

Modernizing physical training for young hockey players with different psychological status

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Abstract:

Modernizing educational and training processes in children engaged in ice hockey in terms of their psychological status is an urgent problem. **Research objective:** To investigate the individual typological features of psychomotor status in young hockey players, aiming to tailor the training process during the initial stage of their sports development. **Materials and methods.** The research project involved 36 young hockey players aged 10-11 from one of the sports schools of the Siberian Federal District. The athletes were engaged in ice hockey for the fourth year of the initial stage of sports training. Using the children's version of the questionnaire Eysenck & Wilson (2000), the type of psychological regulation of nervous functions (extra-introversion) was determined, the latent time of two simple and one complex sensory-motor reactions, responses to a moving object, and tapping test were studied. We used special motor tests for hockey. The revealed peculiarities of the psychomotor status were used to modify the hockey players' training sessions in the fourth year of the initial training stage. The athletes were divided into a control group CG (n=18) and an experimental group EG (n=18). Training sessions in both groups were conducted 3 times a week according to (Federal standard of sports training for the sport "Hockey", 2022) for 6 months and included 75 sessions. In EG, in the preparatory and at the beginning of the main part of the training, the complexes and methods of performing physical activity with a total duration of 15-20 minutes were carried out. The revealed psychomotor characteristics of athletes were used in the methodology. **Results.** The analysis of the research results revealed significant differences in psychomotor qualities among young hockey players, which are related to their psychological status. The use of the identified peculiarities in the modified training methodology allowed obtaining a more significant result in the development of psychomotor qualities in extroverted and introverted hockey players in the experimental group compared with the control one. **Conclusions.** The increase in indicators of young hockey players' psychomotor abilities will be most effective if a modified technique is used in the training process, which is based on the use of knowledge about the type of a young hockey player's activity mental regulation, such as extraversion and introversion.

Key Words: physical education (PE), hockey, psychological status, psychomotor qualities, physical training

Introduction

The great popularity of ice hockey among the population in many countries has caused a large influx of people wishing to practice this sport (Vala et al., 2020; Parničan et al., 2020), including an increase in the number of children and adolescents training (Lipovský & Tóth, 2022).

Ice hockey belongs to one of the most difficult, team sports in which achievements are influenced by many factors. The effect of somatic and functional parameters of the athlete's body on sports performance was noted (Delislehude et al., 2019; Sigmun et al., 2023). The level of skeletal muscles' anaerobic and aerobic mechanism of energy supply development plays an important role (Stanula et al., 2014; Heller et al., 2019). The athlete is influenced by his indicators of general joint flexibility, speed and strength qualities, as well as high mobility of the neuropsychic processes of the central nervous system, which is due to the need to quickly solve

unpredictable situations in ice hockey (Kutáč & Sigmund, 2015; Neuls et al., 2023). All this places high demands on a hockey player's physical, technical and tactical training (Rosenberg et al., 2020).

To a large extent, the results of sports activities are determined by the extent to which coaches are familiar with current trends in the global development of hockey and how they implement modern scientific and technical achievements into the practice of sports (Babushkin, & Yakovlev 2019; Steeves & Campagna, 2019).

The problem of selecting athletes at each stage of long-term training continues to be relevant. At the same time, it is important to preserve the young athletes' health under conditions of a significant increase in competitive practice (Surina-Marysheva et al., 2021), the problem of modernizing the educational and training process is still relevant. It is known that the qualitatively laid foundations in youth hockey are a favorable prerequisite for the progression of results in the elite sport.

In the process of sports selection, an athlete is diagnosed with a morphotypological status (Delisle-Houde et al., 2019; Martini et al., 2022; Sigmund et al., 2023). In addition, the level of development of professionally important physical qualities, the formation of technical skills are also diagnosed (Daigle et al., 2022; Slavicek et al., 2023). An important indicator is an athlete's individual ability, manifested in the speed of mastering a new motor action, its executional accuracy, the skating sprint and the agility development (Novak et al., 2020). In ice hockey, speed and strength qualities are one of the key performance indicators, which is significantly influenced by maximum strength (Kierot et al., 2024). The combination of genetically determined abilities ensures the success of a sports career with optimal planning of training loads.

