Herzegovina and international competitions. Age was 14-16 years.

Pattern variables

The measuring instrument was a questionnaire which contains 19 representative traits that coach of young sportsmen should possess. Survey to assess attitudes is validated and previously used in similar studies (Chelladurai and Saleh 1980, Radovanovic, 1997) and is constructed on the model of Likert scale where each statement is marked by five modalities (always, often, sometimes, rarely, never). The survey covers a total of 19 indicators covering the following statements: (1) polite, (2) a cheerful, (3) natural, (4) social, (5) witty, (6) fair, (7) intelligent, (8) a diligent, (9) modes, (10) just (11) consistent, (12) an impartial, (13) professional, (14) protects our interests, (15) a good speaker, (16) enthusiasts, (17) is a versatile, (18) good physical condition, (19) in order. In addition to questions for assessment of desirable qualities of a good coach, the survey contains questions related to gender, training internship and type of sport.

Data processing

To determine the attitudes / claims tested sportsmen on the desired characteristics of trainers a five-point Likert scale was used, where for each claim there are five answer: always, often, sometimes, rarely, never. Survey results were analyzed using descriptive statistical methods, where for each variable to calculate the basic central and dispersion parameters:

- Arithmetic environment (Mean)
- Minimum score (Minimum)
- Maximum score (maximum) and
- Standard deviation (Std Deviation).

To determine the latent structure of attitudes/claims of the respondents applied the factor analysis with Varimax rotation in solution.

RESULTS AND DISCUSSION

Table 1 shows the basic statistical parameters of respondent's attitude on the desired characteristics of the

bele 1 se vidi da je istraživani kontekst stavova ispitanika prema poželjnim osobinama trenera pokazao da ispitanici generalno iskazuju pozitivan stav prema osobinama trenera. Iskazane vrijednosti pojedinačnih stavova kreću se u granicama od 1 (minimalne) do 5 (maksimalne) za većinu indikatora izuzev indikatora 2, 6, 11 i 15 čije se minimalne vrijednosti razlikuju od jedinice. Srednje vrijednosti primijenjenih indikatora kreću se u rasponu od 2.79 do 5.00. Iskazane vrijednosti stavova ispitivanog uzorka mladih sportista ipak pokazuje njihovu pozitivnu usmjerenost srednjeg intenziteta (4.51). U intenzitetu stava značajno se ističu sljedeći indikatori: uredan (4.81), prirodan (4.73), društven (4.72), pošten (4.69), stručan (4.65), inteligentan (4.64) i dobar predavač (4.63). Vrijednosti ostalih indikatora su nešto manjeg intenziteta, ali takođe značajni i pozitivno orjentisani.

Tabela 1. Osnovni statistički parametri stavova (indikatora) ispitanika

	N	Minimum	Maximum	Mean	Std. Error	Std. Deviation
P1	121	1	5	4.55	.070	.774
P2	121	2	5	4.40	.072	.790
P3	121	1	5	4.73	.062	.683
P4	121	2	5	4.72	.060	.661
P5	121	1	5	4.34	.096	1.053
P6	121	2	5	4.69	.065	.719
P7	121	1	5	4.64	.070	.773
P8	121	1	5	4.53	.081	.895
P9	121	1	5	4.36	.097	1.063
P10	121	1	5	4.50	.081	.896
P11	121	2	5	4.50	.078	.858
P12	121	1	5	4.05	.111	1.224
P13	121	1	5	4.65	.072	.793
P14	121	1	5	4.50	.085	.932
P15	121	2	5	4.63	.074	.818
P16	121	1	5	4.39	.088	.969
P17	121	1	5	4.54	.078	.857
P18	121	1	5	4.35	.098	1.078
P19	121	1	5	4.81	.061	.675
ukupno / Total Mean	121	2.79	5.00	4.51	.052	.552

