

Relationship between emotional intelligence and coping strategies in junior athletes' behavior during extreme competitive situations

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Abstract:

This study investigated the relationship between emotional intelligence and coping strategies among 132 junior athletes during extreme competitive situations. **Methods:** Valid psychodiagnostic methodologies were employed, along with descriptive statistics, normality tests (Kolmogorov–Smirnov and Shapiro–Wilk), regression analysis, and statistical significance coefficients. **Results:** The study revealed a significant relationship between emotional intelligence and coping strategies in extreme competitive environments. Results highlighted the importance of emotional intelligence as a key factor in understanding and managing both personal and others' emotions, contributing to psychological well-being. Junior athletes demonstrated moderate levels of interpersonal abilities, specifically in empathy ($M = 9.23 \pm .494$; $SD = 5.681$) and understanding others' emotions ($M = 8.10 \pm .561$; $SD = 6.449$). Junior athletes' intrapsychic skills are at a low level ("emotional awareness" ($M = 10.32 \pm .489$; $SD = 5.322$); "self-motivation" ($M = 5.95 \pm .621$; $SD = 7.133$); and "managing emotions" ($M = 1.76 \pm .705$; $SD = 8.097$). Differences in the manifestation of junior athletes' emotional intelligence were identified by gender. In particular, statistically significant differences were found on the following scales of emotional intelligence: "emotional awareness" ($t = -1.95$; $p = .049$; $d = -.570$), "managing emotions" ($t = 2.392$; $p = .018$; $d = .699$), and "empathy" ($t = -2.356$; $p = .02$; $d = -.688$). The preference for problem-oriented coping and avoidance-oriented coping in choosing the method for dealing with extreme situations was found. A regression model ($F = 43.581$; $p = .000$) for problem-oriented coping which accounts for more than 50.00% of the data variance ($R^2 = .505$; $p = .005$) was determined. The model included such predictors as "recognizing others' emotions" ($\beta = .296$; $t = 3.463$; $p = .001$), "self-motivation" ($\beta = .306$; $t = 3.696$; $p = .000$), and "emotional awareness" ($\beta = .230$; $t = 2.845$; $p = .005$). Statistically significant differences between junior female and male athletes were identified by "emotion-oriented coping" ($t = -2.644$; $p = .009$; $d = -.772$). **Discussion and conclusions:** The decisive role of the predictor "recognizing others' emotions" in using "problem-oriented coping" was observed. "Self-motivation" and "emotional awareness" accompany this predictor. Research into the impact of regulatory characteristics of the individual as a factor of the effectiveness of coping strategies for managing stress in uncertain and difficult situations is deemed promising.

Keywords: psychological safety, identity, avoidance strategy, emotion-oriented strategy, problem-oriented strategy, emotions, mental health.

Introduction

Among researchers, the problem of emotional intelligence and coping strategies for the individual's behavior has gained popularity over the past decades. The interest in this problem has intensified due to stressful and adverse situations in which people often find themselves. Aggressive policies of countries with authoritarian regimes are an important cause of it. Special attention is paid to analyzing the ways to overcome the negative psychological consequences of these situations (Halian, 2022; Popovych et al., 2023a). The scientific search for ways to deal with difficult situations has resulted in studies related to the investigation of the so-called "coping behavior". This branch of psychological knowledge in foreign science is based on deep and long-standing traditions (Lazarus, 1991; Lazarus & Folkman, 1984; Kessler, 2004).

Research into the problem of coping behavior is relevant for sports where the impact of psychological factors on the achievement of results is obvious. The above studies do not reflect the psychological aspect of teaching athletes to deal with extreme situations. Sports achievements are largely determined by athletes' abilities to

