

Correlation of the coach's qualities and junior athletes' self-efficacy

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Abstract

The purpose is to examine correlations between the coach's personal and professional qualities and junior athletes with different levels of self-efficacy (n=103). **Methods:** correlation and cluster analyses, valid psychodiagnostic methods, coefficients for establishing statistical significance. **Results.** Self-efficacy was studied as a factor of successfulness in sporting activities and an indispensable component of professional training for junior athletes. The meaning of "subject activity" (SA) and "interpersonal communication" (IC) as components of junior athletes' self-efficacy was examined. A statistically significant correlation ($p < .05$; $p < .01$) of the coach's qualities and SA ($t = -11.905$; $p = .000$) and IC ($t = -2.222$; $p = .040$) was established. There were statistically significant differences in manifestation of self-efficacy of the junior athletes in Group 1 and Group 2 by scale SA ($t = -11.905$; $p = .000$); Group I and Group II by scale IC ($t = -2.222$, $p = .040$). The research shows that athletes' evaluation of the coach's personal and professional qualities is an important factor in the formation of self-efficacy both in the area of "subject activity" and in the area "interpersonal communication". Junior athletes with a high level of self-efficacy by the criterion SA (Group 1) and IC (Group I) evaluate the coach's personal and professional qualities at a high level by the following parameters: the gnostic parameter ($M_1 = 5.78 \pm .66$; $M_2 = 5.00 \pm .866$); the emotional parameter ($M_1 = 6.22 \pm 1.98$; $M_2 = 7.33 \pm .707$); the behavioral parameter ($M_1 = 6.56 \pm 1.59$; $M_2 = 6.8 \pm 1.33$). Junior athletes with a low level of self-efficacy by the criterion SA (Group 2) and IC (Group II) evaluated the coach's role in their success in the following way: the gnostic parameter ($M_1 = 3.64 \pm .505$; $M_2 = 4.27 \pm 1.42$); the emotional parameter ($M_1 = 5.22 \pm 1.37$; $M_2 = 4.18 \pm .603$); the behavioral parameter ($M_1 = 5.0 \pm 1.48$; $M_2 = 4.64 \pm 1.12$). Pearson's (R) correlation analysis allowed finding that evaluation of the coach's professional qualities ($R = .259$; $p < .01$) and relationships between junior athletes and the coach ($R = .178$; $p < .05$) are important for the formation of self-efficacy related to sport qualification upgrading SA. The development of self-efficacy related to interpersonal communication IC depends on affection for the coach's personality ($R = .301$; $p < .01$) and real relationships between junior athletes and the coach ($R = .261$; $p < .01$). **Conclusions.** It is generalized that the understanding of the role of the coach's personal and professional qualities in increasing self-efficacy will contribute to better organization of sports pedagogical process, the development of skills in mutual constructive activity for achieving high sport results. Research on relationships "coach-athletes" is considered to be promising in the context of improving the coach's qualification and the formation of "team self-efficacy" in young athletes.

Key words: team self-efficacy, interpersonal communication, competitiveness, self-actualization, success, successfulness, young people.

Introduction

Sporting activities, independently of their types, are an organized team process and result involving an extremely high number of subjects. Therefore, their success mostly depends on building good relationships between these subjects. Such articulation of the above scientific problem makes the continuum "coach-athlete" a central concept, and relationships between athletes themselves are also very important. It concerns personal and team results. Self-belief and aspiration to win make this interaction successful. Since this interaction affects both subjects of common sporting activities, examination of the athlete's and the coach's personalities and also the structure of relationships in the process of long-term common activity is quite popular in sport psychology, (Jowett et al., 2007; Turman et al, 2003). The coach's impact on junior athletes should be highlighted (Newman et al., 2021; Watson et al., 2011).

Additionally, increased social activeness of a team and an individual requires perfect methods for handling initiative, independence, formation of the ability to make appropriate decisions and the ability to be subordinate, moral maturity, judgements and opinions of all subjects involved in common activity. This is another aspect ensuring successfulness in sporting activities. It is based on the understanding of one's own abilities in this activity and is called self-efficacy in psychology (Bandura, 1977).

The issue of self-efficacy introduced by A. Bandura (1977; 1982) is fundamental for examining sporting activities. It is necessary to adequately evaluate one's personal resources which will help perform activity taking into consideration conditions and requirements of a particular situation. It is possible owing to adequate evaluation of one's own abilities and social expectations (Popovych et al., 2021a). All together they help an athlete regulate their own activity and develop a strategy that is essential for achieving a positive result in sports. It is obvious that there is a necessity to conduct research on junior athletes' self-efficacy, its dependence on relationships between the coach and athletes which will contribute to increasing efficiency of individual and team activities and dealing with problematic competition situations.

These thoughts are based on several ideas. Firstly, efficiency of competition activity is determined not only by functional-physical potentialities and facilities of athletes' training process, but also by the necessity to study psychological and pedagogical relationships and interactions between the coach and athletes both in team and individual sports which have complex structure and content (Popovych et al., 2020b; 2022d).

Moreover, continuous process of making managerial decisions is an important mechanism of solving problems in sports. It is determined, on the one hand, by athletes' psycho-physiological potentialities and, on the other hand, by the development of the coach's and athletes' psychological abilities to behave in the appropriate tactical manner under actual conditions of harsh competition activity.

Finally, the process of making a managerial decision by the coach occurs at four levels: sensor (orientation) – cognitive (comprehension), operational (performing a chosen action) and reflective (analytical analysis of the reasons for making strategic and tactical decisions). In terms of its content, the decision made is a psycho-motor mechanism for a system of motions, correcting and regulating athletes' actions and behavior. The process of managing an athlete's behavior, in particular, or a sports team's behavior determines the efficiency and results of individual and team behavior of athletes (Popovych et al., 2021c; 2022a; Turman & Schrodt, 2004; Davis et al, 2023). Therefore, an athlete's evaluation of the coach is an important component of understanding positive and negative aspects of their professional interaction.

Thus, an athlete's self-efficacy based on self-belief and confidence in one's own ability to solve problems is an essential factor of successfulness of this process. An important role in this process is played by personal and professional qualities of the coach: the level of competence of the coach as a professional – the gnostic parameter (GP), the level of affection for the coach – the emotional parameter (EP) and real relationships between the coach and athletes – the behavioral parameter (BP), and also the coach's evaluation by athletes.