Legend/Legenda: N – broj ispitanika; **Minimum** – minimalni rezultat mjerenja; **Maximum** – maksimalni rezultat mjerenja; **Mean** – aritmetička sredina; **Std. Deviation** – Standardna devijacija

coach. From Table 1 we can see that the context investigated the attitudes of respondents to the desirable characteristics of coaches showed that respondents generally expressed a positive attitude towards the characteristics of a coach. The carrying amounts of the individual attitudes ranged from 1 (minimum) to 5 (maximum) for most indicators except for indicators 2, 6, 11 and 15 whose minimum values differ from unit. Mean values of indicators applied are in the range of **2.79 to 5.00**. The carrying amount of the attitudes of the test sample of young athletes still shows their positive orientation of medium intensity (4.51). In the intensity of attitude significantly the following indicators are highlighting: Neat (4.81), natural (4.73) social (4.72), honest (4.69), professional (4.65), intelligent (4.64) and a good teacher (4.63). Values of other indicators were somewhat lower intensity, but also significant and positively oriented.

Table 1. Basic statistical parameters of attitudes (indicators) pts

Legend / Legend: N - number of respondents; **Minimum** - the minimum measurement result; **Maximum** - the maximum measurement result; **Mean** - mean; **Std. Deviation** - Standard deviation

Tabela 2. Osnovni statistički parametri stavova (indikatora) ispitanika prikazanih u totalu

Statistics		
Total Mean		
N	Valid	121
	Missing	0
Mean		4,5189
Std. Error of Mean		,05023
Std. Deviation		,55252
Skewness		-1,261
Std. Error of Skewness		,220
Kurtosis		,940
Std. Error of Kurtosis		,437
Minimum		2,79
Maximum		5,00

Table 2. Basic statistical parameters of attitudes (indicators) of respondents indicated in total

Legend/Legenda: N – broj ispitanika; Mean – aritmetička sredina; Std. Error of Mean – standardna greška aritmetičke sredine; Std. Deviation – Standardna devijacija; Skewness – mjera asimetrije; Kurtosis – mjera izduženosti; Minimum – minimalni rezultat mjerenja; Maximum – maksimalni rezultat mjerenja;

Faktorska analiza je opravdana s obzirom na to da su vrijednosti KMO koeficijenta 0.844, a Bartlett-ovog testa 1151.969 (df 171) na nivou značajnosti 0.00. Za utvrđivanje strukture primijenjenih indikatora primijenjena je faktorska analiza s rotacijom u Varimax soluciji. Proračunom karakteristične jednačine matrice interkorelacija izračunati su karakteristični korjenovi i karakteristični vektori te matrice.

Analizom rezultata zadržane su one glavne komponente čiji su karakteristični korjenovi zadovoljili Gutman – Kaiserov kriterij koji obuhvata sve karakteristične korjene čije su vrijednosti veće ili jednake jedinici.

Utvrđivanje latentne strukture primijenjenih indikatora koji ukazuju na poželjne osobine trenera definisano je rotacijom inicijalnog koordinatnog sistema manifestnih varijabli primjenom Varimax solucije (Kaiser, 1958).

U Tabeli 3 prikazani su karakteristični korjenovi i objašnjeni dijelovi zajedničke varijanse primijenjenih indikatora.

Faktorizacijom matrice interkorelacije indikatora i primjenom Gutman – Kaiserovog kriterija dobijena su četiri karakteristična korijena (četiri latentne dimenzije) koje objašnjavaju ukupno 62 % zajedničke varijanse. Pojedinačni doprinos u objašnjenju zajedničke varijanse iznosi za prvu latentnu dimenziju 41 %, za drugu 8 %, za treću 7 % i za četvrtu 6 %. Kao što se vidi najveći dio zajedničke varijanse nosi prva glavna latentna dimenzija.

Legend / Legend: N - number of respondents; Mean - mean; Std. Error of Mean - standard error of the mean; Std. Deviation - Standard deviation; Skewness - a measure of asymmetry; Kurtosis - a measure of elongation; Minimum - the minimum measurement result; Maximum - the maximum measurement result;

Factor analysis is valid, flowing the results of KMO coefficient 0.844, and Bartlett's test 1151.969 (df 171), with the significant value of 0.00.

