

Emotion regulation difficulties among young female athletes in implementing strategies to overcome stressful situations

IHOR POPOVYCH¹, YULIIA BOKHONKOVA², VIKTOR PILETSKYI³, IYURIY SERBIN⁴, OKSANA LOS⁵, ANATOLII SHULDYK⁶, OLHA UHRYN⁷, IHOR HOIAN⁸

^{1,5} Kherson State University, Kherson, UKRAINE

¹ Mykola Yarmachenko Institute of Special Pedagogy and Psychology, NAPS of Ukraine, Kyiv, UKRAINE

^{2,4} Volodymyr Dahl East Ukrainian National University, Kyiv, UKRAINE

⁶ Uman National University, Uman, UKRAINE

⁷ Lviv State University of Internal Affairs, Lviv, UKRAINE

^{3,8} Vasyl Stefanyk Carpathian National University, Ivano-Frankivsk, UKRAINE

Published online: July 31, 2026

Accepted for publication: July 15, 2026

DOI:10.7752/jpes.2026.07126

Abstract:

The aim is to examine young female athletes' difficulties in emotion regulation when implementing strategies to overcome stressful situations: problem-focused coping, emotion-focused coping, and avoidance coping. **Methods:** The sample of female athletes was randomly selected ($n = 122$) from youth sports representatives who trained systematically and competed in cyclic, complex-coordination, team, and individual sports. The sample comprised athletes aged 15–19 ($M = 17.87$; $SD = \pm 3.04$). At the time of the survey, the respondents were healthy (uninjured), trained according to the general program, and participated in Ukrainian and international sports competitions. **Results.** It was found that the values of emotion regulation difficulties were normal in $n = 20$ (16.39%) athletes and moderate in $n = 100$ (81.97%) respondents. Only two respondents (1.64%) were diagnosed with emotional dysregulation. The profile of young athletes' emotion regulation difficulties was visualized using a petal diagram. The key aspects of methodological support for its use were clarified. Eight correlations were identified between emotion regulation difficulties, emotional maturity, and strategies for coping with stressful situations. These correlations determined the dependence of most parameters studied. However, "Impulse", "Self-Regulation", and "Empathy" were found to be autonomous. Strategies for coping with stressful situations were assigned the role of grouping variables. It was found that for "Problem-Focused Coping", the group with low values ranks first across all parameters of emotion regulation difficulties, and the group with high values surpasses it in the emotional maturity parameter – "Expressivity". For "Emotion-Focused Coping", the group with low values ranks first in "Non-Acceptance", "Impuls", and "Empathy", and the group with high values surpasses it in "Purpose". For "Avoidance Coping", only the group with low values shows three superiorities in "Impulse", "Expressivity", and "Self-Regulation". **Discussion and conclusions.** It was justified that young female athletes' emotion regulation difficulties are a combination of psycho-emotional barriers that complicate and impede effective participation in sports and assertive behaviour in their learning, training, competitive, rehabilitative, and leisure activities. It was summarised that the established empirical facts, which possess cognitive value and scientific novelty, should be incorporated in the educational and training process at Olympic reserve sports schools for children and youth.

Keywords: stress, distress, avoidance, mental state, mental health, emotional self-regulation, coping strategies.

Introduction

In the scientific literature, adolescents' self-regulation is defined as the individual's ability to consciously manage their psycho-emotional states and behaviours, grounded in the development of emotional intelligence and self-awareness. M. Boryshevsky (2012) underscores that during this period, self-regulation is characterised by qualitative and quantitative development; it gains depth, coherence, and comprehensiveness. However, it can cause difficulties due to the individual's rapid growth. In youth sports, emotional self-regulation is considered the young athlete's ability to deliberately manage their emotions, states, and feelings to achieve stability and high performance (Afanasyeva & Datii, 2025) and to persist in attaining winning outcomes (Popovych et al, 2020). In adolescence, this process becomes more conscious and relies on internal values and self-control rather than solely on a coach's instructions. Young athletes' emotion regulation difficulties stem from a specific combination of the high psycho-emotional demands of sports and age-related physiological changes. This often entails selecting maladaptive coping strategies, which negatively affect outcomes and mental health (Regborn et al., 2025).

The main emotion regulation difficulties stem from excessive emotional sensitivity and neuroticism. It was found that females, unlike males, often exhibit a higher tendency toward anxiety and overreaction (Bykova,

2015). Difficulties in recognising and defining one's psycho-emotional states may precede the selection of maladaptive coping strategies (Sak & Fedotova, 2023). In early adolescence, athletes often avoid professional support out of fear of appearing weak in the eyes of others, particularly of significant ones, which impedes timely intervention (Regborn et al., 2025). Emotion regulation difficulties include problems with impulse control and the lack of emotional clarity in stressful situations (Chebykin, 1999). Athletes' empathy development, ability to empathise, sympathise, and understand the emotions of subjects in sports activities may significantly affect the course of action, improve the microclimate, and serve as their effective psychological resource (Petrovska et al., 2021). Young female athletes are more inclined to emotion-focused coping, which has its own patterns. In particular, in stressful competitive situations, females are more likely to use "Detachment" or "Avoidance" strategies that is more evident among elite female athletes (Hajji et al., 2021; Nuetzel, 2023). Female athletes tend to seek emotional and instrumental support from others (Nuetzel, 2023). Some studies show that female athletes often resort to suppressing their emotions rather than reappraising and processing them cognitively (Kolomiychuk & Shulga, 2020; Molina et al., 2018). Hiding emotions and the desire to suppress them may lead to emotional burnout. The research focuses on the cognitive reconstruction as an adaptive strategy, which involves changing attitudes toward the situation. However, implementing this coping strategy requires special training. The research by V. Plokhikh et al. (2025) and I. Popovych et al. (2026) conducted on samples of young athletes highlights the role of productive coping strategies that activate defence mechanisms, which are relevant to stressful situations in young female athletes' sports activities.

