

Psychological content parameters of attention in the structure of time perspective of young female athletes: comparative analysis

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Abstract:

The purpose of the research is to determine dependence of the parameters of attention on the dominating time perspective and compare significant differences in the representatives of individual and team sports. The research participants are female athletes of sports schools for children and youth. The sample of individual sports (Group 1) included representatives of rhythmic gymnastics and track and field (n = 35; 52.24%). The sample of team sports (Group 2) involved of handball players and volleyball players (n = 32; 47.76%). **Research methods** applied: “Schulte Tables” (Rogov, 1999), “Landolt C Rings”, (Pashukova et al., 1996); “Munsterberg Test” (Pashukova et al., 1996); “Zimbardo Time Perspective Inventory” (Zimbardo & Gonzalez, 1984). **Results.** A graphical structure of young female athletes’ time perspective was created. No significant differences between the parameters of attention between the athletes in individual (Group 1) and team sports (Group 2) were found. The research substantiates that the formation of the parameters of attention in youth does not depend on a kind of sport. Correlations between the parameters of attention and the parameters of time perspective were determined ($p < .05$; $p < .01$). It was established that the future (F) has most significant correlations – four – with the main parameters of attention: stability (.095; $p \leq .05$), concentration (.107; $p \leq .05$), volume (.212; $p \leq .01$) and selectivity (.094; $p \leq .05$). It was emphasized that domination of orientation towards the future in the dimensions of attention is a factor of successful educational and training activities of young female athletes. There were differences between the groups of athletes with different parameters of attention determined by the median (Me). It was proved that the formation of high levels of attention ensures achievement of the results of educational and training activities of young female athletes and focuses their activity in the dimensions of time orientations: the future (F), the hedonistic present (HP), the positive past (PP). **Conclusions.** The obtained empirical facts should be operationalized into educational and training activities at sports schools for children and youth.

Key words: concentration of attention, stability of attention, volume of attention, selectivity of attention, cognitive processes, self-regulation..

Introduction

Attention of an athlete is focus and orientation of their activity towards subjects and objects which are valuable in the context of sporting activities. Concentration and focus of attention often play a crucial role in achieving a sports aim in a competition. An athlete’s concentration of attention manifests itself in their actions at the initial stage of a competition (Dyachkov, 2012). In a pre-competition warm-up of representatives of individual or team sports, one can pay attention to concentration and focus of some athletes and trace their effectiveness during an individual performance or tactical acts in a team game. It was proved that, apart from parameters of attention, pre-game expectations (Popovych et al., 2020) and mental states of expectations (Popovych et al., 2021e; 2022a; Popovych, 2014a; 2014b) also have a crucial impact on the course of events and results of a competition (Popovych et al., 2021c) at this stage. It is obvious that psychological content parameters of attention determine complex processes, characteristics and states of an athlete’s mental activeness. Purposeful observation of some athletes shows that a victory result implies not only efficiency of automatic movements, but also intensive involvement in a competition process, concentration and orientation towards certain objects and actions and also ability to shift attention, demonstrating high selectivity and self-regulation readiness. In the light of such articulation of the above problems, attention should be considered as one of the crucial factors of achieving a sports aim.

The researchers N. Oliynyk and S. Voytenko (2020) highlight that the development of an athlete’s attention plays an important role in tactical training. The authors substantiate that all tactical actions have an identical structure whose components are reception of a sports situation that is a primary (initial) phase of a tactical action.

A further course of an athlete's actions and correctness of their decisions depend on completeness of perception and adequacy of the evaluation of a situation. It was established that an athlete's attention, manifestation of its characteristics – volume, distribution and shift – are very important at this stage. The research on the impact of instructions concerning attention on efficiency of football juggling confirms the above facts. It was established that external focus of attention has a dominating advantage in the formation of such a skill as juggling. The researchers came to a conclusion about priority of external focus of attention in motor training and athletes' performance (Bodasinska et al., 2019). Psychological content parameters of attention are important in psycho-regulation training. It was emphasized that attention allows solving a number of problems: it has an effect on the formation of an optimal fighting state; boosts processes of regeneration of an athlete's work ability; eliminates excessive tension before a competition (Alekseev, 2006).