handle different extreme situations in sports (Popovych et al., 2022c; 2023d). Sporting activities are characterized by a high level of psychological stress (Popovych et al., 2022b; 2023f), take place in extreme environments, and are related to increased risks (Shcherbak et al., 2023; Tavrovetska et al., 2023). The complex structure of sporting activities places high demands on the level of an athlete's psychological preparation (Kurova et al., 2023; Popovych et al., 2022a; 2022d). Stresses in everyday situations affect the psychological safety of athletes. It should be noted that there are several studies demonstrating statistically significant differences in motivation and competitive achievements of athletes with low and high levels of psychological safety (Blynova et al., 2020; Popovych et al., 2020a). This is especially important for highly skilled athletes since competition between athletes with high levels of physical, tactical, and technical training increases psychological stress and the contribution of psychological factors to achieving victory (Popovych et al., 2023c; 2023e). Such situations require athletes to have certain skills to overcome difficulties which can be considered extreme (Blikhar et al., 2024; Plokhikh et al., 2024). In addition, there are issues that require in-depth research, in particular, into the role of situational factors and personal dispositions in choosing coping strategies, the stability or situational variability of coping.

It is not easy to conduct such research since it requires a differentiated approach to analyzing life situations and taking into account the specificity of different types of situations. Some of these situations are "easy" while others are "difficult". The latter include critical turning points (Folkman & Lazarus, 1984), traumas (Kubany et al., 2000; Herman, 1992), trials (Linley & Joseph, 2004), negative events (Taylor, 1991), stressful life events (Cohen et al., 2019; Monroe, 2008), and extreme situations (Sagi-Schwartz, 2003; Zinchenko et al., 2023). Each of these types highlights the content specificity of the phenomena which make up the situation. To identify the psychological content of the term "difficult situation" which includes "extreme competitive situations", it is necessary to study the subjective picture of the situations that is constructed in an athlete's consciousness. The so-called "cognitive evaluation" is the subject's perception of the situation and its evaluative interpretation. Concurrently, in addition to "cognitive evaluation", there is "emotional-evaluative attitude" towards the situation. This is a complex of feelings and evaluations experienced or formed by the individual regarding a certain event, object, individual, or phenomenon (Halian, 2023). This ability is regarded as "emotional intelligence" – the ability to recognize, understand, and manage one's emotions, and also understand and affect the emotions of others (Mayer & Salovey, 1993; Goleman, 2005). The emotional component is decisive in actual situations of the subject's activity (Chebykin et al., 2024). The combination of cognitive and emotional evaluations of the situation makes it possible to consider it easy or difficult in the subject's consciousness. Depending on the specificity of cognitive evaluation of the situation as "difficult" and the situational characteristics, the subject chooses a certain strategy for coping with this "difficulty". The situational context implies socially developed rules depending on the content of the event and directs the subject's actions.

At present, there are many studies concerning the problem of emotional intelligence and coping strategies of behavior, related to teaching children, adolescents, and young people (Downey et al., 2010; Grant et al., 2014), professional activity (Dolev & Leshem, 2016), sports (Meyer & Fletcher, 2007; Halian, 2023a; 2023b; Popovych et al., 2021a; 2023b), health status (Tuck & Patlamazoglou, 2019), family relationships (Luckey et al., 2021), work and family (Ganesh M. & Ganesh S., 2022; Mauno et al., 2012), parent-child relationships (Ruetti & Pirotti, 2024), emotional intelligence and personal well-being (Schutte et al., 2002). The necessity to study them for the development (Dolev & Leshem, 2016) and understanding of one's experiences (Grant et al., 2014), for effectively coping with traumatic experiences and for the overall mental health of the individual is gaining more and more importance. We should not underestimate sports studies regarding psychophysiological aspects in this context (Cretu, 2021; Kozin, 2022; 2023). However, there is a lack of studies reflecting the relationship between junior athletes' emotional intelligence and their choice of coping strategies in extreme competitive situations, especially regarding the prediction of the impact of emotional intelligence on junior athletes' choice of coping strategies in extreme competitive situations.

Hypothesis. We hypothesize that the use of coping strategies by junior athletes in extreme competitive situations is determined by a number of personality traits as structural elements of emotional intelligence.

The purpose of the research is to examine the relationship between junior athletes' emotional intelligence and coping strategies in extreme competitive situations.

