

## Cognitive predictors of junior athletes' coping strategies in challenging competitive situations

IHOR POPOVYCH<sup>1</sup>, IHOR HALIAN<sup>2</sup>, ANDRII HALIAN<sup>3</sup>, OLEKSII KRYZHANOVSKYI<sup>4</sup>, NATALIYA HOI<sup>5</sup>, DENYS KURYTSIA<sup>6</sup>, HANNA SOKOLOVA<sup>7</sup>, IHOR HOIAN<sup>8</sup>

<sup>1</sup>Kherson State University, Kherson, UKRAINE

<sup>1</sup>Mykola Yarmachenko Institute of Special Pedagogy and Psychology, NAPS of Ukraine, Kyiv, UKRAINE

<sup>2,3</sup>Lviv Polytechnic National University, Lviv, UKRAINE

<sup>4</sup>Bogdan Khmelnytsky Melitopol State Pedagogical University, Zaporizhzhia, UKRAINE

<sup>5,8</sup>Vasyl Stefanyk Carpathian National University, Ivano-Frankivsk, UKRAINE

<sup>6</sup>Kamianets-Podilskyi Ivan Ohienko National University, Kamianets-Podilskyi, UKRAINE

<sup>7</sup>South Ukrainian National Pedagogical University named after K. D. Ushynsky, Odesa, UKRAINE

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### Abstract:

**The aim** of the study was to examine the cognitive predictors of junior athletes' choice of coping strategies in difficult competitive situations in sports activities (n = 118). **Methods:** Valid psychodiagnostic methodologies, mathematical statistics for data analysis, and methods for interpreting empirical results were used. **Results:** Significant direct correlations were established between task-oriented coping and the following variables: "critical thinking" (R = .300; p < .010; R<sup>2</sup> = .090), "awareness of conflict situations" (R = .388; p < .010; R<sup>2</sup> = .150), "skills in resolving conflict situations" (R = .330; p < .010; R<sup>2</sup> = .108), and "ability to resolve conflict situations" (R = .304; p < .010; R<sup>2</sup> = .092). Emotion-focused coping has significant inverse correlations with "critical thinking" (R = -.234; p < .050; R<sup>2</sup> = .054), "flexible thinking" (R = -.250; p < .050; R<sup>2</sup> = .062), "ability to resolve conflict situations" (R = -.227; p < .050; R<sup>2</sup> = .051), "communication skills" (R = -.283; p < .010; R<sup>2</sup> = .080), and "organizational skills" (R = -.223; p < .050; R<sup>2</sup> = .049). The predictors of task-oriented coping include "awareness of conflict situations" (β = .235), "critical thinking" (β = .235), "organisational skills" (β = .229), and "ability to resolve conflict situations" (β = .206). Emotion-focused coping is commonly chosen by respondents with low levels of "communication skills" (β = -.248), "flexible thinking" (β = -.212), and "critical thinking" (β = -.207). **Discussion and conclusions.** It was found that the most significant predictors of adaptive coping strategies include critical thinking and flexible thinking as components of the cognitive process of mental reflection. They ensure junior athletes' awareness of difficult life situations and ability to cope with them. The research shows that the maximum involvement of cognitive structures for assessing a competitive situation maintains the meaning-creating function of coping. The prospects for further research can be seen in examining the value and meaning predictors of junior athletes' selection of coping strategies in difficult competitive situations.

**Keywords:** junior athletes, adolescence, critical competitive situations, thinking, stress, adaptation, emotional intelligence.

### Introduction

The problem of coping strategies is popular among researchers studying junior sports. Over the past decades, the concept of a coping strategy has been interpreted in different ways: as an individual method of interaction in critical situations, arising from a significant competitive confrontation, or as a strategy to manage stress. However, its initial interpretation, which defines coping strategies in sports as conscious psychological and behavioural methods for managing stress, pressure, defeats, and trauma to maintain high performance in competitive activities, remains unchanged.