The consequences of emotion regulation difficulties pose a great threat, which, according to K. O'Brien McManama et al. (2021), affects psychosomatics and leads to depression. In particular, up to 35.00% of female athletes experience depression symptoms. Moreover, young female athletes are exposed to anxiety disorders twice as often as young male athletes. Another consequence, which disturbs all athletes and coaches, is the risk of injury. The psychosomatic component and the process of conscious or unconscious regulation of one's emotional states through the influence on physiological processes in the body have been thoroughly examined in modern studies (Kozin et al., 2026; Tamminen et al., 2025; Qadir et al., 2024). It was found that anxiety symptoms increase the likelihood of being injured by 1.9 times. As a result, the aforementioned facts lead to lower confidence. It was established that about 40.00% of young athletes have difficulties in managing their emotions during competitions, which undermines their self-confidence (Mao, 2025). Empirical studies show that implementing psychological support programmes, cognitive-behavioral therapy, and mindfulness practices to develop self-regulation skills is an effective solution for overcoming emotion regulation difficulties (Mao, 2025; Saravanan et al., 2026).

V. Klochko (2007) lists the inability to independently cope with pre-race anxiety, excessive nervousness, or apathy among difficulties in emotional self-regulation. There may be difficulties with volitional regulation, which entail problems with mobilising effort to overcome fatigue, the monotony of training, or pain. In turn, it causes difficulties in attention management. Young female athletes who have such difficulties are unable to focus on technical elements for long periods of time or promptly switch attention in changing conditions of competitive activities or a specific intense competition. The research by A. Chebykin (1999), relevant to our study, considers emotional maturity an integral characteristic of the individual, grounded in the interaction among cognitive, behavioural, and motivational components, which enables them to adjust to difficult life situations. The emotionally mature young female athlete can effectively interact with others, manage stress, and make informed decisions in extreme conditions of competitive activity (Chebykin, 1999; Prabowo et al., 2024).

Young female athletes' emotion regulation difficulties are viewed as a combination of psycho-emotional and physiological barriers that complicate and impede effective participation in sports and assertive behaviour in learning, training, rehabilitative, and leisure activities.

Hypothesis. It is assumed that: 1) young female athletes' emotion regulation difficulties and emotional maturity will significantly correlate with strategies for overcoming stressful situations; 2) young female athletes' emotion regulation difficulties and emotional maturity parameters will show significant differences across the grouping variables of coping strategies.

Aim. To examine young female athletes' emotion regulation difficulties in implementing strategies for overcoming stressful situations: problem-focused coping, emotion-focused coping, and avoidance coping.

Methods

Participants. The sample, totalling $n = 122$ subjects, was randomly selected from young female athletes who engaged in sports either as professionals or amateurs. Young female athletes represented the following sports: 1) cyclic: track and field (running), swimming, and rowing; 2) complex coordination: artistic gymnastics; 3) team: handball and volleyball; 4) individual: tennis, track and field (jumping). Most respondents were trained and educated at Olympic reserve sports schools for children and youth, and belonged to the academies of professional clubs. At the time of the survey, all respondents, aged 15 to 19 ($M = 17.87$; $SD = \pm 3.04$), were healthy (uninjured), trained according to the general programme, and participated in all-Ukrainian and international sports competitions.

Organisation of Research. The design of a confirmatory research strategy involved using grouping variables based on the key measurements. Therefore, the study was considered comparative. Between September 2025 and March 2026, empirical data were collected. Standard forms created in Google Forms were used. Firstly, respondents confirmed voluntary and informed consent to participate in the survey. Then, they moved on to the survey. The research was approved by the Ethics Committees and Educational and Methodological Councils of the higher education institutions represented by the research organisers. After receiving consent from administrations and respondents' coaches, an anonymous survey was conducted. The approval process lasted three months. All requirements set out in the principles of the Declaration of Helsinki were met. This approach to conducting research ensured statistical reliability (Tabl. 1) of the empirical data obtained.