Currently, psychological testing has been used to identify talented athletes (Lemoyne et al., 2022; Fortin-Guichard et al., 2023), which is a promising area in sports selection. According to the authors, the assessment of psychological personality traits and factors, associated with a hockey team formation allows focusing on specific qualities for working with young talented players. Competitive activity in ice hockey is characterized by a rapid change in the movement pace and game situations. Therefore, an important component of sports selection is the mental functions formation that determine the speed of perception and processing of information and decision-making. For this purpose, methods for determining the visual-motor reaction to an external stimulus began to be used in sports practice. These methods make it possible to identify the features of the athlete's body psychomotor development, which allows individualizing the educational and training process (Korobeynikov et al., 2020; Janicijevic & Garcia-Ramos, 2022). When evaluating neurodynamic features, it becomes possible to obtain sufficiently complete information about a person's readiness for training and competitive processes. In sports practice, it seems relevant to study the young athletes' motor qualities depending on the psychosomatic status, which determines the individual characteristics of an athlete (Burriss et al., 2020; Reid et al., 2021). A characteristic feature of hockey is the presence of a large number of individual, group, and team competitive actions, with constant pressure from the opponent during a short period of time. It is known that an athlete's individual parameters make it possible to effectively develop diverse coordination movements and vestibular stability during physical activity (Hülsdünker & Mierau, 2021). At the same time, the problem of young hockey players' motor status, depending on their mental organization with different levels of extraversion-introversion (sociability-isolation), has not been practically studied in youth hockey. There are fragmentary studies in the scientific literature, which makes it difficult to modernize the educational and training process, which is based on the use of knowledge of the young athletes' psychomotor status peculiarities.

Research objective: To investigate the individual typological features of psychomotor status in young hockey players, aiming to tailor the training process during the initial stage of their sports development.

Material & methods

The research project was carried out on the basis of the children's and youth hockey sports school, which is located in the Siberian Federal District (Russia). 36 young hockey players aged 10-11 (10.4±1.3 years), who were engaged in ice hockey for the fourth year of the initial stage of sports training took part in it. Before starting the work, written consent was received from the athletes' parents for their children's participation in the research. The research project does not violate the principles of the Helsinki Declaration of 2008 concerning ethical norms and rules for conducting biomedical research with human participation.

Psychological testing of all athletes was conducted, which was aimed at determining the type of psychological regulation of nervous functions. To conduct it, we used the children's version of the Eysenck & Wilson questionnaire (2000). It consists of 57 questions grouped on 3 scales: introversion-extraversion, emotional stability-instability and reliability (scale of lies). In our research, we used an introversion-extroversion score. The athlete filled out a form of answers to the questions posed. 1-1.5 minutes were allocated for each answer. With the help of the "key", the number of points for each athlete was calculated on the scale of extra-introversion (sociability-closeness). If the answer to the question matched the "key", he received one point, if it did not match, then he received "0" points. The total number of points on the scale was calculated. The maximum number of points on the "extra-introversion" scale is 22. Children who scored 12 or more points were classified as extroverts, those who scored less than 12 points were classified as introverts. People with an

extroverted type of nervous activity are characterized by a focus on external circumstances. In the introverted type of organization, on the contrary, it is turned inward.

The revealed features of the mental status were used to modify the training sessions of young hockey players. To test the proposed technique, the athletes were divided into a control group CG (n= 18) and an experimental group EG (n=18). Training sessions in both groups were conducted 3 times a week according to (Federal standard of sports training for the sport "Hockey", 2022) for 6 months and included 75 classes. In EG, in the preparatory and at the beginning of the main part of the training, the complexes and methods of performing physical activity with a total duration of 15-20 minutes were carried out. The methodology provided for testing and training components. The testing section of the methodology provided for their psychological status assessment (extroverts and introverts) and the psychomotor qualities state. The training component included trainings, aimed at developing psychomotor abilities.

For this purpose, physical exercises were used, which were grouped according to the direction of a certain motor quality development, taking into account the athlete's ability to orient in space and differentiate actions. They practiced the ability to vestibular balance, responsive and rhythmic abilities. For it, complexes of 4-6 physical exercises and one sports game were used, aimed at improving coordination ability. Most of the developed program consisted of accessible exercises, which became more complicated as they were mastered. Both general developmental and ice hockey-specific physical exercises were used. The training tasks were performed using the game method with alternating ice training with training in the gym.

In the proposed methodology, an important peculiarity was the ability to dose training loads, in particular: by the number of repetitions and methodological features for extroverted and introverted hockey players; by the number of exercises repetitions in the first three months of classes according to the developed methodology; by the number of repetitions of exercises in the second three months of classes. According to the developed methodology, the number of repetitions in the first three months of classes was 8-10 times; in the second three months of classes it was 6-8 times. At the beginning of the research project, it was found that the level of psychomotor qualities development in young hockey players with different types of mental status was different. Extroverted hockey players had the best results when performing special motor tests face forward, introverted hockey players when performing them backwards.

In the experimental group of extroverts, about 20% were occupied by sets of exercises that were aimed at improving orientation ability and 15% to the ability to switch motor actions. The second experimental group included introverted hockey players. They had the largest volume (30%) occupied by sets of exercises that were aimed at improving differentiation and (25%) reactivity.

For EG extroverts, athletes performed psychomotor exercises using a holistic method at a slow pace from general to particular, effectively influencing various sensory analyzers. In EG introverts an arsenal of summing exercises was used, which were performed using a dissected method - from the particular to the general.