Hypothesis. We assume that self-efficacy of junior athletes as an indispensable condition for their professional growth and development depends on their evaluation of personal and professional qualities of the coach.

Purpose of the research is to examine correlations between the coach's personal and professional qualities and athletes with different levels of self-efficacy.

Material and methods

Methodology. Research on junior athletes' self-efficacy is based on social cognitive theory of personality developed by A. Bandura (1982). In addition, some scientists consider junior athletes to be subjects of self-organization and self-development (Popovych et al., 2021d; 2022b; 2022f) capable of affecting actively the process of interaction and achievement of their individual and team success. These studies contributed to understanding the role of social-psychological and personal factors in the functioning of junior athletes' self-efficacy.

Actions using psycho-diagnostic instruments related to the issues of an individual's self-efficacy have also become methodological foundations of the empirical research on self-efficacy as a factor of junior athletes' success (Jerusalem & Schwarzer, 1992). These methods were tested in research conducted by different authors who studied the issues of a resource approach to stress regulation (Bodrov, 2000; Khraban & Silko, 2022), identification of athletes' psycho-emotional states (Cheban et al., 2020; Prokhorenko et al., 2023) and consideration of psycho-emotional and critical states in an individual's activities similar in complexity and extremeness (Fomych, 2023; Gumennykova et al., 2021; Kobets et al., 2021a; 2021b; Mamenko et al., 2022; Nosov et al., 2020; 2021; Vavryniv & Yaremko, 2022; Zinchenko et al., 2020; 2021; 2022; 2023). We also took into consideration the explication of value projections of young people's achievements (Hulias, 2020; Hulias & Hoian, 2022), professional adaptation (Blynova et al, 2019, 2022a; 2022b; Halian et al., 2020; Plokhikh, 2022; 2023; Plokhikh & Yanovska, 2022), psychophysiological foundations of athletes' sporting activities (Cretu et al., 2021; Galan et al., 2018; 2021; Kozina et al., 2019; Paliichuk et al., 2018), the systems of values and living standards as regulators of an individual's behavior (Halian, 2022; Karpenko & Klympush, 2023; Popovych et al.,

2020c; 2023b). The above studies concern the issue of self-efficacy in the context of athletes' motivation, emotional regulation, stress-resistance, emotional stability, adaptation and burnout.

A complex of diagnostic methods was selected according to the research purpose and subject. They were applied to diagnose junior athletes' attitude towards the coach's personal and professional qualities and create the structure of the examined phenomenon. The defined problems were solved by the method of theoretical analysis and correlation research. It allowed establishing correlation of the examined parameters and stating that junior athletes' self-efficacy depends on their evaluation of the coach's personal and professional qualities.

Participants. The research involved $n=103$ adolescents with different levels of sport qualifications aged 15–18 years old. The descriptive frequency characteristics of the sample – ($Me=16$; $M=15.84$; $SD=\pm 1.67$). The research participants, who were selected randomly, represent sports schools of Lviv and Ivano-Frankivsk (Ukraine), are participants and prize-winners of Ukrainian and International tournaments – Ukrainian and European Championships. The participants represented individual and team sports. We had the following distribution by a gender aspect: males ($n=62$; 60.19%) and females ($n=41$; 39.81%).

Organization and procedures of research. In 2022-2023 the research parameters were diagnosed by means of a number of psycho-diagnostic instruments. The following scales of the method “The Self-Efficacy Scale” (“SES”) (Sherer et al., 1982) became the registered indicators of self-efficacy – subject activity (“SA”) and interpersonal communication (“IC”). The registered indicators of the scale “Social-psychological assessment of a coach” (“SPAC”) (Khanin, 1980) are: the gnostic parameter (GP), the emotional parameter (EP) and the behavioral parameter (BP). α -Cronbach coefficient of the empirical dataset by each method ranged from .8 to .9 (medium and high levels).

The research was organized according to a strategic plan of a summative experiment. The selected scales relevantly reflected the research subject and allowed diagnosing the character of relationships between the coach and athletes that have a potential impact on the level of self-efficacy.

Statistical analysis. Statistical processing of the empirical data and graphical representation were performed by means of the package of statistical programs “SPSS” v. 26.0 and “MS Excel”, the figures were created by means of the graphical editor “MS Word”. Since the distribution is close to the norm in the obtained results, parametric statistics were used: for correlation – Pearson's R-coefficient; for comparison of dispersion of the distinguished groups – Student's t-test. The values at the levels .05 and .01 are considered to be statistically significant.

Results

Tabl. 1 contains the diagnostics results by descriptive statistics of the method “The Self-Efficacy Scale” (“SES”) (Sherer et al., 1982).

Table 1. Descriptive statistics by the scales of the method “SES”

Parameters	Statistics of empirical results						
	min	max	M	SE	SD	Me	IR
Subject activity	-12.0	73.0	33.65	2.93	± 21.6	39.0	15.0
Interpersonal communication	-21.0	25.0	3.58	1.03	± 6.4	6.0	2.0

Note: min – minimum values; max – maximum values; M – mean of dispersion; SE – standard error; SD – standard deviation; Me – median; IR – interquartile range.

The athletes' attitude towards the coach was identified by the scale “Social-psychological assessment of a coach” (“SPAC”) (Khanin, 1980). Tabl. 2 presents the diagnostics results by descriptive statistics.

Table 2. Descriptive statistics by the scales “SPAC”

Parameters	Statistics						
	min	max	M	SE	SD	Me	IR
GP	3.0	7.0	4.55	.275	± 1.231	5.0	1.0
EP	3.0	8.0	5.60	.387	± 1.729	6.0	2.0
BP	3.0	8.0	5.70	.378	± 1.689	6.0	1.0

Note: GP – gnostic parameter; EP – emotional parameter; BP – behavioral parameter; min – minimum values; max – maximum values; M – mean of dispersion; SE – standard error; SD – standard deviation; Me – median; IR – interquartile range.

The next stage of the summative research strategy involved testing the hypothesis about a correlation between self-efficacy – the scale “SES” (Sherer et al., 1982) and athletes' attitude towards the coach – the scale “SPAC” (Khanin, 1980). We think that junior athletes' self-efficacy correlates with their evaluation of personal and professional qualities of the coach: gnostic (GP), emotional (EP) and behavioral (BP) components. Tabl. 3 gives the results of correlation analysis by Pearson's R-coefficient between the scale of self-efficacy “SES” and the parameters of the scale “SPAC”.