Since juniors' competitive activities are full of risks, which partly border on adventurousness (Tavrovetska et al., 2023), their behaviours in stressful sports situations will depend on the junior athlete's personality traits and the criticality of the situation. Thus, studying the cognitive determinants, which are "embedded" in the junior athlete's system of personal constructs, is highly relevant. Our viewpoint is based on the concept of P. Thoits (1995) of two groups of coping strategies, behavioural and cognitive. The researcher believes that behavioural strategies can be focused on a competitive situation on the one hand and on physiological changes on the other. Tactical and technical actions focused on a competitive situation include athletes' mindsets, particularly discussing a combination of actions, examining probable scenarios on the sports ground, seeking social support, "escaping" the situation, and unwillingness to struggle. Actions focused on physiological changes include using

tranquillizers, exhausting work, and other physiological methods not related to food, sleep, and substance use. Additionally, junior athletes' behavioural strategies can be focused on emotional expression and manifest as catharsis, emotional restraint and regulation (Thoits, 1986). Junior athletes' cognitive strategies should be focused on a competitive situation, particularly on considering and analysing alternatives, making an action plan, changing their perspective on the competitive situation, accepting the actual course of actions, distracting themselves from inevitability, and imagining a mystical solution to the problem. In addition, they can be focused on the expression of feelings through imagination, meditation, and prayer. Moreover, cognitive strategies can be focused on emotional changes, particularly on reinterpreting current emotions.

Notably, S. Folkman (2013) embeds the cognitive component in the core meaning of coping. Researchers define coping as "dynamic cognitive and behavioural efforts aimed at managing certain external and/or internal requirements, which are regarded as high-level and exceeding human resources" (Folkman, 2013: 141). This definition encompasses cognitive, emotional, and behavioural aspects of the coping process and focuses on efforts associated with the junior athlete's response to difficult situations in sports activities. It is also noteworthy that stress management involves accepting, tolerating, avoiding or minimising stressors. There is a more traditional interpretation of coping as adaptation to the environment. Moreover, coping is not limited to successful efforts, but includes all purposeful attempts to deal with stress, independent of their effectiveness. In other words, a coping response is initiated as a reaction to a personally significant stressful event that exceeds the individual's resources (Frydenberg, 2014).

S. Folkman (2010) believes that emotional and cognitive factors are fundamental in identifying the criteria for differentiating between coping strategies: "emotional – task-oriented", "cognitive – behavioral", and "successful – unsuccessful". The "emotional – task-oriented" criterion is basic to emotion-focused coping, aimed at regulating emotional responses, and task-oriented coping, aimed at solving a sports problem or changing a competitive situation that is a source of stress. The "cognitive – behavioral" criterion is basic for differentiating between "hidden" internal coping, i.e. cognitive problem-solving aimed at changing a competitive situation that has caused stress, and "open" behavioural coping, focused on specific actions when coping strategies are used. When it comes to the "successful – unsuccessful" criterion, successful coping involves employing productive strategies that contribute to relieving stress, whereas unsuccessful coping involves non-productive strategies that hinder effective handling of a difficult competitive situation. To summarise, the analysed concept is based on three assessments: 1) the primary appraisal – the presence or absence of stress; 2) the secondary appraisal – the availability of resources for handling a stressful situation; 3) the tertiary appraisal – evaluating the effectiveness of a coping strategy. This appraisal can be conscious or unconscious, or become automatic (Lazarus, 1993). Thus, coping can be focused on a problem and emotions. The study by S. Folkman and J. Moskowitz (2000) identified the meaning-creating function of coping. Hence, coping began to be considered as a process focused on the problem, emotions, and meaning. The meaning-creating function of coping is implemented through the maximum involvement of cognitive structures for evaluating a situation.

This directly concerns a critical competitive situation as a combination of external objective and internal subjective conditions in a competitive struggle. Junior athletes may be aware or unaware of it. The combination of cognitive and emotional appraisal of a competitive situation enables the athlete to identify it as "difficult" or "simple". Difficult competitive situations actualise the connection between the meaning of sports activities, higher values, and self-transcendence, making the junior athlete ready for struggle, ready to "accept suffering and grief, endure inevitable pain without yielding" (Batthyany, 2018: 196). Difficult competitive situations devalue junior athletes' conventional behavioural models, boost functional and mental activities, and optimise the search for new strategies to handle them and ensure full-fledged functioning.

