

Mechanism of comparison in the structure of self-efficacy in junior athletes' sporting activities

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Abstract:

This theoretical and empirical research examines the mechanism of comparison in the framework of self-efficacy in junior athletes' sporting activities. The study included junior athletes of varying levels of qualification, participants in International, European, World, and Olympic sports competitions, aged 15 to 19 years. The sample parameters were as follows: $n = 114$; $M = 17.91$ years; $SD = \pm 3.43$; $Me = 18.00$. **Methods.** Valid methods widely used in sports psychology were employed to measure dependent variables such as comparison of capacities (CC) and comparison of opinions (CO), and independent variables including motivation for achieving success (MAS), motivation for avoiding failure (MAF), self-efficacy of subject activity (SSA), and self-efficacy of interpersonal communication (SIC). Statistically significant parameters were identified based on the comparison strategy. **Results.** A correlation matrix and a correlation pleiad of the investigated variables were created. We established seven statistically significant correlations of the parameters of comparison with independent variables ($p \leq 0.050$; $p \leq 0.010$) that testifies to a regular correlation of the psychological mechanism of comparison with the resultant parameters of educational-training, competitive and rehabilitative types of junior athletes' sporting activities. It was found that the parameter "comparison of capacities" has a considerable impact on content subject activity that, in turn, can cause a probable danger. It was explained that critical ascending comparison of capacities can depress junior athletes and form wrong notions that a desirable result is unachievable since such comparisons have a direct impact on sporting subject activities. It was found that the parameter "comparison of opinions" is the most dependent parameter having a considerable impact on the quality of communication and motivational intentions to win. **Discussion and conclusions.** It was substantiated that the parameters of comparison of capacities and comparison of thoughts act as the psychological mechanism of impact on the resultant parameters of educational-training, competitive and rehabilitative areas of junior athletes' sporting activities. Comparison can be a catalyst of juniors' intentions of motivation and self-efficacy. Considering the obtained results in the educational-training process of sports schools for children and youth, junior academies of professional clubs, analytical departments of sports federations and coaching staffs can increase sports psychological literacy of the subjects of sporting activities and create a competitive advantage over rivals.

Keywords: motivation for achieving success, motivation for avoiding failure, mental health, competitiveness, self-regulation, self-actualization.

Introduction

Content, formal and resultant components of sporting activities of athletes of all kinds of sport have a distinctive comparative character. Comparison is performed in the dimensions of training results, competition results, cross-section indexes in an optimal form and at the stages of rehabilitation, between the data on an athlete's best performances and their current performance, between participants of each competition round, at the stage of qualifying for a further round of competitions. Comparisons are performed by analysts, coaching staffs, mass-media representatives and fans. Comparison concerns performances of athletes in individual sports, tactical-technical actions of the representatives of team sports, coaches' work and team performances. Such a variety of different comparisons puts incredible pressure on the subjects of sporting activities. Junior athletes taking their first professional steps at a high level are too sensitive to approval and critics. They immediately react to positive and negative interventions, do not possess well-formed selectiveness and concentration on the

incoming information. Such information flows not always encourage, but often deprive them of energy and deconcentrate them before important competitions. We should acknowledge that a lack of professional experience and little social experience, inability to deal with social comparison and, consequently, with social pressure have damaged and ruined many sports careers and talented juniors. Adolescence is a relevant period of an athlete's sporting activities that requires empirical establishment of statistically significant parameters. Any activity of juniors is subject to permanent comparison. But sporting activities have a distinctive resultant component, since everything is measured: victories, draws, losses, scores, placing, qualifying and many other analytical aspects in statistical systems of sport results. We can generalize that, in sporting activities, a component in the dimensions of comparison, or the so-called "mechanism of comparison" (Schneider & Schupp, 2011), becomes highly topical and requires a thorough examination.