Table 3. Results of correlation analysis of the examined parameters by Pearson's R-coefficient

Parameters	Self-efficacy	
	Subject activity (SA)	Interpersonal communication (IC)
GP	.259**	.146
EP	.139	.301**
BP	.178*	.261**

Note: * – $p < .05$; ** – $p < .01$; GP – gnostic parameter; EP – emotional parameter; BP – behavioral parameter.

There were no statistically significant differences between male and female junior athletes in the criterion of self-efficacy and the parameters of the scale "SPAC". Therefore, comparative analysis by a gender aspect was not performed. The obtained results show a statistically significant correlation of the component of self-efficacy "subject activity" (SA) with the gnostic parameter (GP) of the scale "SPAC" (.259, $p < .01$) and the behavioral parameter (BP) of the scale "SPAC" (.178, $p < .01$). A correlation of the scale of interpersonal communication of the self-efficacy test with the emotional parameter (.301, $p < .01$) and the behavioral parameter (.261, $p < .01$) of the scale "SPAC" was found. According to the research strategy, by the data of the scale SA, the sample was partitioned into two groups: with high – Group 1 (n=59 (57.3%) and low – Group 2 (n=44 (42.7%) "subject activity" (SA). The research participants were partitioned into groups using cluster analysis. Moreover, we had two groups with high – Group I (n=62; 60.2%) and low – Group II (n=41; 39.8%) self-efficacy by the scale IC.

Firstly, homogeneity of dispersions of the compared samples by Levene's test was found. Dispersions are considered to be homogenous at the level $p < .05$. Levene's test is used for the procedure of comparing dispersions by Student's t-test. Statistically significant differences between the groups were confirmed: for the scale SA ($t = -11.905$; $p = .000$) and for the scale IC ($t = -2.222$; $p = .040$). Division of the research participants into groups by the levels of manifestation of the characteristic for further comparative analysis is reasonable.

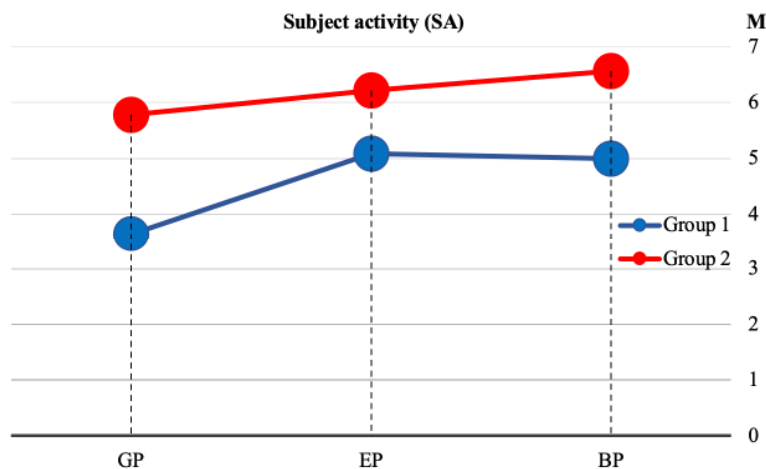
Tabl. 4 gives empirical results of the differences in the parameters of the scale "SPAC" of the sample of junior athletes in Group 1 and Group 2 by the scale "Subject activity" (SA).

Table 4. Differences of the sample of Group 1 and Group 2 by the scale SA

Scale	Levene's test		t-test for equal means			
	F	p	t	P	X(G1-G2)	m
GP	.209	.653	-8.183	.000	-2.141	.262
EP	3.149	.093	-1.503	.150	-1.131	.753
BP	.150	.703	-2.260	.036	-1.556	.688

Note: F – Levene's test, Student's t-test; p – test significance; X(G1-G2) – difference of means; m – mean squared error of difference in means; 95 CI – credible interval for difference; GP – gnostic parameter; EP – emotional parameter; BP – behavioral parameter; * – $p < .05$; ** – $p < .01$.

Comparison of the scale "SPAC" of junior athletes by the mean value of distribution (M) between high – Group 1 and low – Group 2 levels of "Subject activity" (SA) was performed by means of a diagram (Fig. I).



Note: Group 1 – research participants with a high level of "subject activity"; Group 2 – research participants with a low level of "subject activity"; GP – gnostic parameter; EP – emotional parameter; BP – behavioral parameter.

Figure I. Diagram of comparison of personal qualities of junior athletes in Group 1 and Group 2 by "subject activity"

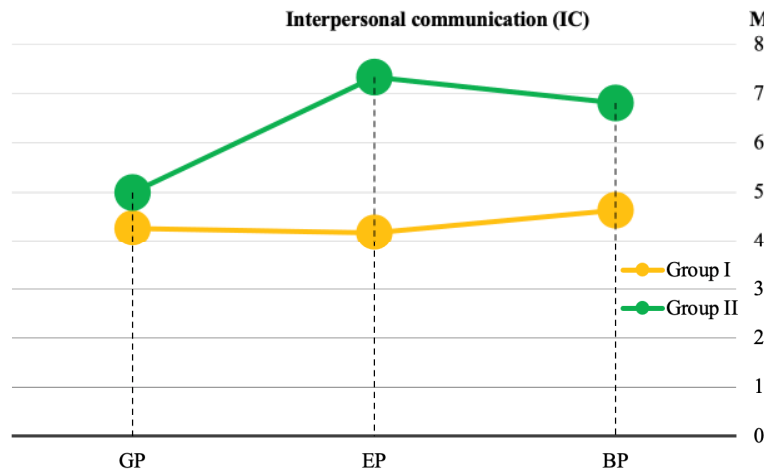
Tabl. 5 presents empirical results of the differences in the parameters of the scale “SPAC” of the sample of junior athletes in Group I and Group II by the scale “interpersonal communication” (IC).

Table 5. Differences of the sample of Group I and Group II by the scale IC

Scale	Levene's test		t-test for equal means			
	F	p	t	p	X(G1-G2)	m
GP	2.249	.151	-1.342	.196	-.727	.542
EP	2.249	.151	-10.765	.000	-3.152	.293
BP	.001	.971	-4.330	.000	-2.364	.546

Note: F – Levene's test, Student's t-test, p – test significance, X(G1-G2) – difference of means; m – mean squared error of difference in means; 95 CI – credible interval for difference; GP – gnostic parameter; EP – emotional parameter; BP – behavioral parameter; * – p<.05; ** – p<.01.