Methods

Methodology. The research was based on scientific ideas and approaches of scientists studying emotional intelligence (Engelberg, 2006; Bar-On, 2006; D. Goleman, 2005; Grubb & McDaniel, 2007; Mayer et al., 2003; Mayer, 2005) and coping strategies of individual behavior (Lazarus, 1991; Lazarus & Folkman, 1984; Kessler, 2004; Halian, 2024).

Participants. The sample population of the research involved $n = 132$ Ukrainian junior athletes engaging in different types of sporting activities and having different levels of sports mastery. The sample was heterogeneous (60 boys and 72 girls) aged 18–23 ($M = 19.05$; $SE = .105$; $SD = 1.219$). It was selected using random sampling.

Procedures and instruments. To determine the level of emotional intelligence, "Hall Emotional Intelligence Test" (HEIT) (Hall, 2007) was employed. The questionnaire allowed for the evaluation of the components of

emotional intelligence: emotional awareness (EA), managing emotions (ME), self-motivation (SM), empathy (Emp), and recognizing others' emotions (ROE) The diagnosed constructs included the levels of emotional intelligence: high, medium, and low. The first three scales relate to the intrapsychic dimension which is based on a certain level of self-reflection and the ability to comprehend life experiences. The other two relate to the interpersonal dimension which implies the ability to understand the emotions of other people. "Coping Inventory for Stressful Situations" (CISS) (Endler & Parker, 1999) was applied for diagnosing coping strategies. The methodology diagnoses the tendency to use three types of coping: problem-oriented coping (POC); emotion-oriented coping (EOC), and avoidance-oriented coping (AOC).

Variables. In the regression analysis, the indicators of the coping strategies (POC – problem-oriented coping; EOC – emotion-oriented coping; and AOC – avoidance-oriented coping) were dependent variables. The components of emotional intelligence represented by the scales of "HEIT" (Hall, 2007) (EA – emotional awareness; ME – managing emotions; SM – self-motivation; Emp – empathy; ROE – recognizing others' emotions) were independent variables.

Statistical analysis. The research was conducted using the confirmatory strategy and the prediction of the relationship between independent and dependent variables. Statistical analysis of the results was performed using descriptive statistics and multiple regression analysis by means of the statistical program IBM SPSS, version 27.

Results

Tabl. 1 presents the descriptive statistics according to the results of the research into junior athletes' emotional intelligence and coping strategies.

Table 1. Descriptive statistics of the indicators of the diagnosed variables (for the entire sample, n = 132)

Variables	M	SEM	SD	Normal distribution			
				S	K	K-Sb (p)	Sh-W (p)
POC	52.70	0.726	8.341	-0.498	0.229	.086	.076
EOC	47.30	0.972	11.168	-0.026	-0.607	.200*	.322
AOC	53.42	0.774	8.895	-0.482	0.180	.057	.052
AOC: SD	24.50	0.405	4.659	-0.304	-0.208	.026	.151
AOC: SSD	17.39	0.355	4.084	-0.171	-0.527	.196	.059
EA	10.32	.489	5.622	-.564	-.403	.018	.000
ME	1.76	.705	8.097	-.167	-.983	.027	.003
SM	5.95	.621	7.133	-.397	-.403	.030	.020
Emp	9.23	.494	5.681	-.609	.042	.000	.001
ROE	8.10	.561	6.449	-.616	-.330	.000	.000
IE	35.36	2.291	26.326	-.336	-.271	.200*	.136

Note: p – statistical significance; M – the mean; SD – the standard deviation; SEM – standard error of the mean; S – skewness; K – kurtosis; K-S – Kolmogorov-Smirnov Test; Sh-W – Shapiro-Wilk's Test; * – the lower limit of significance for Kolmogorov-Smirnov Test; the lower limit of significance for Shapiro-Wilk's Test is $p > .050$; b – Lilliefors' correction of significance; POC – problem-oriented coping; EOC – emotion-oriented coping; AOC – avoidance-oriented coping; AOC: SD – subjective distraction; AOC: SSD – subjective social distraction; EA – emotional awareness; ME – managing emotions; SM – self-motivation; Emp – empathy; ROE – recognizing others' emotions; IE – integral indicator of emotional intelligence.