*Hypothesis.* We assume that critical thinking and flexible thinking, which are mental reflections of the cognitive process, determine junior athletes' selection of coping strategies in difficult competitive situations in sports activities.

*Aim.* To examine the cognitive predictors of junior athletes' selection of coping strategies in difficult life situations.

## Methods

*The methodological basis* of our research includes the studies of researchers who addressed the individual's coping strategies in sports activities (Basiaga-Pasternak, 2018; Nogueira et al., 2025), stress resistance (Kundii et al., 2024; Vahidniya et al., 2024), coping strategies in extreme conditions (Kostruba & Fishchuk, 2023; Plokhikh et al., 2025; Sowan et al., 2024; Xu et al., 2023), psychophysiological patterns of junior athletes' persistent functional states examined by O. Kozin et al. (2022; 2023), S. Kozin et al. (2025). The studies highlighting the role of the emotional component and self-efficacy as predictors of conventional behaviour in the psychological stability of junior and senior athletes have also been considered (Popovych et al., 2026a; 2026b).

*Participants.* The total research sample consisted of 118 junior male and female athletes, aged 17 to 19 ( $M = 18.22$ ;  $SE = .13$ ;  $SD = 2.94$ ), who systematically engaged in sports, belonged to U-17 and U-19 teams, and regularly participated in sports competitions. The sample was formed randomly.

*Procedures and Instruments.* The research was conducted employing a confirmatory strategy to predict a correlation between independent and dependent variables. The term “predictor” was used in the study as regression analysis was applied to predict outcomes. The methodology “Coping Inventory for Stressful Situations” (CISS) (Endler & Parker, 1993) was employed to diagnose coping strategies. The methodology identifies the tendency to use one of three coping strategies: task-oriented coping, emotion-focused coping, and avoidance coping.

Cognitive components were represented by the levels of critical thinking and flexible thinking. Critical thinking was examined using the methodology “Test of Critical Thinking” by L. Starkey (2004). Flexible thinking was assessed using the methodology developed by E. Torrance (1962) and adapted for a Ukrainian sample.

One of the rational components of coping is readiness to solve conflicts, including internal conflicts. The “Methodology for Diagnosing Readiness to Negotiate and Solve Conflicts” (Kokun et al., 2012) was applied to assess readiness for handling conflict situations. The diagnosed constructs included awareness of conflict situations and the ability to handle them. The ability to organise oneself and one’s activities and communicate with people were assessed using the methodology “Communication and Organisational skills” (Kokun et al., 2012). The diagnosed constructs included the level of communication and organisational skills.

*Variables.* In regression analysis, the indicators of task-oriented, emotion-focused coping, and avoidance coping were considered dependent variables. The scales of other methodologies used in the study were considered independent variables: flexible thinking, critical thinking, communication skills, organisational skills, awareness of conflict situations, skills in resolving conflict situations, and ability to resolve conflict situations.

*Statistical Analysis.* Statistical analysis of the results was performed using descriptive statistics and multiple regression analysis. The statistical software “IBM SPSS Statistics,” version 29.0.0.1 (125), and R Core Team, v. 4.5 (2025), were employed.

## Results

To ensure reproducibility of the empirical study, Tabl. 1 presents the descriptive frequency characteristics of the studied variables and the results of testing the data for normality.

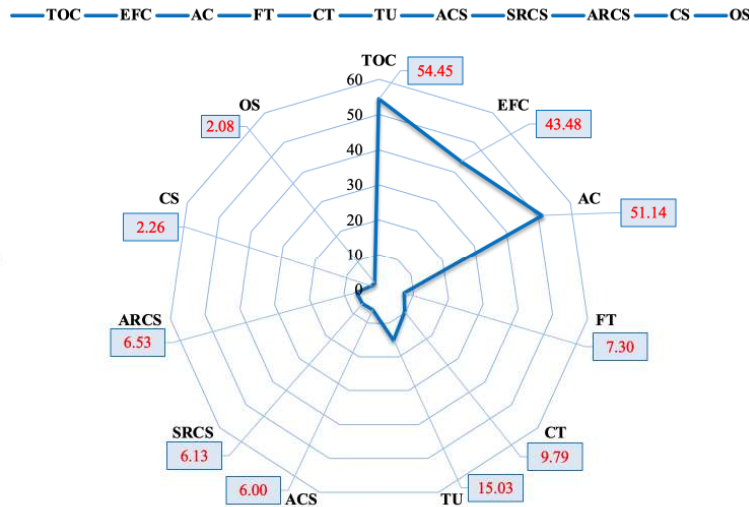
**Table 1.** Descriptive statistics of the variances of the studied variables