Procedures and Instruments. To differentiate and identify respondents' emotion regulation difficulties, the methodology "Difficulties in Emotion Regulation Scale" (DERS) (Gratz & Roemer, 2004), adapted for a Ukrainian sample (Sak & Fedotova, 2023), was used. This psychodiagnostic tool is based on the theoretical conceptualization of emotion regulation as involvement: recognising and understanding emotions, accepting emotions, and the ability to engage in purposeful behaviour and to control impulsive behaviour while experiencing negative emotions, and to access effective emotion regulation strategies. The methodology contains thirty-six statements, a direct five-point Stapel scale, one general indicator, and six subscales. The general indicator of emotion regulation is an overall score for all statements. Empirical evidence indicates that a score of 74 or less falls within the norm, whereas a score of 118 or more indicates emotional dysregulation. Six subscales were identified: 1) the Non-Acceptance Scale (NA) measures negative secondary emotional reactions either to one's own negative emotions or non-acceptance of responses to one's own distress; 2) the Purpose Scale (P) assesses difficulties in goal-directed behaviour, particularly concentration and task performance that occur when the individual experiences negative emotions; 3) the Impulse Scale (I) evaluates difficulties in impulse control, i.e. measures difficulties in controlling one's behaviour that occur when the individual experiences negative emotions; 4) the Awareness Scale (A) assesses emotion awareness, i.e. measures difficulties and/or the unwillingness to attend to emotions or acknowledge them; 5) the Strategy Scale (S) assesses emotion regulation strategies; 6) the Clarity Scale (C) evaluates emotional clarity and shows how well respondents recognise and clearly understand their emotions. The measurement ranges of the scales and high values of Cronbach's alpha (α) are given in Tabl. 1. The methodology "Emotional Maturity Assessments" (EMA) (Chebykin, 1999) was employed to assess respondents' emotion regulation based on the following criteria: Expressivity (E), which identifies the expressiveness of emotions, their transformation into actions, and the ability to convey one's mood to others; Self-Regulation (SR) that is the ability to manage one's emotions, regulating one's own behaviour and others' behaviours; Empathy (Ep) that is considered the ability to understand others' emotional states inspiring their trust. The questionnaire consists of forty-two statements, three main scales, and the openness scale. Respondents' data that scored low on the openness scale were excluded. The measurement ranges of the three main scales of the methodology "EMA" (Chebykin, 1999) and reliability parameters measured by Cronbach's alpha (α) are given in Tabl. 1. To assess young female athletes' strategies for overcoming stressful situations, the methodology "Brief-COPE" (Carver, 1997), adapted for a Ukrainian sample by T. Yablonska et al. (2023), was used. This methodology was employed to identify the following types of coping behaviours: Problem-Focused Coping (PFC); Emotion-Focused Coping (EFC), and Avoidance Coping (AC). The methodology consists of twenty-eight statements and a four-point direct Stapel scale. The measurement ranges of the scales and the values of Cronbach's alpha (α) are given in Tabl. 1.

Table 1. Measurement ranges of the scales and statistical reliability of the psychodiagnostic tool

Scale	Measurement range	Cronbach (α)
"DERS" (Gratz & Roemer, 2004)		
Overall score (OS)	36.00 – 180.00	.809
Non-Acceptance (NA)	6.00 – 36.00	
Purpose (P)	6.00 – 36.00	
Impulse (I)	6.00 – 36.00	
Awareness (A)	6.00 – 36.00	
Strategy (S)	6.00 – 36.00	
Clarity (C)	6.00 – 36.00	
"EMA" (Chebykin, 1999)		
Expressivity (E)	.00 – 12.00	.941
Self-Regulation (SR)	00 – 12.00	
Empathy (Ep)	00 – 12.00	
"Brief-COPE" (Carver, 1997)		
Problem-Focused Coping (PFC)	8.00 – 36.00	.877
Emotion-Focused Coping (EFC)	12.00 – 48.00	
Avoidance Coping (AC)	8.00 – 36.00	

Note: Cronbach (α) – statistical reliability (Cronbach's alpha). Source: Own research.

Statistical Analysis. "IBM SPSS Statistics", version 29.0.0.0 (241), was employed to analyse descriptive frequency characteristics, normality, statistical reliability, correlations, and comparisons based on grouping variables. Bivariate significant correlations and differences at $p \leq .050$, $p \leq .010$ and $p < .001$ were interpreted.

Results

The research strategy involved measuring descriptive frequency characteristics: the mean (M), the median (Me), the squared deviation (SD), asymmetry (A), and excess (E). The mean and the squared deviation are important parameters that ensure the reproducibility of research and allow assessing the sample's parameters. The median is the key parameter for comparing independent samples using Student's *t*-test.

Asymmetry (A) and Excess (E) were applied to test data for normality, which was verified using the one-sample Kolmogorov-Smirnov test (λ). The above parameters were measured using three psychodiagnostic tools, the "DERS" (Gratz & Roemer, 2004), the "EMA" (Chebykin, 1999), and the "Brief-COPE" (Carver, 1997), and given in Tabl. 2.

Table 2. Descriptive statistics across the research methodologies (n = 122)

Scale	M	Me	SD	Normal distribution ^a		
				A	E	K-Sb (p) ^b
"DERS" (Gratz & Roemer, 2004)						
Overall score (OS)	90.83	93.00	±16.80	-.461	-.546	<.001
Non-Acceptance (NA)	13.52	14.00	±4.36	-.228	-.912	<.001
Purpose (P)	13.56	13.50	±3.36	.204	.510	.006
Impulse (I)	14.50	14.50	±4.32	.093	-.547	<.001
Awareness (A)	17.25	17.00	±3.07	.717	.637	<.001
Strategy (S)	20.02	21.00	±4.93	-.269	-.190	<.001
Clarity (C)	11.99	12.00	±3.16	-.170	.029	<.001
"EMA" (Chebykin, 1999)						
Expressivity (E)	6.84	7.00	±1.74	.036	.307	<.001
Self-Regulation (SR)	3.48	3.00	±1.35	.125	-.361	<.001
Empathy (Ep)	7.34	7.00	±1.86	.338	.118	<.001
"Brief-COPE" (Carver, 1997)						
Problem-Focused Coping (PFC)	18.34	18.00	±3.29	-.127	-.810	.004
Emotion-Focused Coping (EFC)	29.64	31.00	±4.81	-.934	.633	<.001
Avoidance Coping (AC)	18.72	19.00	±3.11	-.222	.072	<.001

Note: M – the mean; Me – the median (given *in italics*); SD – the squared deviation; ^a – following a normal distribution; ^b – according to the one-sample Kolmogorov-Smirnov Test (λ); p – the level of significance; A – asymmetry; E – excess; K-Sb – the Kolmogorov-Smirnov Test (λ).