For any participant of sporting activities, comparison is an important source of information about themselves, as emphasized by F. Gibbons and B. Buunk (1999). Researchers identified individual differences in inclination to compare their opinions and capacities with others' opinions and capacities and suggested the psycho-diagnostic instrument "Iowa-Netherlands Comparison Orientation Measure" (INCOM), (Gibbons & Buunk, 1999). From time to time, most people are inclined to compare themselves with others. They compare their capacities, feelings, attitudes, systems of values, opinions, abilities and everything related to it. The ability to compare should be considered neither "positive" nor "negative" characteristic of an individual. At the same time, it was found that some individuals do it more often than others. Researchers S. Schneider and J. Schupp (2011) adapted the suggested method and created a two-dimensional model of comparison. It was found that people are able to change their opinions and social orientations due to comparison. The updated instrument was called "The Social Comparison Scale" (SCS) (Schneider & Schupp, 2011). Adaptation of the above psycho-diagnostic instruments underwent a number of re-evaluations of a factor structure of measuring comparison and demonstrated validity of using a two-factor model (Gerson et al., 2017; Schneider & Schupp, 2014). We should note that application of a single scale may not consider important unique correlations of the phenomenon of comparison, therefore a two-dimensional model is the most relevant one.

Researchers N. Oliynyk and S. Voitenko (2020), revealing the essence of the informational basis of sporting activities (IBSA), regard it as totality of information that characterizes subject and subjective conditions and allows organizing it according to the vector "purpose – result". The mechanism of comparison constructively lies in the plane of the IBSA and affects efficiency and reliability of sporting activities. In turn, efficiency and reliability are determined by adequacy, accuracy and completeness of the informational basis of activity. Comparison in the context of the IBSA can be realized on three levels: 1) sensory-perceptive – mechanisms of perception and reproduction of comparative signals which indicate professionally important information; 2) cognitive – evaluation of the functional significance of signals, the value of information, collection, storage and elimination, i.e. all memory processes are involved; 3) image-operative – combination of individual information characteristics in psycho-complexes, which are responsible for self-regulation and the forward-looking character of sporting activities (Oliynyk & Voitenko, 2020). A temporal component, as confirmed in a number of studies (Plokhikh, 2023; Popovych et al., 2022a; 2023b; Zavatska et al., 2023), has a huge impact on the resultant parameters of dominant types of juniors' activity. Diel et al., (2021) conducted empirical research on motivational and emotional effects of mechanism comparison in sports. It was found that moderate ascending comparison correlated with better results of motivation, whereas extreme ascending comparison correlated with a reduction in motivation and low engagement of respondents. The emotional indicator of happiness decreased with ascending comparison and increased with descending comparison. There were inverse data in the feeling of shame. It was empirically found and proved that comparison can contribute to or prevent motivation and performance of athletes (Diel et al., 2021), but no regular correlation of comparison with the parameters of motivation and self-efficacy was established. No significant differences were registered in the comparison of social skills between representatives of team and individual sports (Cepikkurt & Findik, 2017). By gender, there was a significant advantage of female athletes in social control and a positive tendency in other social skills. Japanese researcher M. Toyama (2009) proposed a causal model of the effect of mechanism comparison, situational and individual differences and academic performance of respondents. He found that comparison with better ones can lead to high or low academic performance. Moreover, comparisons evoking humiliation and insult, encourage the behavior of avoidance and have a negative impact on academic performance (Toyama, 2009). Since juniors combine training activity with educational activity, many tactical classes are academic classes by their form and content. Therefore, we can assume that similar positive and negative patterns will have an analogous effect in juniors' educational-training activities, however, it requires empirical verification.

In some measure, individual-typological characteristics of athletes become a subject of comparison and discussion. Comparative research on gender differences of para athletes shows that self-esteem is a key dimension in achievement of victory and formation of a value-meaningful dominant mental states. The mechanism of comparison of the respondents, who stop comparing themselves with others, continues to work in the direction of comparison with themselves, that leads to improvement of their previous achievements (Prokhorenko et al., 2023). It was found that the development of self-regulation in juniors leads to the formation of success-oriented dominant mental states in a leading type of mental activity (Kurova et al., 2023; Popovych et

al., 2022b; 2023c). It is necessary to take into account that age and psycho-physiological dynamics of the development of new mental formations in adolescence has an effect on a leading type of mental activity (Blynova et al., 2022a; Bokhonkova et al., 2023; Smolinska et al., 2024). Consequently, if it is professional sporting activities, new mental formations and physiological regularities determine it (Cretu et al., 2021; Ferraz et al., 2011; Marques et al., 2011; Popovych et al., 2021; Tavrovetska et al., 2023). Studies on dominant mental states of not only sporting activities (Popovych et al., 2022e), but also other types of activities – educational-professional (Popovych et al., 2023g), pedagogical (Popovych et al., 2023a) and touristic (Popovych et al., 2019b) – demonstrate the presence of a self-regulation component as one of the key parameters of process efficiency. It was shown and substantiated that expectations as dispositional readiness of respondents' activity have a statistically significant correlation with the results of academic performance (Popovych et al., 2019a; Popovych & Blynova, 2019) and sporting activities (Popovych et al., 2023e).