An athlete's attention is a central link in a chain of memory processes and a necessary precondition for remembering. L. Matveev (2010) holds that it is impossible to maintain a sufficient level of attention when mind focuses on something else. An athlete can be distracted from a successful performance by different obstacles: emotional events, traumatic experience, flashbacks, strong feelings, exhaustion and anxiety. Some exercises for the development of attention are also helpful for training different characteristics of attention (Matveev, 2010: 325). The researchers established correlations between attention, control and volume of working memory and sports results in the context of examination of a moderating role of sports experiences. It was found out that athletes with extensive experience are better at doing tasks on attention, control of working memory and demonstrate a high ability of operative memory (Vaughan & Laborde, 2021). It is obvious that parameters of attention are formed and its characteristics are differentiated in the process of sports training and gaining experience. The attempt to create a psychological profile of female cyclists and combine parameters of age, training loads, sports achievements and frequency of traumas is relatable to the previous studies (Abenza-Cano et al., 2021). The results confirmed significant correlations between experience, frequency of traumas, results and concentration of attention. It was observed that a loss of concentration can cause a trauma. A negative traumatic experience is accompanied by complex procedures of physiological recovery and psychological rehabilitation. There are studies examining three dimensions: a fear of a recurrent trauma; confidence; attention as a signal of a recurrent sports trauma, affecting a possibility of being injured in the following season (Christakou et al., 2022). It was found out that a physical warm-up has an impact on cognitive functions of young athletes, and also selectivity and concentration of attention (Silva-Capella et al., 2021). There was a change in cognitive processes and the level of attention in a group of handball players after neurofeedback-EEG trainings. Changes in the parameter of peripheral perception were registered in a group of handball players (Szczybinska & Mikicin, 2019).

The findings of the study on visual attention are of special scientific interest in the context of our research. On the basis of the studies in neuroscience, it was found out that visual attention in the area of sport expertise, has for sub-processes: orientation attention, selective attention, divided attention and stable attention. The author expects that the use of ecological and complex instructions will allow conducting research on theoretical models of attention with other sciences in the future (Memmert, 2009).

The scientific vector of our research is within time perspective of the representatives of young female athletes. There is a study establishing a correlation between the dominating parameters of time perspective of young athletes and a motivation profile. It was found out that the athletes with the dominating time perspective of the future (F) have most statistically significant correlations. This time perspective has the strongest correlation with the motif of achieving success. It was established that the correlations of the optimal profile of time perspective with public-patriotic, sport-cognitive motifs and the motif of achieving success are significant (Popovych et al., 2022b).

In her research A. Nobre (2001) examined the scientific problem of orientation of attention towards a moment of time. This problem is considered in terms of neuropsychology. The research confirmed the possibility of using a time frame for managing selective attention. A non-invasive methodology allowed identifying the involved systems and mechanisms in brain and establishing that an individual is able to direct attention selectively towards different moments of time, improving behavioral indexes. The left frontal lobe is involved in spatial orientation. The neural system through sensori-motor zones connected with anticipation processes facilitates orientation of attention depending on attributes of a stimulus. It is obvious that optimization of behavioral activity through time orientation has an impact on a delay and amplitude of potentials. These potentials, in their turn, have an impact on movement reactions and decisions. The obtained results demonstrate flexibility of the mechanisms of functions of attention in the human brain (Nobre, 2001). In the context of attention of time perspective, the researchers focused on the fourth dimension – time expectations. Time expectations play a fundamental role in the formation of productivity, from early analysis of perception to motor training. It was established that expectations modulate neural brain activity. The researchers assumed that neural fluctuations are important space for regulating neural excitation by the expected time (Nobre & Rohenkohl, 2014). It is obvious that due to concentration, volumey, stability and selectivity, attention provides brain with prognostic information through rhythms, functions of risk and signals. There are scientific studies establishing

the correlation between expectations and successfulness of activity (Popovych et al., 2020) and theoretically substantiating its essence (Popovych et al., 2021b).