Variable	min	max	M	SE	SD	A	K	K-S <sup>b</sup>
TOC	37	71	54.45	.893	8.277	-.087	-.537	.200 <sup>c</sup>
EFC	19	72	43.48	1.074	9.957	.044	.227	.200 <sup>c</sup>
AC	31	68	51.14	.749	6.944	.164	.407	.200 <sup>c</sup>
FT	3	10	7.30	.181	1.681	-.295	-.407	.000
CT	3	22	9.79	.410	3.798	.595	.249	.064
TU	7	23	15.03	.343	3.182	-.140	.039	.120
ACS	1	9	6.00	.173	1.609	-.434	.676	.000
SRCS	3	9	6.13	.170	1.578	.263	-.802	.000
ARCS	4	9	6.53	.158	1.469	.033	-.831	.000
CS	1	5	2.26	.157	1.457	.756	-.854	.000
OA	1	5	2.08	.158	1.465	.928	-.531	.000

Note: min – the minimum; max – the maximum; M – the mean; SE – the standard error; SD – the standard deviation; A – the asymmetry; K – the kurtosis; K-S – Kolmogorov-Smirnov test; <sup>b</sup> – Lilliefors significance correction; <sup>c</sup> – the lower bound of true significance; TOC – task-oriented coping; EFC – emotion-focused coping; AC – avoidance coping; FT – flexible thinking; CT – critical thinking; TU – tolerance of uncertainty; ACS – awareness of conflict situations; SRCS – skills in resolving conflict situations; ARCS – ability to resolve conflict situations; CS – communication skills; OA – organisational skills.

Source: Own research.

The empirical study indicated that task-oriented coping prevails among the respondents (M = 54.45; SE = .893; SD = 8.277). Avoidance coping is also popular (M = 51.14; SE = .749; SD = 6.944). The importance of emotion-focused coping was assessed somewhat lower (M = 43.48; SE = .893; SD = 8.277). The methodological substantiation of the cognitive predictors of coping strategies in difficult competitive situations allowed creating the profile of cognitive predictors of junior athletes’ coping behaviours in competitive activities. The profile was created as a petal diagram (Fig. I).



Note: — cognitive predictors of coping behaviors; TOC – task-oriented coping; EFC – emotion-focused coping; AC – avoidance coping; FT – flexible thinking; CT – critical thinking; TU – tolerance of uncertainty; ACS – awareness of conflict situations; SRCS – skills in resolving conflict situations; ARCS – ability to resolve conflict situations; CS – communication skills; OS – organisational skills.  
 Source: Own research.

**Fig. 1.** Profile of cognitive predictors of junior athletes' coping behaviours in competitive activities

An increase in the outlined area will indicate greater significance of cognitive predictors in junior athletes' coping behaviours. The larger the outlined area, the more important cognitive predictors are in extreme situations in competitive activities, and vice versa. It is noteworthy that the parameters of the normal distribution are high for task-oriented coping ( $K-S > .200$ ), emotion-focused coping ( $K-S > .200$ ), and avoidance coping ( $K-S > .200$ ). The normal distribution suggests using the parametric Pearson correlation coefficient ( $R$ ) for correlation analysis presented in Tabl. 2.