Comparison of personal qualities of junior athletes by the mean value of distribution (M) between high – Group I and low – Group II levels of “interpersonal communication” (IC) by means of a diagram (Fig. II).



Note: Group I – research participants with a high level of “interpersonal communication”; Group II – research participants with a low level of “interpersonal communication”; GP – gnostic parameter; EP – emotional parameter; BP – behavioral parameter.

Figure II. Diagram of comparison of personal qualities of junior athletes in Group I and Group II by the scale “interpersonal communication”

Discussion

Self-efficacy is an essential motivational factor of a junior athlete's sporting activities. It is based on an athlete's awareness of their abilities and resources that helps them make efforts to change a situation if they are not pleased with themselves (Popovych et al., 2020a; Kalenchuk et al., 2023). The results given in Tabl. 1 show a medium level of manifestation of self-efficacy of junior athletes. In the area of “subject activity” – $M=33.65\pm 21.6$ (see Tabl. 1) (Normative test scores: 30.6 ± 23.8). The obtained results show the junior athlete's confidence in the ability to cope with trials in sport. Along with other factors, adolescent idealism contributes to it motivating them to gain mastery in sport. The results by the scale “interpersonal communication” $M=3.58\pm 6.4$ (see Tabl. 1) are somewhat lower (Normative test scores: 3.8 ± 11.1).

We think that the coach plays a leading role in increasing junior athlete's self-efficacy. Advice given by a reputable coach are one of the external factors that facilitate junior athlete's comprehension of their own resources and develop confidence in their potentialities. Success of this process depends on psychological compatibility of the coach and athletes. One of the manifestations of this compatibility is an athlete's attitude towards the coach. This factor was diagnosed by the scales “SPAC” (Khanin, 1980). All the obtained results show a medium level of manifestation of the characteristic. By GP – $M=4.55\pm 1.23$; EP – $M=5.60\pm 1.72$; BP – $M=5.70\pm 1.68$ (maximum scores – 8).

The obtained result $M=4.55\pm 1.23$ by the gnostic parameter by the scales “SPAC” (see Tabl. 2) is the lowest one among the other parameters determining professional growth. The coach, in the junior athletes' opinion, does not have sufficient professional knowledge and skills to organize his/her or their activities. Thus, it is not enough to develop self-efficacy of junior athletes.

In order to achieve high sport results, interaction between the coach and athletes is necessary, that is considered as an organized subsystem of activeness of interacting individuals. Common activity allows formulating a common aim, making immediate personal contacts with subjects, exchanging actions and

information, accepting each other. It is expressed empirically in affiliation for the coach as a personality. The result $M=5.60\pm 1.73$ obtained by the emotional parameter shows that the level of affiliation is higher than the medium. As the junior athletes's think, their coaches have a number of such qualities as honesty, kindness, attentiveness and involvement in the problems of their trainees, but they are not enough to develop their confidence.

The behavioral parameter shows how interaction between the coach and athletes actually occurs, how much he/she affects an athlete's behavior. This parameter reflects not only attitude towards the coach as a professional and the level of affiliation for him/her, but also other social-psychological factors (motivation, self-esteem, relationships in family, success in an educational institution, social events, etc.) (Ryska, 2023; Carpenter & Yates, 1997). A negative interaction can be caused by a communicative barrier that reduces importance of a partner in communication. The examined parameter BP ($M=5.70\pm 1.69$) has the highest value among the others: GP and EP. The obtained result shows an impact on a mental and spiritual state of athletes. Though it is a medium level of manifestation of the characteristic, it has a maximum impact on the formation of self-efficacy. The characterized indicators of personal and professional qualities of the coach correspond to the diagnosed level of the junior athletes' self-efficacy (SE) (see Tabl. 1).

Correlation of self-efficacy and relationships with the coach is confirmed by correlation analysis of the parameters of the scales "SPAC" and subject activity (SA) and interpersonal communication ("IC") of the method "The Self-Efficacy Scale" ("SES") (Sherer et al., 1982). Statistically significant correlations between the parameters of the scales "SPAC" and components of self-efficacy ("SES") of junior athletes were found (see Tabl. 3). It was observed that the scale SA has a significant correlation with GP (.259; $p < .01$) and BP (.178; $p < .05$) scales "SPAC". The diagnosed correlation indicates dependence of young athletes' self-efficacy on the level of the coach's professional mastery.

Such a component of self-efficacy as interpersonal communication (IC) does not have a significant correlation with GP (.146; $p > .05$) of the method "The Self-Efficacy Scale" ("SES"). However, IC has a significant correlation with EP (.301; $p < .01$) and BP (.261; $p < .01$) of the scales "SPAC". It allows drawing a conclusion that the coach who appeals to his/her trainees, has an impact on their psychological and spiritual state. It was confirmed by a number of studies concerning communicative acts of interaction between the coach and athletes. Research shows that the coach's communicative acts, considered as positive (for instance, analysis of performance and feedback) and negative (for instance, a hostile reaction) by athletes, affected their motivation, physical self-esteem and training (Popovych et al., 2022e; Sagar & Jowett, 2012; Adie & Jowett, 2010).

The results of correlations of the examined parameters of the scales "SPAC" and "The Self-Efficacy Scale" ("SES") given in Tabl. 3 are obvious. However, there are certain age-related features of the research participants which affected the analyzed results. It is necessary to take into consideration age-related features of young athletes, in particular, their transition from adolescence to young adulthood that is accompanied by instability of development, and also by underdevelopment of the main personality traits. A transition period is also accompanied by a change in activities: from intimate-personal communication (adolescence) to educational-professional activity (young adulthood). There is a combination of two important components which should be considered by the coach: maintaining trusting relationships with an athlete and increasing sport motivation (young athletes often want to be engaged in sport further in adulthood). The former affects the formation of affiliation for the coach, and the latter – aspiration for achieving high results. The coach is that reputable personality in sport who can increase an adolescent's confidence in appropriateness of their choice, indicate their mistakes and resources or, vice versa, reduce their sport motivation and behavioral ethics (Coker-Cranney & Reel, 2015; Fournier et al., 2020; 2022). Since the examined junior athletes showed a medium level by the criterion IC (see Tabl. 1), the issue of communication between the coach and athletes is considered to be topical.