Source: Own research.

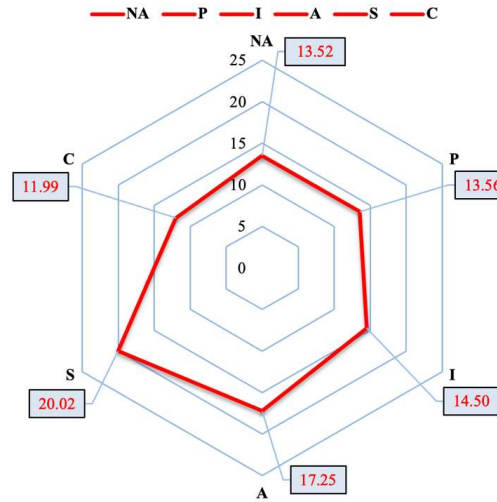
The empirically measured Overall Score (OS) showed that (n = 20; 16.39%) respondents had normal values of emotion regulation difficulties, (n = 100; 81.97%) subjects showed medium values, and the two remaining respondents had severe emotional dysregulation (n = 2; 1.64%). These empirical data are considered favourable since a small percentage of young female athletes were diagnosed with emotional dysregulation (1.64%). At the same time, the fact that a small percentage of respondents exhibited normal values of emotion regulation difficulties (16.39%) causes concern.

The mean value of emotion regulation difficulties (M = 90.83; SD = ± 16.80) is typical and does not contradict the sample's characteristics. The "Strategy" is the most pronounced parameter in this age period (M = 20.02; SD = ± 4.93), indicating that representatives of youth sports resort to strategies to regulate their psycho-emotional states. According to the methodology "EMA" (Chebykin, 1999), the lowest value of the "Self-Regulation" parameter (M = 3.48; SD = ± 1.35) differs significantly from other parameters.

However, this value corresponds to typical development and underscores the importance of self-regulation at this age. The data on coping strategies obtained using the "Brief-COPE" (Carver, 1997) do not contradict the average data from the adapted version of the methodology (Yablonska et al., 2023).

The retrospective analysis of theoretical and methodological literature relevant to our research subject allowed creating a profile of young female athletes' emotion regulation difficulties (Fig. 1).

Profile of emotional regulation difficulties in young female athletes



Note: — contour of emotion regulation difficulties; NA – non-acceptance; P – purpose; I – impulse; A – Awareness; S – strategy; C – clarity.
Source: Own research.

Fig. 1. Profile of emotion regulation difficulties in young female athletes

A petal diagram was used to visualise this profile. The red contour defines the parameter of respondents' emotion regulation difficulties. The outlined area is a quantitative measurement of these difficulties. When analysing, attention should be paid to parameter values, peak values, and parameter combinations. Some combinations may pose a serious threat. For instance, respondents diagnosed with severe emotional dysregulation ($n = 2$; 1.64%) exhibit extremely high values of almost all six parameters. However, difficulties in "Awareness" (25.00) and "Strategy" (33.00) are most pronounced. It is advisable to create personal profiles, compare them, and consider them in preparation for competitions and team-building. Tabl. 3 presents the correlation matrix of emotion regulation difficulties, emotion maturity, and strategies for overcoming stressful situations. Since the data followed a normal distribution, Pearson's coefficient (R) was used to assess bivariate correlations.

Table 3. Correlation matrix of emotion regulation difficulties, emotional maturity, and strategies for overcoming stressful situations ($n = 122$)

Scale	Pearson's coefficient	Strategies for overcoming stressful situations		
		Problem-Focused Coping (PFC)	Emotion-Focused Coping (EFC)	Avoidance Coping (AC)
Non-acceptance (NA)	R	-.206*	.001	.236**
	p	.023	.989	.009
Purpose (P)	R	-.212*	-.006	.009
	p	.019	.945	.918
Impulse (I)	R	-.084	-.106	.004
	p	.356	.244	.962
Awareness (A)	R	-.192*	.115	.031
	p	.034	.209	.731
Strategy (S)	R	-.170	.021	.253**
	p	.061	.816	.005
Clarity (C)	R	-.172	-.019	.217*
	p	.058	.838	.016
Expressivity (E)	R	.308***	-.282**	-.131
	p	<.001	.002	.152
Self-Regulation (SR)	R	.126	.022	-.163
	p	.165	.814	.073
Empathy (Ep)	R	.069	-.035	.101
	p	.452	.699	.270

Note: * – $p \leq .050$; ** – $p \leq .010$; *** – $p \leq .001$.

Source: Own research.

Eight correlations, including four direct and four inverse correlations, were established between the studied parameters. The inverse correlation between problem-focused coping and such emotion regulation difficulties as non-acceptance ($R = -.206$; $p = .023$), purpose ($R = -.212$; $p = .019$), and awareness ($R = -.192$; $p = .034$) is considered logical. Expressivity as a structural component of emotional maturity directly correlates with problem-focused coping ($R = .308$; $p < .001$) and inversely correlates with emotion-focused coping ($R = -.282$; $p = .002$). Avoidance coping showed direct correlations with the following emotion regulation difficulties: non-acceptance ($R = .236$; $p = .009$), strategy ($R = .253$; $p = .005$), and clarity ($R = .217$; $p = .016$). These correlations attest to the dependence of most studied parameters. The parameters "Impulse", "Self-Regulation", and "Empathy" were found to be autonomous. According to the research design, strategies for overcoming stressful situations were assigned the role of grouping variables. Two groups were compared: Group 1 ($n = 66$; 54.10%) with low values of problem-focused coping and Group 2 ($n = 56$; 45.90%) with high values of problem-focused coping. Student's t-test was used to compare two independent samples. Cohen's d and Levene's test (F) allowed measuring effect sizes in comparisons. The Bonferroni correction (α) was used for multiple comparisons. Tabl. 3 presents comparisons of emotion regulation difficulties and emotional maturity based on the grouping variable "Problem-Focused Coping" in Group 1 and Group 2.