The descriptive statistics for the results of the research into the male and female samples are presented in Tabl. 2. The indicators of normal distribution according to Shapiro-Wilk's test show abnormal distribution by the method "Hall Emotional Intelligence Test" (Hall, 2007). The variance by the method "Coping Inventory for Stressful Situations" (Endler & Parker, 1999) has normal distribution. Given a considerable number of subjects (n = 132), there is a reason for using parametric methods for empirical data processing.

Table 2. Descriptive statistics for the male and female samples (n = 132: boys = 60; girls = 72)

Test	Variables	min		max		M		SEM		SD		Sh-W (p)	
		boys	girls	boys	girls	boys	girls	boys	girls	boys	girls	boys	girls
Emotional intelligence	EA	-3	-4	14	18	7.46	10.63	1.249	.519	4.502	5.660	.419	.000
	ME	-13	-15	16	17	6.77	1.21	2.170	.730	7.823	7.968	.083	.007
	SM	-6	-14	18	18	9.08	5.61	1.956	.650	7.053	7.088	.201	.061
	Emp	-6	-8	14	18	5.77	9.61	1.397	.517	5.036	5.638	.422	.000
	REOP	-5	-8	14	18	7.15	8.20	1.713	.595	6.176	6.495	.084	.000
	IE	-12	-35	68	85	36.23	35.27	6.517	2.448	23.499	26.705	.114	.244
Coping strategies	TOC	30	26	60	70	52.23	52.76	2.307	.768	8.318	8.377	.065	.244
	EOC	19	27	63	74	39.69	48.13	3.054	1.000	11.010	10.911	.919	.144
	AOC	33	25	62	72	49.15	53.88	2.460	.808	8.868	8.810	.456	.058
	AOC: SD	14	11	27	35	21.69	24.81	1.298	.419	4.679	4.572	.158	.170
	AOC: SSD	10	6	23	25	16.85	17.45	1.079	.377	3.891	4.116	.935	.084

Note: N – the number of subjects; min – the minimum value; max – the maximum value; M – the mean; SEM – standard error of the mean; SD – standard deviation; Sh-W – Shapiro-Wilk's Test.

The empirical indicators in boys and girls by both methods are statistically different from each other. The results of the comparative analysis performed using t-test for independent samples are presented in Tabl. 3.

Table 3. Indicators of the comparative analysis of the variances for the samples of boys and girls

Scale	Levene's test t-test for equality of variances									d Coen's
	F	P	t	N	P	Mean difference	SE of difference	95 CI		
								Lower	Upper	
EA	1.573	.212	-1.95	130	.049	-3.169	1.625	-6.384	.046	-.570
ME	.777	.38	2.392	130	.018	5.559	2.324	.962	10.156	.699
SM	.023	.879	1.674	130	.097	3.463	2.069	-0.631	7.558	.489
Emp	1.461	.229	-2.356	130	.02	-3.844	1.631	-7.072	-.617	-.688
ROE	.159	.691	-0.555	130	.58	-1.048	1.889	-4.784	2.689	-.162
IE	.627	.43	0.125	130	.901	.962	7.719	-14.309	16.233	.036
POC	.674	.413	-.215	130	.830	-.526	2.445	-5.363	4.312	-.063
EOC	.227	.635	-2.644	130	.009	-8.434	3.190	-14.745	-2.123	-.772
AOC	.014	.906	-1.836	130	.069	-4.729	2.575	-9.823	.366	-.536
AOC: SD	.028	.868	-2.327	130	.022	-3.114	1.338	-5.762	-.466	-.680
AOC: SSD	.165	.685	-.501	130	.617	-.599	1.196	-2.966	1.768	-.146

Note: a – Levene's test for equality of variances two levels of variance); F – Fisher's test; p – statistical significance; t – Student's t-test; SE – standard error; 95 CI – confidence interval; d Coen's – effect size.