Retrospective analysis shows that mechanism comparison has a correlation with the components of sporting activities. It is necessary to identify the level of significance of this regularity and either disprove or confirm the hypotheses. Motivational orientation, as shown in a number of studies, affects efficiency of competitive activity (Popovych et al., 2023f), is related to safety of educational-training space (Blynova et al., 2019; 2022b; Kalenchuk et al., 2023; Shevchenko et al., 2024), depends on the impact of psychogenic factors (Kozmenko et al., 2023; Popovych et al., 2023d), tiredness and defense strategies of respondent (Hoian et al., 2024; Hrys et al., 2024; Plokhikh et al., 2024; Shcherbak et al., 2023). Mechanism comparison affects cognitive systems that can have an impact on the efficiency of decision-making (Masian & Romanenko, 2023; Panchenko et al., 2023; Nosov et al., 2020; 2021; Solovey et al., 2020; Shvets et al., 2024).

The mechanism of comparison in the structure of self-efficacy of juniors' sporting activities is considered to be a regular correlation of comparison patterns with the resultant parameters of educational-training, competitive and rehabilitative areas of sporting activities.

Hypothesis. We assume that: 1) the parameters of the mechanism of comparison will have a significant impact on the motivation and self-efficacy of juniors; 2) distribution of groups with a low level and a high level of comparison of capacities and comparison of opinions will have statistically significant differences.

Aim. Theoretical and empirical research of the mechanism of comparison in the structure of self-efficacy of juniors' sporting activities.

Methods

Methodology. Methodological foundations of our research are the concepts of mechanism comparison (Gibbons & Buunk, 1999; Schneider & Schupp, 2011), self-regulation of activity (Chebykin, 2023; Chebykin et al., 2024; Karpenko et al., 2024), modern tendencies in juniors' educational (Halian, 2023; 2024; Pavlyk & Radzimovska, 2023) and training activities (Popovych et al., 2022d; Strykalenko et al., 2019). Mechanism comparison of juniors is regarded as a developed ability to have a significant impact on an athlete's opinions, thinking, attitudes, actions and behavior and as a simplified dichotomous model. A summative research strategy involves comparison of empirical measurements and modern achievements from other areas of human activity, in which a human factor is present (Zinchenko et al., 2023a; 2023b) and the use of a human factor is limited (Mamenko et al., 2022; Zinchenko et al., 2021; 2022).

Participants. To avoid research limitations by gender and kinds of sport, we selected the sample maintaining equality by these criteria. The research sample involved n=114 junior athletes, males (n = 57; 50.00%) and females (n = 57; 50.00%). Individual sports were represented by (n = 56; 49.12%): track and field athletes, weigh-lifters, female gymnasts, male and female wrestlers and female tennis players. Team sports were represented by (n=58; 50.88%): male football-players, female handball players and volleyball players. Junior athletes had different levels of qualification – participants of International, European, World and Olympic sports competitions. Their age ranged from 15 to 19 years. The descriptive parameters of the sample by age: M = 17.91; SD = ±3.43; Me = 18.00.

Procedures and instruments. Dependent variables were found using the psycho-diagnostic instrument “The Social Comparison Scale” (SCS) (Schneider & Schupp, 2011). Two scales were used: comparison of capacities (CC) and comparison of opinions (CO). The method contains eleven statements. The five-point Stapel scale was used. There were statements with direct and inverse calculation of points. A high level of homogeneity of the empirical data by Cronbach's α ($\alpha = .908$) was obtained. Independent variables were determined using two psycho-diagnostic instruments: “Motivation for Achieving Success and Avoiding Failures” (MASAF) (Elers, 2002) and “The Self-Efficacy Scale” (SES) (Sherer et al., 1982). The method MASAF (Elers, 2002) allowed establishing the first pair of parameters of junior athletes: motivation for achieving success (MAS) and motivation for avoiding failure (MAF). The method consists of two parts, the first one allows determining the level of motivation for achieving success and numbers thirty statements. The second part was used for determining motivation for avoiding failure and numbers thirty-two statements. The levels of homogeneity of the responses were registered at a medium level: $\alpha_{MAS} = .844$ and $\alpha_{MAF} = .789$. The method “SES” (Sherer et al., 1982) was used to establish the second pair of resultant parameters: self-efficacy of subject activity (SSA) and self-efficacy of interpersonal communication (SIC). The method combined twenty-three statements. It is valid and