**Table 2.** Indicators of correlations between coping strategies and personal characteristics of junior athletes

Coping	Predictors	R	p	CI-95	
				L	U
Task-oriented coping	FT	.182	.093	-.037	.385
	CT	.300**	.005	.088	.486
	TU	-.119	.277	-.328	.102
	ACS	.388**	.000	.186	.559
	SRCS	.330**	.002	.121	.511
	ARCS	.304**	.004	.092	.490
	CS	.182	.093	-.037	.385
	OS	.295**	.006	.082	.482
Emotion-focused coping	FT	-.250*	.021	-.443	-.033
	CT	-.234*	.030	-.430	-.017
	TU	.005	.964	-.213	.223
	ACS	-.139	.203	-.346	.082
	SRCS	-.086	.433	-.298	.135
	ARCS	-.227*	.035	-.424	-.010
	CS	-.283**	.008	-.472	-.069
	OS	-.223*	.039	-.421	-.005
Avoidance coping	FT	-.099	.362	-.311	.121
	CT	.025	.817	-.194	.242
	TU	-.036	.742	-.252	.183
	ACS	.144	.186	-.076	.351
	SRCS	.026	.815	-.193	.242
	ARCS	.013	.902	-.205	.231
	CS	-.034	.757	-.250	.186
	OS	-.037	.733	-.253	.182

Note: R – Pearson correlation; p – statistical significance: \*\* –  $< 01$ ; \* –  $< 05$ ; CI – confidence interval; L – Lower limit; U – Upper limit; FT – flexible thinking; CT – critical thinking; TU – tolerance of uncertainty; ACS – awareness of conflict situations; SRCS – skills in resolving conflict situations; ARCS – ability to resolve conflict situations; CS – communication skills; OS – organisational skills.  
 Source: Own research.

The table shows that task-oriented coping and emotion-focused coping significantly correlate with different personal characteristics. A direct correlation was established between task-oriented coping and the variable “critical thinking” ( $R = .300$ ;  $p < .010$ ;  $R^2 = .090$ ). The coefficient of determination accounts for 9.00% of the variance. A statistically significant correlation was established between task-oriented coping and the methodology’s scales, which allowed assessing readiness to resolve competitive conflicts. They include “awareness of conflict situations” ( $R = .388$ ;  $p < .010$ ;  $R^2 = .150$ ), “skills in resolving conflict situations” ( $R = .330$ ;  $p < .010$ ;  $R^2 = .108$ ), and “ability to resolve conflict situations” ( $R = .304$ ;  $p < .010$ ;  $R^2 = .092$ ). Thus, all the correlated variables together account for 43.00% of the variance, which determines the choice of cognitive coping strategies. This indicator is sufficient for psychological studies. Emotion-focused coping significantly correlates with its “own” set of variables. It was found that the less the respondents demonstrate critical thinking ( $R = -.234$ ;  $p < .050$ ;  $R^2 = .054$ ) and flexible thinking ( $R = -.250$ ;  $p < .050$ ;  $R^2 = .062$ ), the more inclined they are to use the coping strategies related to emotional rather than to rational response to difficult competitive situations. Emotion-focused coping is also preferred in cases with insufficient “ability to resolve conflict situations” ( $R = -.227$ ;  $p < .050$ ;  $R^2 = .051$ ) and a lack of “communication skills” ( $R = -.283$ ;  $p < .010$ ;  $R^2 = .080$ ) and “organisational skills” ( $R = -.223$ ;  $p < .050$ ;  $R^2 = .049$ ). The choice of emotion-focused coping accounts for 29.60% of the variance formed by its correlation with variables. Avoidance coping showed no statistically significant correlations with the studied variables, hence it was removed from further research process. The next research stage involved performing stepwise regression analysis to forecast the importance of predictors for selecting coping strategies (Tabl. 3–6). Models in which predictors were almost equally involved in respondents’ selection of coping strategies were obtained for task-oriented coping. The coefficients of determination ( $R^2$ ) indicate the quality of the regression line. This quality depends on how well the primary data fits the regression model (calculated data). The coefficient of determination usually takes values in the range [0; 1]. The obtained coefficients indicate that the regression equations of the models are different from zero ( $R^2 \neq 0$ ) (Tabl. 3). At the same time, they attest to the minimum acceptable quality of the model.