Multiple regression analysis was used to predict the causal relationship between emotional intelligence and junior athletes' coping strategies. The impact of the components of emotional intelligence on young people's choice of behavior was modelled.

The coping strategies diagnosed using the method "Coping Inventory for Stressful Situations" (Endler & Parker, 1999) were regarded as independent variables. The regression models including three predictors – "recognizing others' emotions", "empathy", and "emotional awareness" (Tabl. 4–6) – were identified using the criterion "problem-oriented coping".

Table 4. Generalized data for the regression analysis model to the criterion "problem-oriented coping"

Model	R	R ²	Correction R ²	SE	Statistics of changes				
					R2	F	df (1)	df (2)	p (for F)
1	.621a	.386	.381	6.562	.386	81.676	1	130	.000
2	.688b	.474	.466	6.096	.088	21.624	1	129	.000
3	.711c	.505	.494	5.935	.031	8.093	1	128	.005

Notes: 1, 2, 3, – models of multiple regression (model: 1(b) – predictors: recognizing others' emotions; 2(c) – predictors: recognizing others' emotions; self-motivation; 3(d) – predictors: recognizing others' emotions; self-motivation; emotional awareness); R – the correlation coefficient of the predictor with the model; R² – coefficient of determination; SE – standard error; F – Fisher's test; p – statistical significance; (1, 2) – degrees of freedom.

Table 5. Indicators of empirical distribution differences according to the criterion "problem-oriented coping"

ANOVAa					
Model		Sum of squares	df	Mean square	P
1	Regression	3516.469	1	3516.469	81.676
	Remainder	5597.008	130	43.054	.000b
	Total	9113.477	131		
2	Regression	4319.986	2	2159.993	58.129
	Remainder	4793.491	129	37.159	.000c
	Total	9113.477	131		
3	Regression	4605.043	3	1535.014	43.581
	Remainder	4508.434	128	35.222	.000d
	Total	9113.477	131		

Notes: a – dependent variable: problem-oriented coping; 1, 2, 3, – models of multiple regression (see note in Tabl. 4); df (1, 2) – degrees of freedom; F – Fisher's test; p – statistical significance.

Table 6. Beta coefficients of independent variables in the regression analysis model to the “problem-oriented coping” criterion

Coefficients									
Model	Not standardized		Standardized β	t	p	VIF	Correlations		
	β	SE					Zero-order	Partial	Component
1 Constant	46.198	.919		50.272	.000				
Recognizing others' emotions	.803	.089	.621	9.037	.000	1.000	.621	.621	.621
Constant	46.009	.855		53.831	.000				
2 Recognizing others' emotions	.502	.105	.388	4.787	.000	1.614	.621	.388	.306
Self-motivation	.441	.095	.377	4.650	.000	1.614	.617	.379	.297
Constant	43.949	1.103		39.840	.000				
3 Recognizing others' emotions	.383	.110	.296	3.463	.001	1.888	.621	.293	.215
Self-motivation	.358	.097	.306	3.696	.000	1.776	.617	.311	.230
Emotional awareness	.342	.120	.230	2.845	.005	1.695	.576	.244	.177

Notes: a – dependent variable: problem-oriented coping; constant – intercept; 1, 2, 3, 4, – multiple regression models (see note in Tabl. 3); β – beta coefficient; SE – standard error; p – statistical significance; t – Student's test; VIF – collinearity index.

One predictor was identified for the dependent variables “emotion-oriented coping” and “recognizing others' emotions”. Such a component of emotional intelligence as “managing emotions” ($F = 44.516$; $p = .000$; $R^2 = .249$; $p = .000$; $\beta = -.505$; $t = 56.194$; $p = .000$) is important for emotion-oriented coping. “Recognizing others' emotions” ($F = 21.873$; $p = .000$; $R^2 = .137$; $p = .005$; $\beta = .380$; $t = 4.677$; $p = .000$) is significant for avoidance-oriented coping. The tabular data on these copings are not presented in the section “Results”.