For determining the structure of the appropriateness of indicators was used factor analysis with Varimax rotation in solution. Budget characteristic equation intercorrelation matrix to calculate the characteristic roots and characteristic vectors of this matrix.

The analysis results are retained one of the main components of which are the characteristic roots meet Gutman - Kaiser criterion which includes all the characteristic roots whose values are greater than or equal to one.

Establishing the latent structure of applied indicators showing the desirable traits coach is defined by rotation of the coordinate system of initial manifest variables using the Varimax solution (Kaiser, 1958).

Table 3 shows the characteristic roots and explained parts of common variance indicators applied. Intercorrelation matrix factorization and applying indicators Gutman - Kaiser criterion were obtained four characteristic roots (four latent dimensions) that explain a total of 62% of common variance. The individual contribution to the explanation of the common variance is the first latent dimension of 41% for second 8% for the third 7% and 6% for the fourth. As seen most of the common variance carries the first main latent dimensions.

Tabela 3. Karakteristični korjenovi i objašnjeni dijelovi zajedničke varijance

Component	Total Variance Explained					
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.823	41.171	41.171	7.823	41.171	41.171
2	1.480	7.789	48.960	1.480	7.789	48.960
3	1.357	7.144	56.104	1.357	7.144	56.104
4	1.151	6.060	62.164	1.151	6.060	62.164
5	.995	5.237	67.401			
6	.894	4.704	72.105			
7	.776	4.087	76.192			
8	.699	3.679	79.871			
9	.636	3.345	83.216			
10	.550	2.893	86.109			
11	.459	2.417	88.526			
12	.421	2.216	90.743			
13	.390	2.055	92.797			
14	.340	1.787	94.584			
15	.298	1.570	96.154			
16	.238	1.251	97.405			
17	.211	1.112	98.517			
18	.144	.756	99.273			
19	.138	.727	100.000			

Table 3. The characteristic roots and explained parts of common variance

U Tabeli 4 prikazana je matrica izolovanih glavnih komponenti sa rotacijom u Varimax soluciji. Analizom matrice izolovanih glavnih komponenti (Tabela 4), u kojima su iznijeti koeficijenti matrice glavnih komponenti (korelacije vektora manifestnih varijabli sa izolovanim glavnim komponentama), tj. koordinate vektora varijabli projektovanih na ortogonalni sistem latentnih dimenzija, koje se definišu kao glavne komponente, mogu se uočiti četiri izolovane glavne komponente.

Iz prikazane matrice može se uočiti da najveće ortogonalne projekcije vektora manifestnih varijabli na prvu glavnu komponentu imaju indikatori koji govore o stručnim kvalitetima trenera i to: dobar predavač 0.82, stručan 0.76, entuzijast 0.67, štiti interese 0.63, marljiv 0.54, inteligentan 0.54 i svestran 0.53. S obzirom na visoke i dominantne projekcije indikatora stručnosti prvi izolovani faktor se može opisati - definisati kao *faktor stručnih kvaliteta trenera*.

Prvi faktor se odnosi na stručne kvalitete trenera. Očita je jaka uloga stručnosti trenera u edukaciji i usvajanju sportsko – tehničkih znanja mladih sportista. Očito je kako u populaciji ispitivanog uzorka sportista postoji svijest o stručnom vođenju koje daje mogućnost boljeg usvajanja sportsko – tehničkih znanja i postizanje sportskih rezultata. Sportsko – tehnička znanja koje sportisti dobijaju od takvih trenera pružaju koristi za opštu dobit, a stručnost garantuje uspjeh u takmičenju.