reliable, tested in studies on sports (Halian et al., 2023a; Halian et al., 2023b) and contains the Stapel scale. A satisfactory level of homogeneity of the empirical data by Cronbach's α ($\alpha = .736$) was registered.

Organization of Research. The research was conducted from September, 2023 till 2024 and coincided with the first term of the educational-training cycle (semester) of junior athletes. A summative strategy with solving comparative problems in the context of the formulated hypotheses was applied in the research. To collect empirical data, Google-Forms with standard forms for responses were also used. The participants were informed about the survey in advance and voluntarily took part in the research. The empirical data were collected marking gender, age and kind of sports. All organizational measures were approved by the administrations of institutions at which junior athletes studied and trained. The Ethical committees of the universities approved the suggested initiative.

Statistical Analysis. To process the empirical data, we used significant coefficients and standard empirical practices supported by the computer program "IBM SPSS Statistics" version 29.0.0.0 (241). In addition, the services "MS Excel" and "MS Word" were used. Homogeneity of the empirical data was verified by Cronbach's α . The sample parameters allowed using the correlation coefficient of Karl Pearson (r_{xy}). All comparisons were tested for significance using the Mann-Whitney U -test. When stating significant results and discussing them, we referred to the statistically significant levels $p \leq .050$ and $p \leq .010$.

Results

To ensure the research replication, the empirical data were given through the main descriptive frequency characteristics. Three measurements are sufficient for our research: M – the mean, SD – the mean squared deviation and Me – the median. Tabl. 1 gives dependent and independent variables by all the research methods.

Table 1. Dependent and independent research variables ($n = 114$)

Scale	Mean, M	Mean squared deviation, SD	Median, Me
"The Social Comparison Scale" (Schneider & Schupp, 2011)			
CC	18.22	± 3.47	18.00
CO	14.73	± 2.86	15.00
"Motivation for Achieving Success and Avoiding Failures" (Elers, 2002)			
MAS	22.27	± 3.89	22.00
MAF	14.43	± 2.79	14.50
"The Self-Efficacy Scale" (Sherer et al., 1982)			
SSA	35.45	± 6.43	36.00
SIC	3.82	$\pm .78$	4.00

Note: CC – comparison of capacities; CO – comparison of opinions; MAS – motivation for achieving success; MAF – motivation for avoiding failure; SSA – self-efficacy of subject activity; SIC – self-efficacy of interpersonal communication.

The applied psycho-diagnostic instruments were numerous tested in studies on sports on junior samples, therefore, it was not difficult to compare them with similar data. The parameters of comparison do not have significant differences by Student's t -test registered in the adaptation of the method factor structure (Schneider & Schupp, 2011; Gerson et al., 2017). The parameters of motivation for achievement and avoidance do not have significant differences as well, however, they have increasing or decreasing tendencies in paraathletes (Prokhorenko et al., 2023), in self-actualization of junior elite female handball players (Popovych et al., 2022b), in respondents in comparison of team and individual sports (Popovych et al., 2022c).

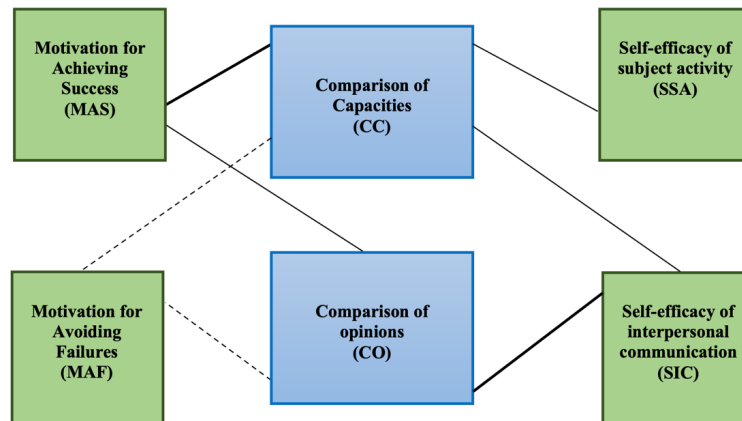
We established correlations between dependent and independent variables using Pearson correlation coefficient (r_{xy}) and created a correlation matrix of data (Tabl. 2).