We think that there are a few reasons for low communicative activeness of the examined junior athletes. Firstly, it was caused by the COVID-19 pandemic, which restricted opportunities for communication and reduced the number of sports tournaments where one could check the level of qualification. The latter is the factor that forms junior athletes' concept of their abilities. Activities under quarantine worsen physical and mental health and lower self-confidence (Hudimova et al., 2021; Melnychuk et al., 2023; Popovych et al., 2021b; 2022c). Another reason is Russia's war against Ukraine. In addition to restrictions in sport, it leads to mental instability, caused by fear for one's own life and the lives of relatives and teammates (Popovych et al., 2023a). All these factors influence awareness of one's own self-efficacy.

Differences in evaluation of the coach' personal and professional qualities GP, EP and BP by the junior athletes in Group 1 ($n=59$) with a high level of self-efficacy and in Group 2 ($n=44$) with a low level of self-efficacy by the scale SA were diagnosed empirically. Moreover, we also identified differences in evaluation of the coach's personal and professional qualities – GP, EP and BP by the junior athletes in Group I ($n=62$) with a high level of self-efficacy and in Group II ($n=41$) with a low level of self-efficacy by the scale IC. Differences in the empirical values between the groups are statistically significant by most parameters by Student's t-test (see Tabl. 4 and Tabl. 5).

Qualitative analysis showed that the junior athletes with a high level of self-efficacy (Group 1) by the criterion SA evaluate their attitude towards the coach at a relatively high level by all the three parameters. In

particular, the coach's professional qualification GP is evaluated by them at the level 5.78 ± 0.66 (max=8). Affiliation for the coach EP is manifested more evidently ($M=6.22 \pm 1.98$). Real interaction between the coach and athletes BP ($M=6.56 \pm 1.59$) is evaluated at the highest level (see Fig. I). The junior athletes with a low level of self-efficacy by the criterion SA evaluated the coach's role in their success at a lower level. They are the most dissatisfied with the coach sport qualification ($M=3.64 \pm 0.505$). However, affiliation for the coach EP ($M=5.09 \pm 1.37$) was evaluated much higher. In their opinion, real interaction with the coach BP is at a medium level ($M=5.0 \pm 1.48$) (see Fig. I). Thus, given the obtained results, young athletes with a low level of self-efficacy by the parameter of subject activity SA show external localization of control, blaming external circumstances for insufficient mastery. Consequently, coaches should make efforts to develop junior athletes' adequate self-esteem that will ensure an appropriate level of self-efficacy. Our opinion was confirmed by the research on the coach's role in developing athletes' self-efficacy (Gould et al., 1989).

There is also a similar tendency by the component "interpersonal communication" (IC). High values by EP ($M=7.33 \pm 0.707$) were diagnosed in the junior athletes with a high level of self-efficacy by the criterion "IC" Group I. Real relationships with the coach BP are evaluated by them at a lower level ($M=6.81 \pm 1.33$). And the coach's sport qualification was evaluated at the lowest level ($M=5.00 \pm 0.866$) (see Fig. II). The last parameter is not essential for this component, since no significant correlation was found between them. The junior athletes with a low level of self-efficacy by the criterion IC Group II demonstrate values of a medium level with a tendency to a low level by all the parameters of the scale "SPAC": GP ($M=4.27 \pm 1.42$); EP ($M=4.18 \pm 0.603$); BP ($M=4.64 \pm 1.12$) (see Fig. II).

The obtained results show that, in young athletes' opinion, their coaches have sufficient potential to work at a high level. Good relationships with the coach create favorable social-psychological climate to develop positive motivation, athletes' readiness to overcome difficulties and achieve high sport results. In spite of subjectivity of the junior athletes' evaluations, we highlight their importance, since it incentivizes the coach to develop an athlete's high self-efficacy. Therefore, coaches should take into consideration this fact and organize educational and training process at a higher professional level, create their own image of a higher level professional. It will allow them to look more reputable in their trainees' eyes, and, consequently, affect the development of their self-efficacy.

Conclusions

1. The research shows that junior athletes' evaluation of their coach's competence level as a professional (the gnostic parameter), affiliation for the coach as a personality (the emotional parameter) and real relationships between the coach and athletes (the behavioral parameter) affects the formation of their self-efficacy.
2. The study diagnosed significant differences in evaluation of the coach by the junior athletes with high and low levels of self-efficacy by Student's t-test ($p < .05$; $p < .01$): by scale SA ($t = -11.905$; $p = .000$) and by scale IC ($t = -2.222$; $p = .040$).
3. High self-efficacy in the area "subject activity" depends on high evaluation of the coach's competence level as a professional, and also on real interaction between the coach and athletes ($p < .05$; $p < .01$).
4. The research highlights importance of trusting relationships for junior athletes that is manifested through interpersonal communication. High self-efficacy in the area "interpersonal communication" is maintained by the coach's affiliation for an athlete as a personality and their real interaction ($p < .01$; $p < .01$).
5. The study indicates the necessity to take a more professional approach by the coach to organization of educational and training process that will increase their significance for an athlete, and, consequently, affect the formation of self-efficacy.

References

- Adie, J., & Jowett, S. (2010). Athletes' meta-perceptions of the coach-athlete relationship, multiple achievement goals and intrinsic motivation among track and field athletes. *Journal of Applied Social Psychology, 40*, 2750-2773. DOI: 10.1111/j.1559-1816.2010.00679.x
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37*, 122-147.
- Blynova, O., Derevianko, S., Ivanova, O., Popovych, I., & Estay Sepulveda, J. G. (2022a). Professional relevance of potential labor emigrants. *Revista Notas Históricas y Geográficas, 29*, 88-106.
- Blynova, O., Popovych, I., Hulias, I., Radul, S., Borozentseva, T., Strilets-Babenko, O., & Minenko, O. (2022b). Psychological safety of the educational space in the structure of motivational orientation of female athletes: a comparative analysis. *Journal of Physical Education and Sport, 22*(11), 2723-2732. <https://doi.org/10.7752/jpes.2022.11346>
- Blynova, O. Ye., Popovych, I. S., Bokshan, H. I., Tsilimak, O. M., & Zavatska, N. Ye. (2019). Social and Psychological Factors of Migration Readiness of Ukrainian Students. *Revista ESPACIOS, 40*(36), 4.
- Bodrov, V. (2000). The role of personality traits in the development of psychological stress. In: Kulikov, L. (Ed.). *Mental states: an anthology*, 135-157.