Retrospective analysis enables us to understand that psychological content parameters of attention in the structure of time perspective of young female athletes require reliable empirical measurements, which will allow determining significant correlations and differences between the variables under study.

Hypothesis. 1. Differences between psychological content parameters of attention of athletes in individual and team sports are significant. 2. The main parameters of attention of young female athletes depend on the dominating orientation of time perspective.

Purpose. To examine psychological content parameters of attention of young female athletes and establish dependence of attention on the dominating time perspective in the representatives of individual and team sports.

Material and methods

Methodology. Theoretical-methodological framework of the research on attention in terms of time perspective involves the following foundations: A. Leontiev (1975) about attention as orientation and concentration of consciousness on any object, phenomenon or action; self-regulation readiness of a subject of activity (Boryshevsky, 2012); readiness of an individual for urgent actions using variations of tasks of sensorimotor reaction (Plokhikh & Yanovska, 2022); expected readiness of an individual (Popovych, 2017; 2019); temporality of personality (Zimbardo & Boyd, 1999; Zimbardo, 2002).

In order to reflect psychological phenomena relevantly and create an appropriate empirical picture of the research, we examined a number of modern studies outlining the scientific problem in the following aspects: psychophysiological regularities of young athletes (Cretu et al., 2021; Kozina et al., 2019; Popovych et al., 2021d); psychological regularities of the representatives of youth (Popovych et al., 2021g; 2022c); adaptation potential of personality (Blynova et al., 2019); value structure and meaning-of-life orientations of the young (Hulias, 2020; Hulias & Hoian, 2022; Hulias & Karpenko, 2022); regularities of sporting activities (Popovych et al., 2021a; 2021f; 2022e; 2022g); individual-typological characteristics of athletes (Popovych et al., 2022f). Since educational and training activities are major for representatives of young female athletes, the findings of the research on educational space with distance and mixed formats were considered (Hudimova, 2021; Hudimova et al., 2021) and examples of application of advanced information technologies were analyzed (Kobets et al., 2021a; 2021b). A number of modern studies on adjacent areas of human activity were also taken into consideration (Mamenko et al., 2022; Nosov et al., 2021a; Zinchenko et al., 2021), which represent alternative methodologies (Nosov et al., 2020; 2021b) and invariability of using reliability coefficients (Zinchenko et al., 2020; 2022).

Participants. The research participants were athletes of sports schools for children and youth: LSSCY Enerhetyk” (Lviv, Ukraine) and SSSYOR №1 in artistic gymnastics (Ivano-Frankivsk, Ukraine). The sample of individual sports (Group 1) included representatives of artistic gymnastics and track and field (n=35; 52.24%). The sample of team sports (Group 2) consisted of female handball and volleyball players (n=32; 47.76%). The total number of the research participants – n=67. There were strict limits on the youth age ranging from 15 to 21 years (SD=3.16; SD=±.73).

Organization of research. The survey, purposeful observation and processing of the empirical data were performed in September-November, 2022. The participants were informed of the research and took part in it voluntarily that contributed to reliability and frankness of the obtained empirical data. All the procedures of the empirical measurements complied with ethical committees of the administrations of the sports schools for children and youth and followed all ethical requirements.

Procedures and instruments. Valid and reliable psycho-diagnostic instruments were used to measure psychological content parameters. The method “Schulte Tables” (“ST”) (Rogov, 1999) was applied to determine the following parameters of attention: work efficiency (WE), the level of involvement in work (LIW), stability of attention (SA). The participants were offered five tables with randomly scattered figures from 1 to 25 in the table squares (the square size was 7 mm x 7 mm). Work efficiency was determined with the formula $WE = \sum T_i / 5$ (s), where T_i – the time of working with i-th table. The level of involvement in work was determined with the formula $LIW = T_1 / WE$ (s), where T_1 – the time of working with the first table; WE – work efficiency. Mental stability was determined with the formula $SA = T_4 / WE$ (s), where T_4 – the time of working with the fourth table; WE – work efficiency. The above parameters were registered in seconds (s).