**Table 3.** Summary data for the regression analysis model (Task-oriented coping)

Model	R	R <sup>2</sup>	Correction R <sup>2</sup>	SE	Statistics of changes					ANOVA	
					R <sup>2</sup>	F	p	df (1)	df (2)	F	p
1	.364a	.132	.122	7.755	.132	12.829	.001	1	90	12.829	.001b
2	.461b	.213	.194	7.432	.080	8.464	.005	1	89	11.217	.000c
3	.509c	.259	.232	7.254	.046	5.117	.026	1	88	9.554	.000d
4	.546d	.298	.263	7.106	.039	4.450	.038	1	87	8.580	.000e

Note: Dependent variable: Task-oriented coping; a – predictors: (constant), awareness of conflict situations; b – predictors: (constant), awareness of conflict situations, critical thinking; c – predictors: (constant), awareness of conflict situations, critical thinking, organisational skills; d – predictors: (constant), awareness of conflict situations, critical thinking, organisational skills, ability to resolve conflict situations.

Source: Own research.

The goodness of fit of the model is indicated by the ANOVA results. The coefficient of determination is tested for statistical significance using Fisher’s test. The results presented in Tabl. 3 attest to the statistical significance of the goodness of fit ( $p < .010$ ). The  $\beta$ -coefficients presented in Tabl. 4 show how the dependent variable “task-oriented coping” changes with a unit change in the predictor. Attention should be paid to the standardised  $\beta$ -coefficient, as it is not given in the original units, but in standard Z-scores. This allows for comparing the predictors that differ in units of measurement. The Z-scale has a mean of “0” and a standard deviation of “1”.

**Table 4.** Beta coefficients of independent variables in the regression analysis model (Task-oriented coping)

Model	non-standardised		Standardised $\beta$	t	p	VIF	Correlations			
	$\beta$	SE					Zero order	Partial	Component	
1	(Constant)	43.217	3.247		13.312	.000				
	ACS	1.873	.523	.364	3.582	.001	1.000	.364	.364	.364
2	(Constant)	38.053	3.582		10.623	.000				
	ACS	1.720	.504	.334	3.415	.001	1.011	.364	.351	.333
	CT	.621	.213	.285	2.909	.005	1.011	.320	.304	.283
3	(Constant)	37.746	3.499		10.788	.000				
	ACS	1.536	.498	.299	3.082	.003	1.039	.364	.322	.293
	CT	.493	.216	.226	2.282	.025	1.086	.320	.244	.217
	OS	1.281	.566	.227	2.262	.026	1.112	.344	.242	.215
4	(Constant)	31.991	4.381		7.302	.000				
	ACS	1.210	.512	.235	2.361	.021	1.143	.364	.254	.220
	CT	.502	.212	.230	2.374	.020	1.086	.320	.255	.221
	OS	1.294	.555	.229	2.333	.022	1.112	.344	.251	.217
	ARCS	1.162	.551	.206	2.109	.038	1.102	.288	.228	.196

Note: a – dependent variable Task-oriented coping; the constant – the intercept; 1, 2, 3, 4, – multiple regression models (see source Tabl. 3);  $\beta$  – beta coefficient; SE – standard error; p – statistical significance; t – Student’s test; VIF – collinearity

index; ACS – awareness of conflict situations; CT – critical thinking; OS – organisational skills; ARCS – ability to resolve conflict situations.

Source: Own research.

Thus, the fourth model has four predictors determining the subjects' choice of task-oriented coping (Tabl. 4). A change in "awareness of conflict situations" by a unit of measurement will increase the probability of choosing this coping by .235 ( $\beta = .235$ ) of the standard deviation. The probability of choosing task-oriented coping is somewhat lower with increases in the predictors "critical thinking" ( $\beta = .230$ ) and "organisational skills" ( $\beta = .229$ ). The ability to resolve conflict situations will change the choice of this coping ( $\beta = .206$ ). This regression model shows the dominant role of the cognitive component in choosing task-oriented coping.

The important task of regression analysis is to determine the share of each predictor in the explained variability. Correlation coefficients indicate this share (Tabl. 6). A semi-partial (part) correlation, in which the variability explained by other predictors is calculated only from the variability of the independent variable (the predictor under consideration) should be used for this. This correlation shows a unique contribution of this predictor to the regression model. Using the coefficient of determination (R<sup>2</sup>) for task-oriented coping, we obtain a share of 18.00%.