- Carpenter, P., & Yates, B. (1997). Relationship between achievement goals and the perceived purposes of soccer for semiprofessional and amateur players. *Journal of Sport & Exercise Psychology, 19*, 302-311.
- Cheban, Yu., Chebykin, O., Plokhikh, V., & Massanov, A. (2020). Mental resources for the self-mobilization of rowing athletes. *Journal of Physical Education and Sport, 20*(3), 1580-1589. <https://doi.org/10.7752/jpes.2020.03216>
- Coker-Cranney, A., & Reel, J. (2015). Coach Pressure and Disordered Eating in Female Collegiate Athletes: Is the Coach-Athlete relationship a Mediating Factor? *Journal of Clinical Sport Psychology, 9*(3), 213-231.
- Cretu, M., Borysenko, I., Ushmarova, V., Grynyova, V., & Masych, V. (2021). Features of vascular regulation of students – future specialists in physical education and sports of different sports specializations with different body lengths. *Health, Sport, Rehabilitation, 7*(2), 29-44. <https://doi.org/10.34142/HSR.2020.07.02.03>
- Davis, L., Jowett S., Sörman, D., & Ekelund, R. (2023). The role of quality relationships and communication strategies for the fulfillment of secure and insecure athletes' basic psychological needs. *Journal of Sports Sciences*, DOI: [10.1080/02640414.2022.2162240](https://doi.org/10.1080/02640414.2022.2162240)
- Fomych, M. V. (2023). Checking the effectiveness of modern technologies in the work of a psychologist with firefighters-rescuers. *Insight: the psychological dimensions of society, 9*, 169–189. <https://doi.org/10.32999/2663-970X/2023-9-10>
- Fortier, K., Parent, S., & Lessard, G. (2020). Child maltreatment in sport: Smashing the wall of silence: A narrative review of physical, sexual, psychological abuses and neglect. *British Journal of Sports Medicine, 54*(1), 4-7.
- Fournier, C., Parent, S., & Paradis, H. (2022). The relationship between psychological violence by coaches and conformity of young athletes to the sport ethic norms. *European Journal for Sport and Society, 19*(1), 37-55, DOI: [10.1080/16138171.2021.1878436](https://doi.org/10.1080/16138171.2021.1878436)
- Galan, Y., Yarmak, O., Andrieieva, O., Yuriy, M., Sukhomlynov, R., Zoriy, Y., Koshura, A., Ivanchuk, M., Vaskan, I., Bohdanyuk, A. (2021). Impact of football clubs on the recreational activities of preschoolers. *Journal of Physical Education and Sport, 21*(2), 803-812. <https://doi.org/10.7752/jpes.2021.02100>
- Galan, Y., Koshura, A., Moseychuk, Y., Paliichuk, Y., Moroz, O., Tsybanyuk, O., Yarmak, O. (2018). Characteristics of physical conditions of 7-9-year-old schoolchildren within the process of physical education. *Journal of Physical Education and Sport, 18*(SI 5), 1999-2007. <https://doi.org/10.7752/jpes.2018.s5297>
- Gould, D., Hodge, K., Peterson, K., & Giannini, J. (1989). Examination of strategies used by elite coaches to enhance self-efficacy in athletes. *Journal of Sport and Exercise Psychology, 11*, 128-140.
- Gumennykova, T., Sagan, O., Yakovleva, S., Kotliar, L., Shchogoleva, T. (2021). The role position of teachers in the professionalization of the educational process in a smart environment. *Journal of Information Technology Management, 13*, 101-122. <https://doi.org/10.22059/jitm.2021.82612>
- Halian, A., Halian, I., Burlakova, I., Shevchenko, R., Lappo, V., Zhigarenko, I., & Popovych, I. (2020). Emotional Intelligence in the Structure of Adaptation Process of Future Healthcare Professionals. *Revista Inclusiones, 7*(3), 447-460.
- Halian, I. M. (2022). Value contradictions in personal axiogenesis. *Insight: the psychological dimensions of society, 7*, 11-23. <https://doi.org/10.32999/2663-970X/2022-7-2>
- Hudimova, A., Popovych, I., Savchuk, O., Liashko, V., Pyslar, A., & Hrys, A. (2021). Research on the relationship between excessive use of social media and young athletes' physical activity. *Journal of Physical Education and Sport, 21*(6), 3364-3373. <https://doi.org/10.7752/jpes.2021.06456>
- Hulias, I. (2020). Axiopsychological projection of life achievements of the personality. Kyiv: PH Lyudmila.
- Hulias, I. A., & Hoian, I. M. (2022). Explication of factors of the axiopsychological design of life achievements of modern youth. *Insight: the psychological dimensions of society, 7*, 41-57. <https://doi.org/10.32999/2663-970X/2022-7-4>
- Jerusalem, M., & Schwarzer, R. (1992). Self-efficacy as a resource factor in stress appraisal processes. In R. Schwarzer (Ed.), *Self-efficacy: Thought control of action* (pp. 195-213). Washington, DC: Hemisphere.
- Jowett, S., & Poczwadowski, A. (2007). Understanding the coach-athlete relationship. In S. Jowett & D. Lavallee (Eds.) *Champaign, IL: Human Kinetics. Social psychology in sport*, pp. 3-14.
- Kalenchuk, V. O., Fedchuk, O. V., & Mykhaylyuk, V. P. (2023). Relationship between corporate culture and psychological safety of training and educational space for young female athletes. *Insight: the psychological dimensions of society, 9*, 113–129. <https://doi.org/10.32999/2663-970X/2023-9-7>
- Karpenko, Z. S., & Klympush, A. R. (2023). Future psychologists' dispositional predictors of psychological well-being under martial law. *Insight: the psychological dimensions of society, 9*, 11–32. <https://doi.org/10.32999/2663-970X/2023-9-2>
- Khanyn, Yu. (1980). Social and perceptive assessment of personality and performance characteristics of a coach. In: *Psychology of communication in sports* (pp. 172-180). Moscow: FiS.
- Khraban, T. E., & Silko, O. V. (2022). Combat and military-professional stress: the influence of emotions and emotional states on the choice of coping strategies. *Insight: the psychological dimensions of society, 8*, 71-87. <https://doi.org/10.32999/2663-970X/2022-8-6>