Table 4. Comparison of emotion regulation difficulties and emotional maturity based on the grouping variable "Problem-Focused Coping"

Scale	Levene's test		Student's t-test for the equality of variances				Cohen's d
	F	p	t	p ^a	95 CI		
					Lower	Upper	
NA	.995	.321	3.505	<.001	1.154	4.152	.637
P*	8.596	.004	3.849	<.001	1.107	3.463	.719
I*	9.736	.002	2.630	.002	.509	3.650	.494
A	.089	.766	3.654	<.001	.889	2.991	.664
S*	13.773	<.001	2.656	.002	.603	4.175	.497
C*	7.015	.009	1.498	.023	-.284	2.037	.279
E*	23.677	<.001	-2.926	.001	-1.561	-.299	-.552
SR	.246	.621	-1.402	.054	-.826	.141	-.255
Ep*	14.200	<.001	.454	.217	-.537	.855	.085

Note: Group 1 – respondents with low values of problem-focused coping; Group 2 – respondents with high values of problem-focused coping; * – Welch's test was used; F – Levene's test for the equality of variances (bivariate); p – significance level; ^a – Bonferroni correction (α); t – Student's t-test; 95 CI – confidence interval; Cohen's d – effect size; $p \leq .050$; $p \leq .010$ and $p < .001$, the data is given *in italics*; NA – non-acceptance; P – purpose; I – impulse; A – awareness; S – strategy; C – clarity; E – expressivity; SR – self-regulation; Ep – empathy.

Source: Own research.

Seven significant superiorities were identified. Logically, Group 1 shows superiority only in the parameters of emotion regulation difficulties, and Group 2 surpasses it in the parameter of emotional maturity – expressivity ($t = -2.926$; $p = .001$). The overwhelming superiority of the group with low values of problem-focused coping (Group 1) across all parameters indicates the importance of all emotion regulation difficulties and a sufficient balance among them. Tabl. 5 presents comparisons of emotion regulation difficulties and emotional maturity based on the grouping variable "Emotion-Based Coping" in Group 1 ($n = 70$; 57.38%) and Group 2 ($n = 52$; 42.62%).

Table 5. Comparison of emotion regulation difficulties and emotional maturity based on the grouping variable "Emotion-Focused Coping"

Scale	Levene's test		Student's t-test for the equality of variances				Cohen's d
	F	p	t	p ^a	95 CI		
					Lower	Upper	
NA	1.520	.220	1.233	.037	-.594	2.557	.226
P	1.703	.194	-1.255	.035	-1.988	.445	-.230
I*	4.634	.033	2.893	<.001	.677	3.613	.511
A	.315	.576	.344	.122	-.922	1.310	.063
S	.004	.951	-.508	.102	-2.254	1.334	-.093
C	3.282	.073	-.025	.163	-1.165	1.136	-.005
E*	8.459	.004	1.379	.057	-.182	1.019	.241
SR	1.530	.219	.503	.205	-.366	.6155	.092
Ep*	5.354	.022	2.668	.003	.220	1.487	.470

Note: Group 1 – respondents with low values of emotion-focused coping; Group 2 – respondents with high values of emotion-focused coping; * – Welch's test was used; F – Levene's test for the equality of variances (bivariate); p – significance level; ^a – Bonferroni correction (α); t – Student's t-test; 95 CI – confidence interval; Cohen's d – effect size; $p \leq .050$; $p \leq .010$ and $p < .001$, the data is given *in italics*; NA – non-acceptance; P – purpose; I – impulse; A – awareness; S – strategy; C – clarity; E – expressivity; SR – self-regulation; Ep – empathy. Source: Own research.

Four significant differences were identified. Three differences were found in Group 1 in the following parameters: "Non-Acceptance" ($t = 1.233$; $p = .037$), "Impulse" ($t = 2.893$; $p < .001$), and "Empathy" ($t = 2.668$; $p = .003$). Group 2 shows superiority in "Purpose" ($t = -1.255$; $p = .035$). Tabl. 6 presents comparisons of emotion regulation differences and emotional maturity across the grouping variable "Avoidance Coping" in Group 1 ($n = 72$; 59.02%) and Group 2 ($n = 50$; 40.98%).

Table 6. Comparisons of emotion regulation difficulties and emotional maturity based on the grouping variable "Avoidance Coping"

Scale	Levene's test		Student's t-test for the equality of variances				Cohen's d
	F	p	t	p ^a	95 CI		
					Lower	Upper	
NA	1.364	.245	.010	.165	-1.587	1.602	.002
P	.312	.577	-.607	.091	-1.607	.852	-.112
I	1.586	.210	1.897	.010	-.066	3.048	.349
A	1.120	.292	.197	.141	-1.011	1.234	.036
S	2.971	.087	-.587	.093	-2.337	1.269	-.108
C	3.451	.066	-.955	.057	-1.709	.596	-.176
E	.634	.428	2.236	.009	.081	1.329	.412
SR	3.427	.067	2.920	.001	.227	1.181	.537
Ep	2.028	.157	-.019	.328	-.686	.6730	-.004

Note: Group 1 – respondents with low values of avoidance coping; Group 2 – respondents with high values of avoidance coping; F – Levene's test for the equality of variances (bivariate); p – significance level; ^a – Bonferroni correction (α); t – Student's t-test; 95 CI – confidence interval; Cohen's d – effect size; $p \leq .050$; $p \leq .010$ and $p < .001$, the data is given *in italics*; NA – non-acceptance; P – purpose; I – impulse; A – awareness; S – strategy; C – clarity; E – expressivity; SR – self-regulation; Ep – empathy.