Discussion

Given the descriptive statistics presented in Tabl. 1, a low level of emotional intelligence was diagnosed in junior athletes ($M = 35.36 \pm 2.291$; $SD = 26.326$) (see Tabl. 1). This is reflected in the quality of their interpersonal interactions, the frequency of misunderstandings and conflicts. However, one should not draw hasty conclusions since the final (total) score of the test which is reflected in the scale “IE” consists of the indicators of five subscales. Each of them requires relevant knowledge, abilities, and skills from the respondent. For instance, the intrapsychic dimension (the scales: emotional awareness, managing emotions, and self-motivation) is based on self-reflection and the ability to comprehend life experiences. In this context, the respondent's cognitive skills are actualized which is not a problem. The interpersonal dimension (the scales: empathy and recognizing others' emotions) is based on the ability to understand others' emotions. This ability implies that personality traits should be evaluated using the scale “Empathy” and “Recognizing others' emotions”. The importance of the cognitive component was underscored by other researchers in the context of stress research. For instance, the research of A. Crum et al. (2017) proves that cognitive, physiological, and affective reactions to stress can be adjusted regardless of the evaluations of a certain situation due to a change in people's notions of the nature of stress in general (Crum et al., 2017). The results obtained by the authors corroborate the importance of the theory and practice of stress management with an emphasis on the need for increasing cognitive flexibility of the individual due to the focus of thinking on positive stimuli and the perception of stress as a challenge. Actually, as noted by S. Kertz et al. (2017), a deficit in attention control and repetitive negative thinking play a leading role in explaining the symptoms of anxiety and depression. This aligns with the conclusions of A. Beck (1976) that cognitive and affective overloads trigger dysfunctional thoughts which disrupt the process of the individual's self-regulation. After all, researchers (Levin & Rawana, 2021) associate the ability to self-regulate with well-being (happiness and prosperity), better health, and less internalization of the symptoms of anxiety and depression). Thus, the capacity for emotion regulation is important for maintaining the mental health of the individual.

Junior athletes demonstrated a medium level of “empathy” ($M = 9.23 \pm .494$; $SD = 5.681$) and “recognizing others' emotions” ($M = 8.10 \pm .561$; $SD = 6.449$). According to the test, the average values by the subscales of the methodology range from 8 to 13 points (see Tabl. 1). Thus, we can state a medium level of the respondents' interpersonal skills.

According to the averaged values, junior athletes' intrapsychic skills are at a low level. In particular, a medium level of manifestation was diagnosed on the scale “emotional awareness” ($M = 10.32 \pm .489$;

SD = 5.322), a low level was determined on the scale “self-motivation” ($M = 5.95 \pm .621$; SD = 7.133), and a very low level was identified on the scale “managing emotions” ($M = 1.76 \pm .705$; SD = 8.097) (see Tabl. 1).

Differences in the manifestations of emotional intelligence of junior male and female athletes were identified. In particular, statistically significant differences were found on the following scales of emotional intelligence: “emotional awareness” ($t = -1.95$; $p = .049$; $d = -.570$), “managing emotions” ($t = 2.392$; $p = .018$; $d = .699$), and “empathy” ($t = -2.356$; $p = .02$; $d = -.688$) (see Tabl. 3). For instance, girls ($M = 10.63 \pm .519$; SD = 5.660), in comparison with boys ($M = 7.46 \pm 1.249$; SD = 4.502), show greater emotional awareness, that along with greater empathy of girls ($M = 9.61 \pm .517$; SD = 5.638) compared to boys ($M = 5.77 \pm 1.397$; SD = 5.036) (see Tabl. 2) is expected. Girls’ interest in the inner world is higher. No statistically significant differences were identified on other scales of the methodology. The given results suggest a conclusion about a correlation between emotional intelligence and emotional well-being. Researchers believe that emotional intelligence includes the ability to understand and regulate emotions, and emotional well-being implies a positive mood and high self-esteem (Schutte et al., 2002).