- Kobets, V., Liubchenko, V., Popovych, I., & Koval, S. (2021a). Institutional Aspects of Integrated Quality Assurance of Engineering Study Programs at HEI Using ICT. In: Ivanov V., Trojanowska J., Pavlenko I., Zajac J., Peraković D. (eds). *Advances in Design, Simulation and Manufacturing IV. DSMIE 2021. Lecture Notes in Mechanical Engineering*. Springer, Cham, 301-310. https://doi.org/10.1007/978-3-030-77719-7_30
- Kobets, V., Liubchenko, V., Popovych, I., & Koval, S. (2021b). Institutional Aspects of Integrated Quality Assurance of Study Programs at HEI Using ICT. *CEUR Workshop Proceedings*, 2833, 83-92.
- Kozina, Z., Cretu, M., Safronov, D., Gryn, I., Shkrebtii, Yu., Shepelenko, T., & Tanko, A. (2019). Dynamics of psychophysiological functions and indicators of physical and technical readiness in young football players aged 12-13 and 15-16 years during a 3-month training process. *Physiotherapy Quarterly*, 27(3), 20-27. <https://doi.org/10.5114/pq.2019.86464>
- Mamenko, P., Zinchenko, S., Kobets, V., Nosov, P., & Popovych I. (2022). Solution of the Problem of Optimizing Route with Using the Risk Criterion. In: Babichev, S., Lytvynenko, V. (eds). *Lecture Notes in Computational Intelligence and Decision Making. ISDMCI 2021. Lecture Notes on Data Engineering and Communications Technologies*, 77. Springer, Cham. https://doi.org/10.1007/978-3-030-82014-5_17
- Melnychuk, A. Yu., Komar, T. V., & Onyshchuk, T. P. (2023). Empirical study of burnout in sociology specialists through positive psychotherapy. *Insight: the psychological dimensions of society*, 9, 33-49. <https://doi.org/10.32999/2663-970X/2023-9-3>
- Newman, T., Black, S., Santos, F., Jefka, B., & Brennan, N. (2021). Coaching the development and transfer of life skills: a scoping review of facilitative coaching practices in youth sports. *International Review of Sport and Exercise Psychology*, 3(1), 1-38.
- Nosov, P., Ben, A., Zinchenko, S., Popovych, I., Mateichuk, V., & Nosova, H. (2020). Formal approaches to identify cadet fatigue factors by means of marine navigation simulators. *CEUR Workshop Proceedings*, 2732, 823-838.
- Nosov, P., Zinchenko, S., Plokhikh, V., Popovych, I., Prokopchuk, Y., Makarchuk, D., Mamenko, P., Moiseienko, V., & Ben, A. (2021). Development and experimental study of analyzer to enhance maritime safety. *Eastern-European Journal of Enterprise Technologies*, 4(3(112)), 27-35. <https://doi.org/10.15587/1729-4061.2021.239093>
- Paliichuk, Y., Dotsyuk, L., Kyselytsia, O., Moseychuk, Y., Martyniv, O., Yarmak, O., Galan, Y. (2018). The influence of means of orienteering on the psychophysiological state of girls aged 15-16-years. *Journal of Human Sport and Exercise*, 13(2), 443-454. <https://doi.org/10.14198/jhse.2018.132.16>
- Plokhikh, V. V. (2022). Limitation of psychological defenses on the formation of students' time perspective. *Insight: the psychological dimensions of society*, 8, 39-55. <https://doi.org/10.32999/2663-970X/2022-8-4>
- Plokhikh, V. V. (2023). Relationship between coping behavior and students' perceptions of the passage of time. *Insight: the psychological dimensions of society*, 9, 72-93. <https://doi.org/10.32999/2663-970X/2023-9-5>
- Plokhikh, V. V., & Yanovska, S. G. (2022). Sex differentiation in the organization of emergency sensorimotor action. *Insight: the psychological dimensions of society*, 7, 24-39. <https://doi.org/10.32999/2663-970X/2022-7-3>
- Popovych, I. S. (2017). Psychology of social expectations of personality. Extended abstract of Doctor's thesis. Severodonetsk: Volodymyr Dahl East-Ukrainian National University.
- Popovych, I., Blynova, O., Halian, I., & Savchuk, O. (2020a). Self-efficacy of future athletes with different levels of psychological safety. *Journal of Physical Education and Sport*, 20(5), 2718-2724. <https://doi.org/10.7752/jpes.2020.05370>
- Popovych, I., Blynova, O., Nass Álvarez, J. L., Nosov, P., & Zinchenko, S. (2021a). A HISTORICAL DIMENSION OF THE RESEARCH ON SOCIAL EXPECTATIONS OF AN INDIVIDUAL. *Revista Notas Históricas y Geográficas*, 27, 190-217.
- Popovych, I., Blynova, O., Savchuk, O., Zasenkov, V., & Prokhorenko, L. (2020b). Expectations of a winning result in women's handball team: comparison of different age groups. *Journal of Physical Education and Sport*, 20(5), 2709-2717. <https://doi.org/10.7752/jpes.2020.05369>
- Popovych, I., Borysiuk, A., Semenov, O., Semenova, N., Serbin, I., & Reznikova, O. (2022a). Comparative analysis of the mental state of athletes for risk-taking in team sports. *Journal of Physical Education and Sport*, 22(4), 848-857. <https://doi.org/10.7752/jpes.2022.04107>
- Popovych, I., Halian, I., Halian, O., Nosov, P., Zinchenko, S., & Panok, V. (2021b). Research on personality determinants of athlete's mental exhaustion during the ongoing COVID-19 pandemic. *Journal of Physical Education and Sport*, 21(4), 1769-1780. <https://doi.org/10.7752/jpes.2021.04224>
- Popovych, I., Halian, I., Lialiuk, G., Chopyk, R., Karpenko, Ye., & Melnyk, Yu. (2022b). Research of young female handball players' self-actualizing mental states. *Journal of Physical Education and Sport*, 22(7), 1599-1607. <https://doi.org/10.7752/jpes.2022.07201>
- Popovych, I., Halian, I., Pavliuk, M., Kononenko, A., Hrys, A., & Tkachuk, T. (2022c). Emotional quotient in the structure of mental burnout of athletes. *Journal of Physical Education and Sport*, 22(2), 337-345. <https://doi.org/10.7752/jpes.2022.02043>