Source: Own research.

Three significant superiorities were found in Group 1: "Impulse" ($t = 1.897$; $p = .010$), "Expressivity" ($t = 2.236$; $p = .009$), and "Self-Regulation" ($t = 2.920$; $p = .001$). Group 2 showed no superiority.

Discussion

The issue of emotion regulation difficulties in sports prompts scientists to seek latent mental resources. This is evidenced by the growing interest in self-regulation and emotion regulation (Wergin et al., 2025; Zuo & Bai, 2025), resilience and stress resistance in sports activities (Ihsan et al., 2025). Other studies on social issues also highlight that safety and risk directly depend on the "human factor" and on the individual's behaviour and emotion regulation (Mamenko et al., 2022; Zinchenko et al., 2022). Young athletes' ability to manage their psycho-emotional states is crucial to great victories. Retrospective analysis of emotion regulation confirms the relevance, importance, and specificity of studying this subject in a homogeneous sample of young female athletes.

The descriptive frequency characteristics and the normality of data assessed in the study revealed an interesting empirical picture (see Tabl. 2). On the one hand, emotional dysregulation was recorded only in two respondents, which is a fairly positive result. At the same time, only $n = 20$ (16.39%) young female athletes have no problems with emotion regulation. The normal value, which is five times less than the average value ($n = 100$), causes concern. Notably, the obtained empirical data follow a normal distribution (see Tabl. 2) and are characterised by statistical reliability (see Tabl. 1). The profile of young female athletes' emotion regulation difficulties visualised with a petal diagram (see Fig. 1) is a tested and effective tool for providing methodological support for educational and training activities. It is important that these elements should be automated and that individual cross-sections should be examined several times per season.

Creating a correlation matrix is a necessary statistical operation for the type of research like ours (see Tabl. 3). The chosen design of a correlation matrix was meant to test correlations between emotion regulation difficulties, emotional maturity, and strategies for overcoming stressful situations. Despite the dependence of most correlations, one parameter of emotion regulation difficulties – "Impulse" – was found to be autonomous. This suggests that it is difficult for young female athletes to control their behaviour and make decisions in stressful situations. Notably, this is not about productive or unproductive coping strategies, since, in general, they are unable to make any decision. Emotions take over, leading to chaotic actions that young female athletes may later regret or blame themselves for. It is noteworthy that the autonomy of "Impulse" makes it rather dangerous in the context of young female athletes' emotion regulation difficulties. Two parameters of emotional maturity – "Self-Regulation" and "Empathy" – were also found to be autonomous. This suggests that young female athletes' self-regulation enables them to consciously manage their psycho-emotional states, adapt to overexertion, maintain stability, and remain calm in stressful competitive situations. Since self-regulation actively develops and acquires new meanings in adolescence, timely decisions in difficult competitive situations can account for the lack of correlations. Lack of empathy, as the ability to empathise and sympathise, also reduces the psycho-emotional potential of involvement in choosing coping strategies. Therefore, autonomy of the above parameters is natural and explainable.

According to the research plan, all strategies for overcoming stressful situations – problem-focused coping, emotion-focused coping, and avoidance coping – were assigned with the role of the grouping variable, which is of cognitive value (see Tabl. 4–6). The grouping variable "Problem-Focused Coping" (see Tabl. 4) most clearly demonstrated statistical differences. It is obvious that all sports activities, including competitive, learning, and training activities, constantly encourage athletes to focus on problems. Notably, the dominance of "Problem-Focused Coping" is a fairly rational and successful strategy. However, high rigidity and inability to switch to developing one's strengths may pose a threat to athletes using problem-focused coping. The empirical picture of significant differences identified for the grouping variable "Emotion-Focused Coping" is somewhat different (see Tabl. 5). The group with low values (Group 1) showed superiority in "Non-Acceptance", "Impulse", and "Empathy", and the group with high values (Group 2) surpassed it in "Purpose". Excessive emotionality and focus on emotions can lead to young athletes' superiority in "Purpose". However, the downside is that excessive emotionality may not affect their opponents. In other words, the emotion-based strategy will be counteracted by opponents' rationality and high self-control. During the competition, this may lead to unwanted emotional exhaustion. In sports, such situations are sometimes referred to as "running out of emotions". Experiencing emotional numbness, young female athletes cannot make themselves do their best, even when they are physically ready. The facts established in our research are confirmed in other studies (Sak & Fedotova, 2023). For the grouping variable "Avoidance Coping", only the group with low values (Group 1) shows three superiorities in the parameters "Impulse", "Expressivity", and "Self-Regulation" (see Tabl. 6). It is clear that the tendency to choose the non-productive avoidance strategy shows significant values in those parameters that demonstrated high values according to the correlation matrix (see Tabl. 3). Avoidance behaviour in learning, training, and competitive activities is considered an attempt to make at least some decisions.

The aim was achieved, three statistical hypotheses were confirmed, and the findings were justified. The cognitive value and scientific novelty of the study provide grounds for asserting its practical and theoretical significance. Young female athletes' emotion regulation difficulties in implementing strategies for overcoming stressful situations and comparisons with emotional maturity parameters clarify the current empirical picture quite convincingly.