The method “Landolt C Rings”, (“LR”) (Pashukova et al., 1996) is an all-purpose method used to measure attention of individuals of different age groups. A standard table with rings Landolt with the cut (C) in four directions was used for testing. The test was started with the order “time”. The participants, looking at the rings in the rows from left to right, searched for those having a cut located on the left and at the top. The first ring was crossed from right to left, and the second one – from top to bottom. The test lasted five minutes. It was finished with the order “stop”. The following parameters of attention were determined: concentration of attention (CA), the speed of doing the task (SDT), volume of visual information (VVI), the speed of processing visual information (SV). Concentration of attention was determined with the formula $CA = (S - n) / T$ (rows/s), where S – the number of rows processed by a participant; n – the number of omissions or mistakes; T – the time of doing

the task. The speed of doing the task was determined with the formula $SDT=0.5N - 2.8n/60$ (ring/s), where N – the number of rings, looked through by a participant per minute; n – the number of omissions or mistakes per minute. The volume of visual information was determined with the formula $VVI=0.5936N$ (bit), where 0.5936 – an average volume of information per sign; N – the number of rings looked through by a participant. The speed of processing visual information was determined with the formula $SV=(V - 2.807n)/T$ (bit/s), where 2.807 bits – losses of information per omitted sign; n – the number of omitted rings; T – the time of doing the task (300 s).

“Munsterberg Test” (“MT”) (Pashukova et al., 1996) was used to determine the level of selectivity of attention (SA). The research participants searched for words and underlined them in a text written in letters on a standard sheet of paper prepared in advance. The time of doing the task was 120 s. The test contained twenty-five words. The number of registered correct words corresponded to one of the four levels: I – low (to 10 words); II – medium (11 – 17 words); III – high (18 – 22 words); IV – very high (23 – 25 words).

The parameters of time perspective were determined with “Zimbardo Time Perspective Inventory” (“ZTPI”) (Zimbardo & Gonzalez, 1984). Five scales of measurements were used to create time perspective of the young female athletes: 1) the future (F); 2) the hedonistic present (HP); 3) the fatalistic present (FP); 4) the positive past (PP); 5) the negative past (NP). The coefficient α -Cronbach by the method “ZTPI” equaled $\alpha=.812$.

Statistical analysis. The obtained empirical results were processed with the editor of formulas “MS Excel”. The descriptive frequency characteristics were determined by means “SPSS” 27.0. Spearman’s correlation analysis (rs) was performed. The significant differences of Student’s t-tests were determined. The values at the level not lower than $p<.05$ were considered to be significant.

Results

The empirical data of the young female athletes were presented through the key parameters of the descriptive frequency characteristics (M – arithmetic mean; SD – squared deviation). The respondents were divided into two groups: Group 1 – representatives of individual sports; Group 2 – representatives of team sports. Tabl. 1 contains the empirical data of Group 1 and Group 2 and presents the comparison of the obtained parameters of attention and time orientations by Student’s t-test.

Table 1. Comparison of the content parameters under study in Group 1 and Group 2 by Student’s t-test.