The results of regression analysis for "emotion-focused coping" are presented in Tabl. 5–6. The obtained coefficients indicate that the regression equations of the models are different from zero (R<sup>2</sup> ≠ 0) (Tabl. 5). The ANOVA results attest to the statistical significance of the correspondence of the sample data to the general population distribution ( $p < .050$ ).

**Table 5.** Summary data for the regression analysis model (Emotion-focused coping)

Model	R	R <sup>2</sup>	Correction R <sup>2</sup>	SE	Statistics of changes				ANOVA		
					R <sup>2</sup>	F	p	df (1)	df (2)	F	p
1	.301a	.091	.080	9.551	.091	8.388	.005	1	90	12.829	.001b
2	.375b	.140	.120	9.343	.050	4.783	.032	1	89	11.217	.000c
3	.426c	.182	.152	9.172	.041	4.127	.045	1	88	9.554	.000d

Note: Dependent variable: emotion-focused coping; a – predictors: (constant), communication skills; b – predictors: (constant), communication skills, flexible thinking; c – predictors: (constant), communication skills, flexible thinking, critical thinking.

Source: Own research.

The  $\beta$ -coefficients presented in Tabl. 6 indicate negative dynamics of change in the share of each predictor during stepwise variable selection. With a decrease in "communication skills" by a unit of measurement, the probability of choosing emotion-focused coping will increase by .248 ( $\beta = -.248$ ) of the standard deviation. Conversely, a rise in "communication skills" reduces the chance of using emotion-focused coping.

Flexible thinking and critical thinking also influence the choice of emotion-focused coping. It is commonly chosen by junior athletes with low levels of flexible thinking ( $\beta = -.212$ ) and critical thinking ( $\beta = -.207$ ).

**Table 6.** Beta coefficients of independent variables in the regression analysis model (Emotion-oriented coping)

Model		non-standardised		Standardised		t	p	VIF	Correlations		
		$\beta$	SE	$\beta$					Zero order	Partial	Component
1	(Constant)	48.123	1.906			25.243	.000				
	CS	-2.060	.711	-.301		-2.896	.005	1.000	-.301	-.301	-.301
2	(Constant)	57.524	4.686			12.277	.000				
	CS	-1.947	.698	-.285		-2.791	.007	1.005	-.301	-.293	-.284
	FT	-1.322	.605	-.223		-2.187	.032	1.005	-.244	-.233	-.223
3	(Constant)	61.779	5.054			12.223	.000				
	CS	-1.695	.696	-.248		-2.436	.017	1.038	-.301	-.260	-.243
	FT	-1.256	.594	-.212		-2.113	.038	1.008	-.244	-.227	-.211
	CT	-.542	.267	-.207		-2.031	.045	1.037	-.266	-.219	-.203

Note: a – dependent variable: Emotion-focused coping; the constant – the intercept; 1, 2, 3, – multiple regression models (see source table. 5);  $\beta$  – beta coefficient; SE – standard error; p – statistical significance; t – Student's test; VIF – collinearity index; CS – communication skills; FT – flexible thinking; CT – critical thinking.

Source: Own research.

These predictors together account for 14.00% of the variance. The predictor "communication skills" (6.00%) has the biggest share. The predictors "flexible thinking" and "critical thinking" each account for 4.00%.

## Discussion

Critical and flexible thinking is important for selecting coping strategies. Cognitive techniques, characteristic of this thinking, increase the probability of achieving the desired outcomes. The effect is ensured by readiness to use these cognitive skills relevant to the situation and the type of problem being solved. R. Sternberg and L. Zhang (2005) underscore that critical thinking is a mental process, strategies, and approaches used by individuals to solve problems, make decisions, and adapt to new situations.