The preferences of junior athletes regarding the use of certain coping strategies for dealing with extreme situations were found (see Tabl. 1). The methodology “CISS” focuses on the use of three coping strategies: problem-oriented coping (POC); emotion-oriented coping (EOC), and avoidance-oriented coping (AOC). Relatively higher values were observed in avoidance coping ($M = 53.42 \pm .774$; SD = 8.895). We argue that the maladaptive coping strategy “avoidance” is a psychological defense in junior athletes’ dealing with stressful (extreme) situations in sporting activities. Another coping strategy which is often used by junior athletes is problem-oriented coping ($M = 52.70 \pm .726$; SD = 8.341) (see Tabl. 1). This is an adaptive coping strategy which enables athletes to deal with extreme situations in terms of the balance of cognitive and emotional evaluations of the situation. Somewhat lower values were recorded in emotion-oriented coping ($M = 47.30 \pm .972$; SD = 11.168) (see Tabl. 1). If we compare the values on the scale “managing emotions” of the methodology “HEIT” (Hall, 2007) and the methodology “CISS” (Endler & Parker, 1999), this situation is not unexpected. It is the lack of understanding of one’s and others’ emotions that restrains emotional response to events due to sufficient self-regulation inherent in athletes (Prokhorenko et al., 2023). At the same time, we underscore that emotion-oriented coping temporarily regulates emotional stress without improving the overall psychological state of the athlete.

Statistically significant differences were found between junior female and male athletes in “emotion-oriented coping” ($t = -2.644$; $p = .009$; $d = -.772$) (see Tabl. 3). Girls ($M = 48.13 \pm 1.000$; SD = 10.911) are more inclined to use it in comparison with boys ($M = 39.69 \pm 3.054$; SD = 11.010) (see Tabl. 2). Statistically significant differences were also identified on the subscale of avoidance-oriented coping AOC: SD ($t = .022$; $p = 1.338$; $d = -.680$) (see Tabl. 3). In particular, girls ($M = 24.81 \pm .419$; SD = 4.572) resort to subjective distraction more often than boys ($M = 21.69 \pm 1.298$; SD = 4.679) as to one of the variants of avoidance-oriented coping (see Tabl. 2).

We assume that medium and low levels of emotional intelligence in the research participants are a consequence of their relative mental well-being. Other researchers show that emotional intelligence increases after a traumatic event in the same way as post-traumatic growth, and that the level emotional intelligence affects further growth during a traumatic event. Some studies show that people with a low level of emotional intelligence during a traumatic event demonstrated an increase in emotional intelligence after a traumatic event. A moderate correlation was established between post-traumatic growth and emotional intelligence (Tuck & Patlamazoglou, 2019).

The obtained empirical results prompt the identification of predictors that encourage junior athletes to choose this or that behavioral coping. This can be modeled due to multiple regression analysis.

The results presented in Tabl. 4–6 indicate that three statistically significant models ($\alpha < .001$) were identified for “problem-oriented coping”. The third model is the most significant model ($F = 43.581$; $p = .000$) (see Tabl. 5) which accounts for more than 50.0% of the variance ($R^2 = .505$; $p = .005$) (see Tabl. 4). The statistical significance $p = .000$ ($\alpha < .050$) of the Fisher angular coefficients for each predictor testifies to their impact on the chosen coping and, ultimately, allows for further analysis of the regression model. The validity of the regression model is also evidenced by the absence of the effect of multicollinearity ($VIF < 10.0$) for each predictor (see Tabl. 6). The model included such a predictor as “recognizing others’ emotions” (the interpersonal dimension) ($\beta = .296$; $t = 3.463$; $p = .001$), “self-motivation” (the intrapsychic dimension) ($\beta = .306$; $t = 3.696$; $p = .000$), and “emotional awareness” (the intrapsychic dimension) ($\beta = .230$; $t = 2.845$; $p = .005$) (see Tabl. 6). β (beta) coefficient of the regression shows that junior athletes’ choices change in favor of problem-oriented coping as each predictor changes by one unit of measurement (in our case, this is one standard deviation). As we can see, the weight of the predictors included in the same model is approximately identical.