Table 2. Correlation matrix of dependent and independent research variables ($n = 114$)

Independent variables	Pearson's coefficient	Dependent variables	
		CC	CO
MAS	r_{xy}	.235**	.186*
	p	.009	.045
MAS	r_{xy}	-.215*	-.201*
	p	.045	.043
SSA	r_{xy}	.186*	.088
	p	.045	.432
SIC	r_{xy}	.222*	.265**
	p	.043	.000

Note: CC – comparison of capacities; CO – comparison of opinions; MAS – motivation for achieving success; MAF – motivation for avoiding failure; SSA – self-efficacy of subject activity; SIC – self-efficacy of interpersonal communication; r_{xy} – Karl Pearson's correlation coefficients; p – level of significance; * – $p < .050$; ** – $p < .010$.

To complement visualization of correlation regularities, we created a correlation pleiad. Fig. I presents the pleiad with bilateral correlations by Pearson's correlation coefficient (r_{xy}).



Note: - - - - - negative correlations with $p \leq .050$; ————— positive correlations with $p \leq .010$; ————— positive correlations with $p \leq .050$.

Figure I. Correlation pleiad of dependent and independent variables of the research on the impact of mechanism comparison (n = 114)

Seven statistically significant correlations of the investigated parameters were registered ($p \leq .050$; $p \leq .010$). Comparison of capacities (CC) has the greatest number of correlations – four: MAS ($r_{xy} = .235$; $p = .009$); MAF ($r_{xy} = -.215$; $p = .045$); SSA ($r_{xy} = .186$; $p = .047$); SIC ($r_{xy} = .222$; $p = .043$). Comparison of opinions (CO) has three correlations: MAS ($r_{xy} = .186$; $p = .047$); MAF ($r_{xy} = -.201$; $p = .043$); SIC ($r_{xy} = .265$; $p = .000$). We state that the strongest correlations have a positive regularity. Such correlations were registered in two pairs: comparison of opinions (CO) and SIC ($r_{xy} = .265$; $p = .000$); comparison of capacities (CC) and MAS ($r_{xy} = .235$; $p = .009$).

At the final stage of the research strategy of comparison, the dependent variables “comparison of capacities” (CC) and “comparison of opinions” (CO) were divided into groups with low and high levels. The median of distribution of comparison of capacities was (Me = 18.00). Group 1 combined low levels of comparison of capacities by $Me > 18.00$. Group 2 combined high levels of comparison of capacities which are equal to and more than $Me \leq 18.00$. Tabl. 3 gives statistically significant differences of using the Mann-Whitney U-test.

Table 3. Differences between Group 1 and Group 2 by the parameter “comparison of capacities”

Mann-Whitney coefficient	Independent variables			
	MAS	MAF	SSA	SIC
U	179.000	511.500	131.500	659.000
p	.000	.093	.000	.141

Note: U – the Mann-Whitney test; p – the level of significance; MAS – motivation for achieving success; MAF – motivation for avoiding failure; SSA – self-efficacy of subject activity; SIC – self-efficacy of interpersonal communication; the level of significance given in bold type – $p < .050$; $p < .010$.

It was found that Group 2 with a high level of comparison of capacities ($Me \leq 18.00$) has statistically significant differences by two dimensions of comparison at the level $p < .010$: MAS (U = 179.000; $p = .000$); SSA (U = 131.500; $p = .000$). The advantage of Group 1 was not registered.

The median of distribution of comparison of opinions was (Me = 15.00). Group 1 combined low levels of comparison of opinions ($Me > 15.00$). Group 2 combined high levels of comparison of opinions which are equal to and more than $Me \leq 15.00$. Tabl. 4 gives statistically significant differences of using the Mann-Whitney U-test.