In addition, athletes' behaviours are characterised, on the one hand, by persistent stereotypes and fixed ideas and, on the other hand, by non-standard solutions and flexibility in resolving problematic situations. This is explained by the fact that both objective reality and training and competitive environments are constant and changeable. Given this, double standards are applied to the individual's behaviour: it should be stable and constant in some sports situations and changeable and dynamic in others. In other words, the balance between the individual and the environment sought by athletes is maintained by the stability of some behavioural elements and psyche and readiness of others to change. Flexibility is a characteristic of the athlete's cognitive sphere. Cognitive flexibility is the intellectual ability to switch from one thought to another and consider several things simultaneously. This involves the ability to adapt thinking during the transition from one familiar situation to a new one and the ability to change common reactions and thoughts in new conditions (Moore & Malinowski, 2009; Deak, 2003). Flexibility enables the individual to consider ideas from different viewpoints, solve several problems simultaneously, use a creative approach when accomplishing tasks, and change analysis and synthesis algorithms to fundamentally different ones. Studies confirm a correlation between critical thinking and intelligence (Clifford et al, 2004; Ku & Ho, 2010). We assumed that flexible thinking and critical thinking are factors that determine the junior athlete's selection of coping strategies in difficult competitive situations. This assumption was checked in the empirical study. The empirical results obtained allow stating the dependence of productive task-oriented coping on the individual's cognitive structures. The regression analysis results (see Tabl. 4) suggest that "awareness of conflict situations", "critical thinking", and "ability to resolve conflict situations" are cognitive predictors of using task-oriented coping. Our research is consistent with other studies. The study on practical thinking in terms of risk understanding and responses highlights the influence of "defensive thinking" on the selection of coping strategies. It underscores that the individual's negative thinking or "concern" about negative events and their abilities improves readiness and functional "action planning" when a future situation implies a negative result (Adams, 2023). The regression analysis results on emotion-focused coping suggest that social support is a fundamental factor in choosing this strategy. The predictors "communication skills", "flexible thinking", and "critical thinking" have the biggest shares. In other words, the less developed junior athletes' communication skills are, the less socially involved they are, the lower their levels of critical thinking and flexible thinking, and the more they resort to emotion-focused coping. A similar trend was observed in the study examining the influence of coping strategies and resources and changing events on the development of posttraumatic stress disorder. The study shows that individuals who experienced a traumatic event and received less social support usually employed emotion-focused coping (Gilbar et al, 2010). Cognitive and emotional processes do not occur autonomously and separately. Research on the role of emotional and cognitive processes in young respondents' reflections through modelled interviews with clients attests to this connection. The study suggests that respondents' awareness of their emotions and emotion regulation is closely connected to their cognitive processes and ability to implement procedural competencies (Sewell et al, 2020).

Thus, the research results and comparisons with other studies indicate the significance of the cognitive component in junior athletes' selection of coping strategies. However, this is not the only factor in their selection. The effectiveness of critical thinking and flexible thinking is determined by various mediators, which ultimately affect the productivity of the chosen coping strategy. A significant correlation was established between critical thinking and some personality traits (Taube, 1997). The motivational component of the athlete's personality is essential, as the effectiveness/ineffectiveness of a coping strategy depends on the individual's desire to seek information, understanding of a stressful situation or event, and willingness to receive social support from a close circle of people. The presence of communication, interactive, and perceptual skills in the individual is also important.

## Conclusions

Difficult competitive situations, as mechanisms of transformation and professional growth for the junior athlete's personality, contribute to reconsideration of their professional career and search for growth paths. The study examined the dominant role of the cognitive component in junior athletes' selection of coping strategies in difficult competitive situations. It confirms that task-oriented coping and emotion-focused coping correlate with various personal characteristics of respondents. The research suggests that critical thinking and flexible thinking, as components of the cognitive process of mental reflection, are the most influential predictors of adaptive coping strategies. They ensure junior athletes' understanding of difficult competitive situations and abilities to handle them. The study shows that the maximum involvement of cognitive structures for assessing the situation ensures the meaning-creating function of coping. Examining the value and meaning predictors of junior athletes' selection of coping strategies in difficult competitive situations is considered a perspective for further research.

### Not Using AI Tools

No AI-assisted technologies were used in the writing, editing, or data analysis for this manuscript. All work is original and completed solely by the listed authors.

### Data availability statement

The datasets generated during and/or analysed during the current are available from the corresponding author on reasonable request.

### Ethics Statement

This research was conducted in accordance with the principles of the Declaration of Helsinki. Respondents provided personal written consent to participate in the study, after which they received access to the questionnaires.

### Conflict of Interests

The authors report there are no competing interests to declare. Authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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