The correlation of the components (semi-partial) indicates the share of each predictor in the overall regression model. It is the correlation between the observed characteristics (the predictors) and the regression line (the predicted model) that is statistically significant ($p = .000$). When it is calculated, the variability explained by other predictors is removed only from a certain predictor, unlike the partial correlation where the variability explained by other predictors is removed from the predictor and the dependent variable. The share of

each predictor is expressed through the coefficient of multiple determination (R^2). “Recognizing others’ emotions” accounts for 4.62% of the variance of all the variables involved in the model ($r = .215$; $p \leq .010$; $R^2 = .462$ (4.6% of the explained variance). The share of “self-motivation” in choosing “problem-oriented coping” is somewhat bigger ($r = .311$; $p \leq .010$; $R^2 = 9.67$ (9.67%). The share of “emotional awareness” in choosing “problem-oriented coping” is 5.95% ($r = .244$, $p \leq .010$; $R^2 = 5.95$ (5.95%)) (see Tabl. 6). Thus, the share of predictors included in the regression model is 41.83%. The remaining 58.77% is explained by other factors involving anxiety, emotional stability, self-regulation, and other personality traits and characteristics.

One regression equation (model) with the predictor “managing emotions” was formed for the criterion “emotion-oriented coping” ($F = 44.516$; $p = 0.000$; $R^2 = .249$; $p = .000$; $\beta = -.505$; $t = 56.194$; $p = .000$). One regression equation with the predictor “recognizing others’ emotions” ($F = 21.873$; $p = 0.000$; $R^2 = .137$; $p = .005$; $\beta = .380$; $t = 4.677$; $p = .000$) was also formed for “avoidance-oriented coping”. Thus, it is necessary to highlight the role of such a component of emotional intelligence as “recognizing others’ emotions”. It determines the content of both “problem-oriented coping” and “avoidance-oriented coping” to a varying extent.

Our research findings complement a series of studies in this area. Mediation analysis confirmed the role of most parameters of coping strategies as key mediators (Ganesh & Ganesh, 2022). Studies on adolescents established that the relationship between managing emotions and involvement in internalizing and externalizing behaviors is mediated by the use of unproductive coping strategies. Concurrently, the models mediating the relationship between problem behaviors and problem-oriented and unproductive coping strategies appeared to be partially moderated by the predictors “understanding emotions” and “recognizing and expressing emotions” (Downey et al., 2010). We share the opinion of other researchers about the importance of emotional intelligence in the long run. In particular, coping strategies used in early and late adolescence can contribute to the development of more or less adaptive coping models in adulthood (Downey et al., 2010).

Conclusions

“Emotional intelligence” is defined as an integral ability that ensures the recognition and understanding of one’s and others’ emotions, and also the management of emotions for achieving psychological well-being. The intrapsychic dimension of emotional intelligence is based on self-reflection and the ability to comprehend life experiences. The interpersonal dimension is based on the ability to understand others’ emotions. A medium level of interpersonal ability was diagnosed in junior athletes. The respondents’ interpersonal abilities are based on a medium level of “emotional awareness”, a low level of “self-motivation” and a very low level of “managing emotions”. Differences were found in the manifestation of emotional intelligence between junior male athletes and junior female athletes. Girls strive to manage their emotions, demonstrate greater emotional awareness, and are more empathetic in comparison with boys. No statistically significant differences were identified on other scales of the methodology. Junior athletes’ preferences regarding the use of coping strategies in extreme sports situations were studied. Junior athletes (boys and girls) prefer “problem-oriented coping” and “avoidance-oriented coping”. No statistical differences were found between them. Statistically significant differences between girls and boys were identified in “emotion-oriented coping”. In particular, female juniors resort to subjective distraction as one of the variants of avoidance coping more often than male juniors. The predictors determining the content of dominant coping strategies were identified. The decisive role of the predictor “recognizing others’ emotions” in using “problem-oriented coping” was highlighted. “Self-motivation” and “emotional awareness” are accompanying predictors.

It is deemed promising to study junior athletes’ behavior in extreme situations depending on the structure of their personality, the type of sporting activities, professional experience, and the level of sports mastery.

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