Different statuses of respondents constitute the research limitations: some were internally displaced people, some trained in normal conditions, some were migrants training and competing abroad, and others stayed near the combat zone. The aforementioned limitations do not diminish the value of our study. However, there is a caveat regarding the legitimacy of generalising the study results to the total population. The research is rather a successful empirical technology and a situational cross-sectional confirmatory study. The study does not exhaust all problems related to emotion regulation difficulties, but rather outlines their key aspects. The prospects for further research can be seen in creation, theoretical substantiation, visualisation, and experimental verification of the structural and functional model of young female athletes' emotion regulation difficulties.

Conclusions

It was substantiated that young female athletes' emotion regulation difficulties are a combination of psycho-emotional and physiological barriers that complicate and impede effective participation in sports and assertive behaviour in learning, training, competitive, rehabilitative, and leisure activities. The study clarified the importance of examining emotion regulation difficulties on a homogenous sample of young female athletes ($n = 122$). It was found that the values for emotion regulation difficulties fell within the normal range in $n = 20$ (16.39%) female athletes; $n = 100$ (81.97%) respondents showed medium values, and only two subjects (1.64%) were diagnosed with emotional dysregulation. A petal diagram was used to create a profile of young female athletes' emotion regulation difficulties. It was highlighted that it should be used systematically. A correlation matrix was created for emotion regulation difficulties, emotional maturity, and strategies for overcoming stressful situations. It revealed the dependence of almost all studied parameters. The parameters "Impulse", "Self-Regulation", and "Empathy" were found to be autonomous. The autonomy of "Impulse" was explained by the difficulty young female athletes have in controlling their behaviour and making any decisions in stressful situations. Comparisons based on the grouping variables of strategies for overcoming stressful situations allowed identifying significant differences. It was found that for "Problem-Focused Coping", the group with low values shows superiority in all parameters of emotion regulation difficulties, and the group with high values surpasses it in the parameter of emotional maturity – "Expressivity". For "Emotion-Focused Coping", the group with low values ranks first in "Non-Acceptance", "Impulse", and "Empathy", and the group with high values surpassed it in "Purpose". For "Avoidance Coping", only the group with low values showed three superiorities in "Impulse", "Expressivity", and "Self-Regulation". It is recommended that the results obtained should be implemented in the educational and training process at Olympic reserve sports schools for children and youth.

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 study 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.

Funding

No funding was received.

References:

- Afanasyeva, N. E., & Datii, E. S. (2025). The impact of physical activity on emotional self-regulation women. *Habitus*, 2(79), 31–35. <https://doi.org/10.32782/hbts.79.2.6>
- Boryshevsky, M. Y. (2012). Personality in dimensions of self-awareness. Sumy: "Ellada" publishing house.
- Bykova, S. V. (2015). Peculiarities of the emotional intelligence of men. *Science and Education*, 10, 126–130.
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4, 92–100. https://doi.org/10.1207/s15327558ijbm0401_6
- Chebykin, A. Ya. (1999). Theory and methodology of emotional regulation of educational activity. Odessa: AstroPrint. URL: <http://dspace.pdpu.edu.ua/handle/123456789/104>
- Gratz, K. L., & Roemer, L. (2004). Multidimensional Assessment of Emotion Regulation and Dysregulation: Development, Factor Structure, and Initial Validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment*, 26, 41–54. <https://doi.org/10.1023/B:JOBA.0000007455.08539.94>
- Hajji, J., Bettayeb, A., Fekih, S., Guerchi, M., Bragazzi, N., Azaiez, F., & Elloumi, A. (2021). The Coping Strategies Used by Young Tunisian Athletes in Individual and Collective Sports. *Psychiatry International*, 2(3), 277–286. <https://doi.org/10.3390/psychiatryint2030021>
- Ihsan, F., Sukendro, S., Kozina, Z., Yusradinafi, Y., Kurniawan, A., & Pratiwi, A. S. (2025). Optimizing a resistance training program to increase muscle strength: a comprehensive planning approach – a systematic review. *Retos: nuevas tendencias en educación física, deporte y recreación*, 62, 232–242. <https://doi.org/10.47197/retos.v62.106279>
- Klochko, V. M. (2007). Health Psychology. Psychophysical Self-Regulation. Kharkiv: KhNAMG.
- Kolomiets, L. I., & Shulga, G. B. (2020). Peculiarities of strategies of emotional self-regulation of young people. *Habitus*, 18(2), 66–71. <https://doi.org/10.32843/2663-5208.2020.18.2.12>
- Kozin, S., Cretu, M., Kozina, Z., Boychuk, Y., Pavlovic, R., Korobeinik, V., & Batyuk, L. (2026). Pedagogical and biomechanical aspects of injury prevention in sports with changing circumstances and coach training: a systematic review with bibliometric analysis. *Health, Sport, Rehabilitation*, 12(1), 128–150. <https://doi.org/10.58962/HSR.2026.1328>
- Mamenko, P., Zinchenko, S., Kobets, V., Nosov, P., & Popovych, I. (2022). Solution of the Problem of Optimizing Route with Using the Risk Criterion. In: Babichev, S., Lytvynenko, V. (eds). *Lecture Notes in Computational Intelligence and Decision Making*. ISDMCI 2021. *Lecture Notes on Data Engineering and Communications Technologies*, 77. Springer, Cham. https://doi.org/10.1007/978-3-030-82014-5_17
- Mao, Z. (2025). Advancements in research on psychological and emotional aspects of student-athletes. *Frontiers in psychology*, 16, 1645177. <https://doi.org/10.3389/fpsyg.2025.1645177>
- McManama O'Brien, K. H., Rowan, M., Willoughby, K., Griffith, K., & Christino, M. A. (2021). Psychological Resilience in Young Female Athletes. *International Journal of Environmental Research and Public Health*, 18(16), 8668. <https://doi.org/10.3390/ijerph18168668>
- Molina, V. M.; Oriol, X., & Mendoza, M. C. (2018). Emotional regulation and physical recovery in young athletes of individual and collective sport modalities. *RICYDE. Revista internacional de ciencias del deporte*, 53(14), 191–204. <https://doi.org/10.5232/ricyde2018.05301>
- Nuetzel, B. (2023). Coping strategies for handling stress and providing mental health in elite athletes: a systematic review. *Frontiers in Sports Active Living*, 5, 1265783. <https://doi.org/10.3389/fspor.2023.1265783>
- Petrovska, T., Kulish, N., Kostiukevych, V., Sluhenska, R., Reshetilova, N., & Yerokhova, A. (2021). Research of Emotional Intelligence as a Psychological Resource of an Athlete. *Sport Mont*, 19(S2), 57–61. <https://doi.org/10.26773/smj.210910>