Najznačajnije ortogonalne projekcije vektora ma-

Table 4 shows the matrix of isolated main components with Varimax rotation in solution. The analysis of the main components of the matrix isolated (Table 4) that outline the main components of the coefficients of the matrix (correlation vector manifest variables with isolated major components), ie. coordinates of the vector of variables to the projected dimension of the latent orthogonal system, which are defined as the main components could be identified by four insulated main components. From the presented matrix it can be seen that the largest orthogonal projection vector of manifest variables on the first principal component are indicators that speak of the professional qualities of trainers, namely: a good teacher 0.82, an expert 0.76, 0.67 enthusiast, protect the interests of 0.63, 0.54 industrious, intelligent 0.54 and versatile 0.53. Due to the high and dominant projections of expertise indicators first isolated factor can be described - defined as the quality factor of professional trainers. The first factor relates to the quality of coaches. There is an obvious strong role of trainer expertise in education and adoption sports - technical knowledge of young sportsmen. It is obvious how in the population of the test sample sportsmen there is awareness of professional conduct which gives the possibility of adopting a better sports - technical knowledge and achieve results in sport. Sports - technical knowledge that sportsmen receive from such coaches provide benefits to the general profit and expertise will guarantee success in the competition.

nifestnih varijabli na drugi faktor imaju indikatori koji se odnose na opšte ljudske i karakterne osobine trenera: društven 0.76, veseo 0.74, duhovit 0.72, ljubazan 0.64 i prirodan 0.44, pa se drugi faktor može opisati - definisati kao *faktor opštih ljudskih osobina*. Vidljivo je da mladi sportisti posjeduju svijest o potrebi opštih ljudskih osobina trenera.

Najznačajnije ortogonalne projekcije vektora manifestnih varijabli na treći faktor imaju indikatori koji se odnose na spoljašnje osobine ličnosti trenera i to: pošten 0.73, pravedan 0.71, visok nivo fizičke kondicije 0.69 i uredan 0.58, pa se treći faktor može definisati kao *faktor spoljašnjih osobina trenera*. Takođe je vidljivo da kod ispitanika postoji svijest o važnosti i drugih osobina trenera koje su povezane sa opšte ljudskim osobinama.

Najznačajnije ortogonalne projekcije vektora manifestnih varijabli na četvrti faktor imaju indikatori koji se odnose na pristup trenera prema sportistima kao što su: nepristrasan 0.77, skroman 0.67 i dosljedan 0.59, pa se četvrti faktor može definisati kao *faktor odnosa trenera prema sportistima*. Ovako dobijeni rezultati ukazuju na poželjne osobine trenera od kojih zasigurno zavisi formiranje svestrane i zdrave ličnosti mladih i perspektivnih sportista u njihovom sportskom napredovanju.

Ako se dobijeni rezultati ovog istraživanja uporede sa nekim dosadašnjim istraživanjima, može se zaključiti da su dobijeni rezultati u okvirima očekivanih rezultata (Tepavčević, 2009; Ivanović, 2016). Cetinić i Kajtna (2009) ističu potrebu dobre komunikacije učenika sa profesorom fizičkog vaspitanja, kao i objektivnost i primjenu individualizacije, pohvalu i povjerenje profesora. Svijest o potrebi ispravnog odnosa trenera sa mladim sportistima unutar sportske organizacije je vrlo jasna; očito je poznato kako dobar odnos doprinosi boljem i efikasnijem radu, donošenju boljih rješenja kao i dobra i slika o takvom istinskom treneru koji svoja znanja uspješno prenosi na mlade podstičući ih na veće zalaganje i postizanje boljih rezultata.

The most significant orthogonal projection of vector manifest variables to another factor have the indicators relating to the general human character traits and coaches, 0.76 sociable, cheerful 0.74 0.72 witty, affectionate 0.64 and natural 0.44, while the second factor can be described - defined as the factor of universal human traits. It is evident that young sportsmen have the awareness of the need for universal human trait coach.

The most significant orthogonal projection of vector manifest variables to the third factor have the indicators relating to external traits and coaches to: fair 0.73, just 0.71, a high level of physical fitness is 0.69 and tidy 0.58, and the third factor can be defined as a factor external features of the coach. It is also evident that among the respondents there is awareness of importance of other characteristics in which coaches are associated with common human traits.