- Popovych, I., Hoi, N., Koval, I., Vorobel, M., Semenov, O., Semenova, N., & Hrys, A. (2022d). Strengthening of student youth's mental health using play sports. *Journal of Physical Education and Sport*, 22(6), 1384-1395. <https://doi.org/10.7752/jpes.2022.06174>
- Popovych, I., Koval, I., Raievska, Ya., Piletskyi, V., Buryanovatiy, O., & Hrynchuk, O. (2023a). Dominating mental states of the representatives of individual sports under lockdown and martial law: comparative analysis. *Journal of Physical Education and Sport*, 23(1), 170-178. <https://doi.org/10.7752/jpes.2023.01021>
- Popovych, I., Kurova, A., Koval, I., Kazibekova, V., Maksymov, M., & Huzar, V. (2022e). Interdependence of emotionality, anxiety, aggressiveness and subjective control in handball referees before the beginning of a game: a comparative analysis. *Journal of Physical Education and Sport*, 22(3), 680-689. <https://doi.org/10.7752/jpes.2022.03085>
- Popovych, I., Kuzikova, S., Shcherbak, T., Blynova, O., Lappo, V., & Bilous, R. (2020c). Empirical research of vitality of representatives of parachuting and yoga practice: a comparative analysis. *Journal of Physical Education and Sport*, 21(1), 218-226. <https://doi.org/10.7752/jpes.2021.01029>
- Popovych, I., Semenov, O., Hrys, A., Aleksieieva, M., Pavliuk, M., & Semenova, N. (2022f). Research on mental states of weightlifters' self-regulation readiness for competitions. *Journal of Physical Education and Sport*, 22(5), 1134-1144. <https://doi.org/10.7752/jpes.2022.05143>
- Popovych, I., Shcherbak, T., Kuzikova, S., Blynova, O., Nosov, P., & Zinchenko, S. (2021c). Operationalization of tactical thinking of football players by main game roles. *Journal of Physical Education and Sport*, 21(5), 334, 2480-2491. <https://doi.org/10.7752/jpes.2021.05334>
- Popovych, I., Shevchenko, A., Galvez, L. M., Klenina, K. (2021d). Research of the relationship between social desirability and value orientations of adolescents. *Revista Notas Históricas y Geográficas*, 26, 241-268.
- Prokhorenko, L., Popovych, I., Sokolova, H., Chumaieva, Yu., Kosenko, Yu., Razumovska, T., & Zasenko, V. (2023). Gender differentiation of self-regulating mental states of athletes with disabilities: comparative analysis. *Journal of Physical Education and Sport*, 23(2), 349-359. <https://doi.org/10.7752/jpes.2023.02042>
- Ryska, T. A. (2003). Sportsmanship in Young Athletes: The Role of Competitiveness, Motivational Orientation, and Perceived Purposes of Sport. *The Journal of Psychology*, 137(3), 273-293, DOI: [10.1080/00223980309600614](https://doi.org/10.1080/00223980309600614)
- Sagar S., S., & Jowett, S. (2012). Communicative Acts in Coach–Athlete Interactions: When Losing Competitions and When Making Mistakes in Training. *Western Journal of Communication*, 76(2), 148-174, DOI: [10.1080/10570314.2011.651256](https://doi.org/10.1080/10570314.2011.651256)
- Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The Self-Efficacy Scale: Construction and Validation. *Psychological Reports*, 51(2), 663-671. <https://doi.org/10.2466/pr0.1982.51.2.663>
- Turman, P. D. (2003). Coaches and cohesion: The impact of coaching techniques on team cohesion in the small group sport setting. *Journal of Sport Behavior*, 26, 86-104.
- Turman, P. D., & Schrod, P. (2004). New avenues for instructional communication research: Relationships among coaches' leadership behaviors and athletes' affective learning. *Communication Research Reports*, 21, 130-143. DOI: [10.1080/08824090409359975](https://doi.org/10.1080/08824090409359975)
- Vavryniv, O. S., & Yaremko, R. Y. (2022). Empathy as a factor in the development of personal components of future rescuers' professional self-realization. *Insight: the psychological dimensions of society*, 8, 56-69. <https://doi.org/10.32999/2663-970X/2022-8-5>
- Watson, J. C. II, Connole, I., & Kadushin, P. (2011) Developing Young Athletes: A Sport Psychology Based Approach to Coaching Youth Sports. *Journal of Sport Psychology in Action*, 2(2), 113-122. DOI: [10.1080/21520704.2011.586452](https://doi.org/10.1080/21520704.2011.586452)
- Zinchenko, S., Moiseienko, V., Tovstokoryi, O., Nosov, P., & Popovych, I. (2021). Automatic Beam Aiming of the Laser Optical Reference System at the Center of Reflector to Improve the Accuracy and Reliability of Dynamic Positioning. In: Hu, Z., Petoukhov, S., Dychka, I., He, M. (eds). *Advances in Computer Science for Engineering and Education IV. ICCSEE 2021. Lecture Notes on Data Engineering and Communications Technologies*, 83. Springer, Cham. https://doi.org/10.1007/978-3-030-80472-5_1
- Zinchenko, S., Tovstokoryi, O., Nosov, P., Popovych, I., Kobets, V., & Abramov, G. (2020). Mathematical Support of the Vessel Information and Risk Control Systems. *CEUR Workshop Proceedings*, 2805, 335-354
- Zinchenko, S., Tovstokoryi, O., Ben, A., Nosov, P., Popovych, I., & Nahrybelnyi Y. (2022). Automatic Optimal Control of a Vessel with Redundant Structure of Executive Devices. In: Babichev S., Lytvynenko V. (eds). *Lecture Notes in Computational Intelligence and Decision Making. ISDMCI 2021. Lecture Notes on Data Engineering and Communications Technologies*, 77. Springer, Cham.
- Zinchenko, S., Tovstokoryi, O., Nosov, P., Popovych, I., & Kyrychenko, K. (2023). Pivot Point position determination and its use for manoeuvring a vessel. *Ships and Offshore Structures*, 18(3), 358-364. <https://doi.org/10.1080/17445302.2022.2052480>