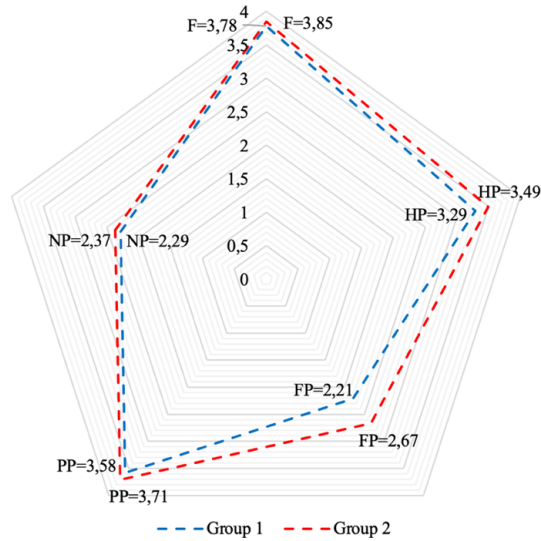
Scale	Group 1		Group 2		Student’s t-test	Level of significance
	M ₁	SD ₁	M ₂	SD ₂		
“Schulte Tables”						
WE, s	52.0	±8.1	54.0	±8.2	.5794	–
LIW, s	.92	±.16	.98	±.18	.6445	–
STA, s	.96	±.17	1.06	±.19	.66522	–
“Landolt C Rings”						
CA, rows/s	.44	±.07	.41	±.06	.3406	–
SDT, rings/s	1.19	±.21	1.12	±.20	.4676	–
VVI, bit	369.80	±54.21	398.67	±59.23	.6590	–
SV, bit/s	1.25	±.23	1.29	±.24	.3498	–
“Munsterberg Test”						
SLA, words/s	17.50	±3.50	19.23	±3.65	.2956	–
“Zimbardo Time Perspective Inventory”						
F, points	3.78	±.55	3.85	±.56	.29456	–
HP, points	3.29	±.49	3.49	±.51	.3401	–
FP, points	2.21	±.38	2.67	±.42	.3003	–
PP, points	3.58	±.53	3.71	±.54	.2984	–
NP, points	2.29	±.39	2.37	±.40	.4013	–

Note: Group 1 – representatives of individual sports; Group 2 – representatives of team sports; M₁ – arithmetic mean of Group 1; SD₁ – square deviation of Group 1; M₂ – arithmetic mean of Group 2; SD₂ – square deviation of Group 2; WE – work efficiency; LIW – level of involvement in work; STA – stability of attention; CA – concentration of attention; SDT – speed of doing the task; VVI – volume of visual information; SV – speed of processing visual information; SLA – selectivity of attention; F – future; HP – hedonistic present; FP – fatalistic present; PP – positive past; NP – negative past.

Comparison of all the parameters under study in Group 1 and Group 2 by Student’s t-test allowed establishing that there were no significant differences between them ($p>.05$). The obtained empirical data on M and SD are within significant deviations of average statistical norms obtained in other empirical studies (Plokhikh, 202; Popovych et al., 2022b) and used in diagnostic practice (Pashukova et al., 1996).

A graphical structure of the young female athlete’s time perspective was created (Fig. 1). The graphical visualization allowed comparing the profiles of the structure of time perspective in the representatives of Group 1 and Group 2. The representatives of team sports have an advantage in all the parameters (Group 2). This advantage, as it was established (see Tabl. 1), has no significant differences. The area created by combining the points of the parameters is a reflection of a probable amplitude of the development of the research participants’ time perspective. We maintain that in youth there is a tendency for dominance of all time orientations in the representative of team sports over the representatives of individual sports. It is due to the fact that representatives

of individual sports are excessively focused on their own “Ego”, that results in weakened and closed external relationships. At the same time, team collaboration, team spirit and “we-unity” contribute to the process of building social, interpersonal and informational relationships. We assume that the specificity of educational and training activities of young female athletes and their individual-typological characteristics have a less impact on the above tendency. This scientific fact is important for trainers in terms of tactical training for young female athletes. It is necessary to perform comparison of time orientations at all stages of athletes’ professional development that can be a prospect for further research.



Note: Group 1 – representatives of individual sports; Group 2 – representatives of team sports; F – future; HP – hedonistic present; FP – fatalistic present; PP – positive past; NP – negative past.

Figure 1. The structure of the young female athlete’s time perspective

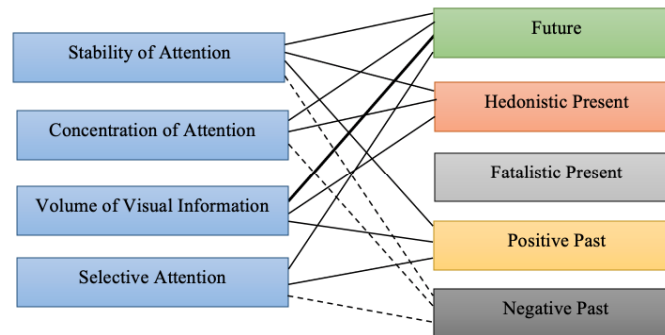
According to the program of the verifying strategy of the research, we determined correlations of the main psychological content parameters of attention with the dimensions of time perspective by means of Spearman’s method (rs) and created a correlation matrix of the correlations (Tabl. 2). The main parameters of attention include those affecting the nature of a cognitive process of attention: stability of attention (STA), concentration of attention (CA), volume of visual information (VVI), selectivity of attention (SLA).