The most significant orthogonal projection of manifest variables vector on the fourth factor in the indicators relating to access to the athletes, coaches, such as: 0.77 impartial, and consistent with a modest 0.67 was 0.59, while the fourth factor can be defined as a factor of relationship coaches to the athletes. Thus obtained results indicate the desirable traits of coaches on which certainly depends the formation of a comprehensive and healthy personality of young and perspective sportsmen in their sports promotion.

If the given results of this study twist with some previous research, it can be concluded that the results are in the terms of expected results (Tepavčević, 2009; Ivanović, 2016). Cetinić and Kajtna (2009) emphasize the need for good communication students with a professor of physical education, as well as objectivity and application of individualization, praise and trust of the professor. Awareness of the need for a right relationship between coach and young sportsmen within the sport organization is very clear, obviously it is known that a good relationship contributes to a better and more effective work, making better decisions and good and true picture of such a coach to successfully transmit their knowledge to young people by encouraging them to greater commitment and better results.

Tabela 4. Komponentna matrica rotirana u Varimax soluciji

Table 4. Component Matrix Varimax rotated Solutions

	Rotated Component Matrix ^a			
	Component			
	1	2	3	4
P15	,817			
P13	,760			
P16	,670			
P14	,613			
P8	,544			
P7	,543			
P17	,526			
P4		,759		
P2		,737		
P5		,719		
P1		,635		
P3		,441		
P6			,729	
P10			,709	
P18			,686	
P19			,578	
P12				,765
P9				,670
P11				,587

ZAKLJUČAK

Istraživanje je provedeno na uzorku od ukupno 121 ispitanika – sportiste uzrasta 14-16 godina iz pet različitih sportova (smučanje, boks, plivanje, odbojka i košarka), sa ciljem utvrđivanja latentne strukture indikatora za procjenu osobina trenera mladih i perspektivnih sportista. U cilju utvrđivanja latentne strukture primijenjenih indikatora primijenjena je faktorska analiza s rotacijom u Varimax soluciji. Dobijeni rezultati faktorske analize s rotacijom u Varimax soluciji pokazali su stabilan skup od četiri izolovane latentne dimenzije koje se mogu opisati-definisati kao: (1) *stručni kvaliteti trenera* (2) *opšte ljudske osobine trenera* (3) *spoljašnje osobine trenera* i (4) *odnos trenera prema sportistima*.

Rezultati istraživanja generalno ukazuju da mladi sportisti uključeni u različite sportove imaju pozitivno orjentisane stavove kada su u pitanju poželjne osobine njihovih trenera.

Rezultati takođe, ukazuje na činjenicu da su osobine koje trener posjeduje i ispoljava u radu sa mladim i perspektivnim sportistima na treningu i takmičenju od izuzetnog značaja za formiranje cjelokupne i svestrane ličnosti mladog sportiste u njegovom sportskom napredovanju.

Izjava autora

Autori pridonijeli jednako.

Konflikt interesa

Mi izjavljujemo da nemamo konflikt interesa.

CONCLUSION

The study was conducted on a sample of 121 respondents - sportsmen aged 14-16 from five different sports (skiing, boxing, swimming, volleyball and basketball), in order to determine the latent structure of indicators for assessing the properties of trainers of young and promising sportsmen. In order to determine the latent structure of the appropriateness of indicators was used factor analysis with Varimax rotation in solution. The results of the factor analysis with Varimax rotation in solutions showed stable set of four isolated latent dimensions that can be described as: (1) *technical quality of the trainers* (2) *the general human traits coaches* (3) *external characteristics of trainers and* (4) *the ratio of coaches to the sportsmen*.

Research results generally indicate that young sportsmen involved in different sports have a positive attitude oriented when it comes to desirable traits of their coach.

The results also point to the fact that the qualities that a coach has demonstrated in working with young and promising sportsmen in training and competition is of great importance for the formation of the whole personality and versatile young athletes in his sport promotion.

Authorship statement

The authors have contributed equally.

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