- Plokhikh, V., Popovych, I., Savchuk, O., Shevchenko, N., Hoian, I., & Petraniuk, A. (2025). Time Orientations of Ukrainian Students with Traumatic Experiences. *The New Education Review*, 82, 9–23. <https://doi.org/10.15804/ther.2025.82.4.01>
- Popovych, I., Blynova, O., Savchuk, O., Zasenkov, V., & Prokhorenko, L. (2020). Expectations of a winning result in women's handball team: comparison of different age groups. *Journal of Physical Education and Sport*, 20(5), 2709–2717. <https://doi.org/10.7752/jpes.2020.05369>
- Popovych, I., Karpenko, Y., Matusiak, H., Dobrovolska, N., Scolota, E., Kalenchuk, V., & Hoian, I. (2026). Emotional intelligence in shaping junior athletes' productive coping strategies. *Health, Sport, Rehabilitation*, 12(1), 8–25. <https://doi.org/10.58962/HSR.2026.1331>
- Prabowo, T. A., Sukamti, E. R., Tomoliyus, F., & Hartanto, A. (2024). Emotional maturity and self-control as predictors of boxing athlete aggressiveness: Is it proven? *Fizjoterapia Polska*, 24(1), 83–90.
- Qadir, N. A., Darwesh, N. H., Hamad, A. S., & Cretu, M. (2024). A comparative study of kinetic balance and static balance among football, volleyball, basketball, and handball team game players using the Balance Error Scoring System test. *Health, Sport, Rehabilitation*, 10(4), 51–61. <https://doi.org/10.58962/HSR.2024.10.4.51-61>
- Regborn, F. F., Holmström, S., Svensson, M., & Sjögren, M. (2025). Emotion Regulation and Mental Health in Young Elite Athletes. *Sports (Basel, Switzerland)*, 13(9), 284. <https://doi.org/10.3390/sports13090284>
- Sak, L. V., & Fedotova, Z. V. (2023). CROSS-cultural adaptation and validation of the Ukrainian version of the difficulties in emotional regulation scale (DERS): testing in adolescents with anorexia nervosa and their parents/guardians. *Psychiatry, Neurology and Medical Psychology*, 21, 38–45. <https://doi.org/10.26565/2312-5675-2023-21-05>
- Saravanan, I., Selvam, A., Sanjaykumar, S., Aruchamy, S., Durairaj, P., Sebastia-Amat, S., & Longakit, J. (2026). Alleviating sports anxiety in competitive settings through mindfulness meditation: an experimental study among female athletes. *Health, Sport, Rehabilitation*. <https://doi.org/10.58962/HSR.1349>
- Tamminen, K. A., Bonk, D., Milne, M. J., & Watson, J. C. (2025). Emotion dysregulation, performance concerns, and mental health among Canadian athletes. *Scientific Report*, 15, 2962. <https://doi.org/10.1038/s41598-025-86195-5>
- Wergin, V. V., Wolf, S. A., Schwender, J. T., & Mallett, C. J. (2025). Experienced emotions, emotion regulation strategies, and regulation depletion in collective team collapse and performance recovery situations. *Journal of Applied Sport Psychology*, 37(3), 326–347. <https://doi.org/10.1080/10413200.2024.2413996>
- Yablonska T., Vernyk, O., & Haivoronskyi, H. (2023). Ukrainian Adaptation of the Brief-COPE Questionnaire. *Insight: the psychological dimensions of society*, 10, 66–89. <https://doi.org/10.32999/2663-970X/2023-10-4>
- Zinchenko, S., Tovstokoryi, O., Ben, A., Nosov, P., Popovych, I., Nahrybelnyi, Y. (2022). Automatic Optimal Control of a Vessel with Redundant Structure of Executive Devices. In: Babichev, S., Lytvynenko, V. (eds) *Lecture Notes in Computational Intelligence and Decision Making*. ISDMCI 2021. *Lecture Notes on Data Engineering and Communications Technologies*, 77. Springer, Cham. https://doi.org/10.1007/978-3-030-82014-5_18
- Zuo, J., & Bai, Y. (2025). Emotion regulation, coping strategies, and burnout among Chinese competitive athletes: a mixed-methods study. *BMC Psychology*, 13, 1147. <https://doi.org/10.1186/s40359-025-03458-6>