Table 2. Correlation matrix of the main parameters of attention with time perspective (n=63)

Scale	STA	CA	VVI	SLA
F	.095*	.107*	.212**	.094*
HP	.089*	.089*	.149*	.081
FP	-.043	-.033	.039	-.031
PP	.086*	.019	.089*	.086*
NP	-.098*	-.087*	-.029	-.109*

Note: STA – stability of attention; CA – concentration of attention; VVI – volume of visual information; SLA – selectivity of attention; F – future; HP – hedonistic present; FP – fatalistic present; PP – positive past; NP – negative past; * – $p < .05$; ** – $p < .01$ – statistically significant correlations given in bold type.

We present the correlation pleiade of the main psychological content parameters of attention with the dimensions of time perspective in the sample under study (Fig. II).



Note: - - - negative correlations with $p \leq .05$; — positive correlations with $p \leq .05$; ——— positive correlations with $p \leq .01$.

Figure II. Correlations of the parameters of attention and dimensions of time perspective of young female athletes (n=67)

The correlation matrix (see Tabl. 2) and correlation pleiade (see Fig. II) were analyzed. It was established that time orientation towards the future (M) has most significant correlations, namely four, with the main parameters of attention: STA (.095; $p \leq .05$), CA (.107; $p \leq .05$), VVI (.212; $p \leq .01$), SLA (.094; $p \leq .05$). All the correlations are positive. We think that domination of time orientation towards the future in the dimensions of young female athletes' attention is a factor of their successful educational and training activities. At the same time, if we take into consideration the correlations in terms of the parameters of attention, we can identify that the parameter "stability of attention" has most significant correlations, namely, four: F (.095; $p \leq .05$), HP (.089; $p \leq .05$), PP (.086; $p \leq .05$), NP (-.098; $p \leq .05$). Therefore, stability of attention (STA) is the main parameter of attention affecting the results of educational and training activities of young female athletes. The strongest correlation is the correlation between volume of visual information (VVI) and time orientation towards the future (F) (.212; $p \leq .01$). It is obvious that high indexes of volume of visual information facilitate construction of social, interpersonal and informational correlations, maintaining and enriching them. Time orientation towards the fatalistic present (FP) has no significant correlations with the parameters of attention. It can be due to the fact that young female athletes realize that their results depend on the efforts made and affect the achievement of results in educational and training activities. A lack of correlations can also be explained by the fact that the work of attention as a cognitive process implies voluntary and post-voluntary phases, that mainly accounts for a negative tendency of correlations with the fatalistic present (FP). Time orientation towards the negative past (NP) has all negative correlations, namely, three, with the parameters of attention: STA (.098; $p \leq .05$), CA (.087; $p \leq .05$), SLA (.109; $p \leq .05$). It is logical that the respondents who consider the negative past such as flashbacks, intrusions, psychological traumatic situations and serious sports injuries to be the reason of their failures, are less inclined to demonstrate initiative, courage and desperation. At the same time, they demonstrate attentiveness and pragmatism. But their attention usually focuses on the negative past and on "Ego", concentration on which results in weakened and closed external relationships.