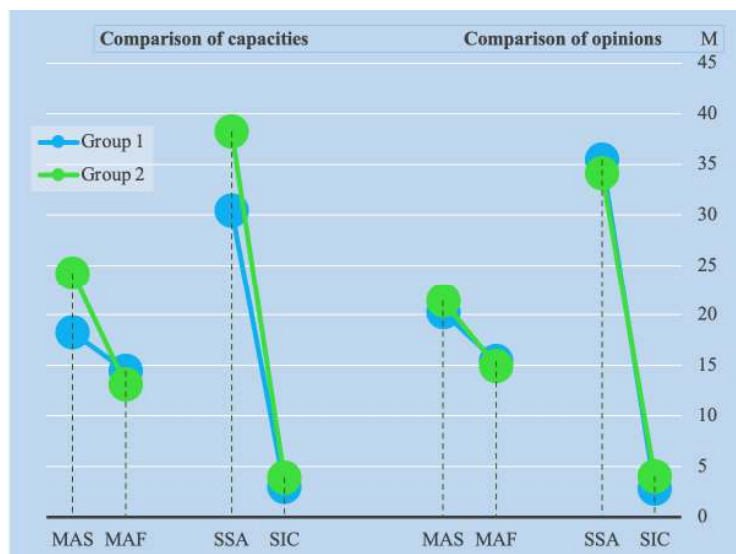
Table 4. Differences between Group 1 and Group 2 by the parameter “comparison of opinions”

Mann-Whitney coefficient	Independent variables			
	MAS	MAF	SSA	SIC
U	664.500	337.500	578.000	145.500
p	.139	.058	.113	.000

Note: U – the Mann-Whitney test; p – the level of significance; MAS – motivation for achieving success; MAF – motivation for avoiding failure; SSA – self-efficacy of subject activity; SIC – self-efficacy of interpersonal communication; the level of significance given in bold type – $p < .050$; $p < .010$.

A significant advantage of Group 2 by one dimension of comparison was registered at the level $p < .010$: SIC ($U = 145.500$; $p = .000$). The advantage of Group 1 was not found.

Fig. II presents the diagram of the mechanism of comparison in the structure of self-efficacy of juniors' sporting activities.



Note: Group 1 – low levels of the researched parameters; Group 2 – high levels of the researched parameters; MAS – motivation for achieving success; MAF – motivation for avoiding failure; SSA – self-efficacy of subject activity; SIC – self-efficacy of interpersonal communication; M – mean.

Figure II. Diagram of the mechanism of comparison in the structure of self-efficacy of juniors' sporting activities

The graphic image of the mechanism of comparison in the structure of self-efficacy of juniors' sporting activities visualizes the placement of the key research measurements.

Discussion

Among the scientific publications on sports there are empirical studies which are directly related to the impact of mechanism comparison on a number of parameters of athletes' academic performance and competitive activity (Diel et al., 2021; Cepikkurt & Findik, 2017). The examined regularities and substantiation of the dependence of comparison on individual-typological characteristics (Gerson et al., 2017; Toyama, 2009) did not reveal the answers to our questions, at least it allowed making an assumption and finding theoretical substantiation of this impact. We should not that comparison can be of dual nature, i. e. it can act as a constructive component under certain circumstances, and it can have a destructive impact under other, even similar, circumstances. It is shown in the studies by C. Hörnberger (2022); B. Allahyari and H. Jenaabadi (2015). Such an interpretation allows regarding the functioning of the phenomenon of mechanism comparison as a psychological mechanism of impact. We made a successful attempt of empirical substantiation of this mechanism's functioning. We emphasize that application of the method "The Social Comparison Scale" (Schneider & Schupp, 2011) technologically allowed us to do it, since the authors applied a two-factor model of comparison in this method. The suggested division of the investigated phenomenon of comparison into the content parameters of comparison of capacities (CC) and comparison of opinions (CO) allowed establishing important scientific facts (see Tabl. 2, Tabl. 3 and Tabl. 4). The obtained measurements of the junior athletes' self-efficacy are confirmed in similar studies on a correlation of junior athletes' individual-typological characteristics with self-efficacy (Halian et al., 2023a) and self-efficacy of interpersonal communication of juniors and coaches and its impact on a resultant component (Halian et al., 2023b).