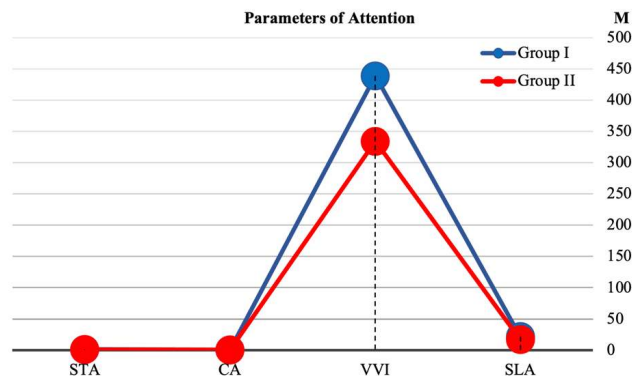
The arithmetic mean of all the scales of attention was obtained. This index was used for the ranking of the results, after that the median was found (Me). The sample was distributed ($n=67$) by means of the median (Me) into two groups. Distribution was performed only by the main indexes of psychological content parameters of attention: stability of attention (STA), concentration of attention (CA), volume of visual information (VVI), selectivity of attention (SLA). Group I ($n_I=21$) has indexes higher than the median, i.e. high levels of the parameters of attention and Group II ($n_{II}=46$) has indexes lower than the median, i.e. low levels of the parameters of attention of the research participants. Comparison of the obtained indexes of attention was performed by means of Student's t-test (Tabl. 3).

Table 3. Comparison of the parameters of attention by the arithmetic mean Group I ($n_I=21$) and Group II ($n_{II}=46$)

Scale	Group I		Group II		Student's t-test	Level of significance
	M_I	SD_I	M_{II}	SD_{II}		
STA	1.16	$\pm .21$.83	$\pm .15$	3.2358	$p < .01$
CA	.47	$\pm .09$.42	$\pm .07$.9567	-
VVI	438.68	± 65.67	334.03	± 52.88	1.7689	$p < .05$
SLA	21.67	± 3.79	16.89	± 2.98	3.0023	$p < .01$

Note: M_I – arithmetic mean Group I; M_{II} – arithmetic mean Group II; SD_I – mean square deviation Group I; SD_{II} – mean square deviation Group II; STA – stability of attention; CA – concentration of attention; VVI – volume of visual information; SLA – selectivity of attention.

The diagram allowed visualizing comparison of the empirical data on the main parameters of attention of the young female athletes in Group I ($n_I=21$) and Group II ($n_{II}=46$) (Fig. III).



Note: M – arithmetic mean Group I and Group II; Group I – female athletes with a high level of attention; Group II – female athletes with a low level of attention; STA – stability of attention; CA – concentration of attention; VVI – volume of visual information; SLA – selectivity of attention.

Figure III. Comparative diagram of the main parameters of attention of young female athletes

Comparison of the main parameters of attention in Group I and Group II allowed establishing that there are significant differences in three dimensions: STA (temp.= 3.2358, $p<.01$); VVI (temp.= 1.7689, $p<.05$); SLA (temp.= 3.0023, $p<.01$). One parameter CA (temp.= .9567, $p>.05$) has no significant differences. The obtained comparison confirms that the formation of high levels of the parameters of attention, such as stability, volume of visual information and selectivity of attention ensures achievement of the results of educational and training activities of young female athletes and focuses their attention in the dimensions of time orientations: the future (F) – three significant correlations ($p<.05$; $p<.01$); the hedonistic present (HP) – two significant correlations ($p<.05$); the positive past (PP) – three significant correlations ($p<.05$).

Discussion

Scientific literature on tactical training for sportsmen and classical pedagogical research pay sufficient attention to the phenomena under study. But there is a lack of studies on sport psychology which would demonstrate correlations between the parameters of attention and dominating orientations of time perspectives of athletes. The research by V. Plokhikh (2022) found out that psychological protection restricts the formation of students' time perspective. The researcher established that competency in time is inversely related to students' orientation towards the negative past (NP) ($r_s=-.325$; $p=.036$). This scientific fact is confirmed in the prevailing contour of the structure of time perspective of young female athletes in team sports over the representatives of individual sports by all the parameters. It is due to the fact that competency in time facilitates self-actualization and a constructive position of personality. The research by (Loshenko et al., 2022) establishing a significant correlation of time orientation towards the future (F) with the respondents' meaning-of-life orientations ($p\leq.05$) is an additional argument in this context. The research showing that the parameters of meaning-of-life orientations determine the main mental states of self-regulation of young handball players (Popovych et al., 2022d) is also an important argument. Our research considers time perspectives in the structure of athletes' motivation and finds out that time orientation towards the future (F) has most (eight) significant correlations with the parameters of motivation ($p\leq.05$; $p\leq.01$). It is confirmed in the above fact (see Tabl. 2, Fig. II) of significant correlations of time orientation towards the future (F) with the main parameters of attention: STA (.095; $p\leq.05$), CA (.107; $p\leq.05$), VVI (.212; $p\leq.01$), SLA (.094; $p\leq.05$). Not only the cognitive, but also the psycho-emotional sphere is also closely related to attention and time orientations. The researchers found out that excitation and emotions of joy are more closely related to concentration of attention and results, unlike anxiety, frustration and anger (Vast et al., 2010).