The established seven statistically significant correlations confirm the validity of interdependence of the selected research variables (see Tabl. 2). The strongest comparison registered in the pair of CO and SIC ($r_{xy} = .265$; $p = .000$) was explained by the fact that self-efficacy of interpersonal communication plays an important role for adolescents. We assume that it concerns not only communication with athletes relating to sporting activities, but also communication with significant others which can relate to other important areas of human life. It is worth remembering that the related areas contribute to or prevent victory. The parameter "comparison of opinions" is the most dependent parameter that has a considerable impact on the quality of communication and motivational intentions to win. At the same time, the parameter "comparison of capacities" has a significant impact on content subject activity and its impact as a mechanism of comparison is more dangerous. The danger lies in the fact that critical ascending comparisons of capacities can depress junior athletes and form wrong notions that a desirable result is unachievable, since such comparisons directly affect sporting subject activity.

Our attention is attracted by the obtained results of comparison of the levels of dependent variables, divided into investigated groups (see Tabl. 3 and Tabl. 4). The group with high values of the parameters of comparison of capacities (see Tabl. 3 and Fig. II) has a significant advantage by important resultant components of sporting activities – motivation for achieving success and self-efficacy of subject activity. It is worth noting that the processed empirical data covered respondents from amateurs to junior professionals. It is obvious that the educational-training environment organized at sports schools for children and youth and junior academies of professional clubs has a dominant developing and competitive influence, since a distinctive psychogenic impact could have a negative effect on students and depress them and prevent achievements in sports. The results of comparison of high and low levels by the parameter “comparison of opinions” (see Tabl. 4 and Fig. II) allow stating that the effect of the psychological mechanism of impact which can originate in Internet, mass-media and in direct communication with significant others, colleagues, competitors, rivals and coaches does not significantly affect motivation for achieving success and self-efficacy of subject activity. We should note that there is a positive tendency to have an impact on motivation for avoiding failure, and the difference is not statistically significant. It was emphasized that the two hypotheses were confirmed. The parameters of comparison have a significant impact on the parameters of respondents’ motivation and self-efficacy, since seven statistically significant correlations were registered. Distribution of the groups with low and high levels of comparison of capacities and comparison of opinions has statistically significant differences by the resultant components.

The psychological mechanism of impact through the parameters of comparison of capacities and comparison of opinions has significant correlations with the resultant parameters of educational-training, competitive and rehabilitative types of junior athletes’ sporting activities. Mechanism comparison can be a catalyst of juniors’ motivation and self-efficacy intentions which can be either constructive or destructive depending on circumstances. The obtained empirical results were theoretically substantiated. They possess scientific novelty, contain theoretical and applied value and can be implemented in the educational-training process of sports schools for children and youth, junior academies of professional clubs, the work of analytical departments of sports federations and the work of coaching staffs. Implementation of the obtained scientific achievements concerning the impact of mechanism comparison on junior athletes’ motivation and self-efficacy can improve sports psychological literacy of the subjects of sporting activities and create a competitive advantage over rivals.

Conclusions

It was substantiated that the mechanism of comparison in the structure of self-efficacy of juniors’ sporting activities is a regular correlation of comparison patterns with the resultant parameters of educational-training, competitive and rehabilitative areas of sporting activities. A correlation matrix and a correlation pleiad of the investigated parameters were created. Seven statistically significant correlations ($p \leq .050$; $p \leq .010$) were registered. It was emphasized that the strongest correlations registered in two pairs are positive: comparison of opinions (CO) and SIC ($r_{xy} = .265$; $p = .000$); comparison of capacities (CC) and MAS ($r_{xy} = .235$; $p = .009$). It was explained that the parameter “comparison of capacities” has a significant impact on content subject activity, therefore, it can testify to a probable danger. This danger was explained by the fact that critical ascending comparison of capacities can depress junior athletes and cause wrong notions that a desirable result is unachievable, since such comparisons directly affect sporting subject activities. It was found that the parameter “comparison of opinions” is the most dependent parameter having a considerable impact on the quality of communication and motivational intentions to win.

It was generalized that the hypotheses were confirmed: 1) the parameters of comparison have a significant impact on the parameters of motivation and self-efficacy of respondents, since seven statistically significant correlations were established; 2) the distribution of groups with low and high levels of comparison of capacities and comparison of opinions has statistically significant differences by the resultant components. It was recommended that the obtained results should be implemented in the educational-training process of sports schools for children and youth, junior academies of professional clubs, the work of analytical departments of sports federations and the work of coaching staffs.

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