The formulation of the first hypothesis was based on the assumption that individual tactical training of athletes facilitates the formation of such parameters of attention as: WE ($M1=52.0$; $SD1=\pm 8.1$), LIW ($M1=.92$; $SD1=\pm .16$), STA ($M1=.96$; $SD1=\pm .17$) and CA ($M1=.44$; $SD1=\pm .07$), unlike team tactical training which, probably, facilitates the formation of other parameters of attention: SDT ($M1=1.12$; $SD1=\pm .20$), VVI ($M1=.398.67$; $SD1=\pm 59.23$), SV ($M1=1.29$; $SD1=\pm .24$) and SLA ($M1=19.23$; $SD1=\pm 3.65$). Actually, the empirical data confirmed the assumption (see Tabl. 1) concerning the tendency for an increase or a fall in the above parameters, therefore we maintain that the formulation of the hypothesis was appropriate. At the same time, the comparison established no significant differences in any parameter ($p>.05$). The first hypothesis was disproved and it was found that the differences in psychological content parameters of attention of the athletes in individual Group 1 and team sports Group 2 are not significant. When it comes to the second hypothesis, not all of the selected main parameters of attention of the young female athletes depend on the dominating orientation of time perspective. No significant differences were registered in one of the parameters – CA (temp.= .9567, $p>.05$). However, availability of such correlations in STA ($p<.01$); VVI ($p<.05$); SLA ($p<.01$) allows stating that the second hypothesis is confirmed. At the same time, it is necessary to pay attention to certain parameters which are significant. Obviously, the list could be different at the initial stage of identification of the main research parameters. But this fact does not reduce a scientific value of the findings.

Research Limitation. The limitation of the results of the scientific research is the fact that the empirical data were collected and the research was conducted in September–November 2022. Ukraine was under martial law at that time. It could have affected the empirical indexes. But, in our opinion, this impact was not essential, since the sample included the athletes who were not in the occupied territory, did not belong to internally displaced people and did not have vivid traumatic war experience.

Conclusions

1. We identified no significant differences between the parameters of attention of the female athletes in individual (Group 1) and team sports (Group 2) and substantiated that the parameters of attention in youth do not depend on a kind of sport.

2. A graphical structure of the young athletes' time perspective was created. It shows that the representatives of team sports have advantages (Group 2) by all the parameters but this advantage has no significant differences. The research substantiates that differences are caused by the fact that athletes in individual sports are able to focus excessively on their "Ego", that results in weakened and closed external relationships. Consequently, team

collaboration, team spirit and we-unity contribute to building social, interpersonal and informational relationships of athletes in team sports.

3. We determined correlations of the parameters of attention with the parameters of time perspective ($p < .05$; $p < .01$). The future (F) has most – four – significant correlations with the main parameters of attention: STA (.095; $p \leq .05$), CA (.107; $p \leq .05$), VVI (.212; $p \leq .01$), SLA (.094; $p \leq .05$). It was established that stability of attention (STA) is the main parameter affecting the results of educational and training activities of young female athletes.

4. The differences between the groups of athletes with different levels of the parameters of attention were determined by the median (Me). Formation of high levels ensures achievement of the results of educational and training activities of young female athletes and focuses their activeness in the dimensions of such time orientations ($p < .05$; $p < .01$): the future (F), the hedonistic present (HP), the positive past (PP).

5. The obtained empirical facts should be operationalized into educational and training activities of schools for children and youth.

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