These are acrobatic exercises, loads with weights, various jumps, overcoming obstacles. In the final part of the complex, a story- or sports game was played. In both EG groups, various skating techniques were developed during ice training. Athletes were taught various techniques of puck driving, throws after rotation, out of rotation and in a fall.

To assess some properties of the young hockey players' nervous system, depending on their individual typological properties of psychosomatic status, a high-stakes computer measurement of the time of a simple visual-motor response and a simple auditory-motor response, ms; the time of a complex visual-motor response, ms; the speed of response to a moving object, ms; tapping test was performed, the number of clicks.

The features of the special psychomotor tests development were studied using high-stakes pedagogical testing. It represents the special motor skating tests performance at maximum speed in standard hockey rink conditions. The tests used were: "running 18 m face forward", s; "running 18 m backwards", s; "shuttle running 4 x 9 m face forward", s; "shuttle running 4 x 9 m back forward", s. In the last two tests, the hockey player's task is to skate at maximum speed from the blue line to 9 m, after which he makes full braking on the next blue line and returns to the starting position. Such a skating run is performed 4 times for 9 m.

The obtained material is subjected to statistical processing with the finding of the arithmetic mean, sigma and error of the arithmetic mean. The reliability was determined by finding the Student's t criterion. The values of the indicators were considered reliable at $p < 0.05$.

Results

An analysis of the psychological testing results at the beginning of the research work showed that among 36 hockey players with an extroverted organization of mental functions there were 24 subjects (66.7%); 12 introverted hockey players were identified (33.3%). During further research, a number of psychophysiological tests were conducted. The results of sensory-motor testing of 10 young hockey players with different levels of psychological status are presented in Table 1.

Table 1. The results of the hockey players' psychomotor testing at the beginning of the research project (M±m)

| No | Indicators | Extroverts (n=24) | Introverts (n=12) |
|----|--|-------------------|-------------------|
| 1 | Time of simple visual-motor response, ms | 43.3±2.1 | 49.5±2.8* |
| 2 | Time of simple auditory-motor response, ms | 53.5±3.9 | 56.3±4.1 |
| 3 | Response speed to a moving object, ms | 33.08±2.4 | 39.06±2.7* |
| 4 | Time of complex visual-motor response, ms | 58.27±3.2 | 66.0±3.7* |
| 5 | Tapping test, the number of pressures | 52.0±3.6 | 46.1±4.2 |

Note: * the data with significant differences are indicated (at $p < 0.05$)

Significant differences in the values of indicators between athletes who have different psychological status have been established. The response time of the visual-motor reaction in extroverted hockey players was 4.3% less than among introverts (43.3±2.1 and 49.5±2.8 ms, respectively), $p < 0.05$.

In athletes, an important psychomotor reaction is a test to determine the speed of response to a moving object. When performing this test, extroverts and introverts revealed significant differences (33.08±2.4 and 39.06±2.7) accordingly, $p < 0.05$. In extroverts, it turned out to be 18.1% less than in introverted athletes. Among extroverted athletes, the values of the time of complex visual-motor response were 13.3% less than those of introverts (58.27±3.2 and 66.0±3.7 ms), respectively, $p < 0.05$.

An important integral indicator of the speed qualities and lability of the nervous system is the «tapping test» (the maximum frequency of hand movements when pressing the button). When comparing the tapping test performed by extroverts and introverts, no significant differences were found, $p > 0.05$. It indicates a smoothed picture of the difference in the motor ability of the upper extremities from the type of the athletes' psychological status. To study special psychomotor abilities, motor tests were conducted and a comparative analysis of the results was carried out, taking into account the athletes' psychological status.

Table 2. Values of the hockey players' special psychomotor tests indicators (M±m)

| No | Psychomotor tests | Extroverts (n=24) | Introverts (n=12) |
|----|---|-------------------|-------------------|
| 1 | Running 18 m face forward, s | 3.32±0.19 | 3.36±0.20 |
| 2 | Running 18 m backwards, s | 4.38±0.33 | 3.56±0.37* |
| 3 | Shuttle running 4 x 9 m face forward, s | 9.26±0.37 | 9.12±0.37 |
| 4 | Shuttle running 4 x 9 m back forward, s | 12.66±0.63 | 11.14±0.61* |

Note: * the data with significant differences are indicated (at $p < 0.05$)

Analysis of the test results of psychomotor tests performed when skating with the face forward did not reveal significant differences between hockey players of different mental status, $p > 0.05$.

It was found that in the tests "running 18 m backwards" and "shuttle running 4 x 9 m backwards" the test results were significantly lower by 18.7 and 12.0% in hockey players of an introverted mental organization compared with extroverts, $p < 0.05$. It indicates that there are significantly significant differences in indicators of motor qualities from the mental status of athletes.

Therefore, these features were taken into account by us when constructing a modified methodology for the development of psychomotor abilities in young hockey players, taking into account the type of psychological regulation. The results of the study of the hockey players' psychomotor qualities at the beginning and at the end of the experiment are shown in Table 3.

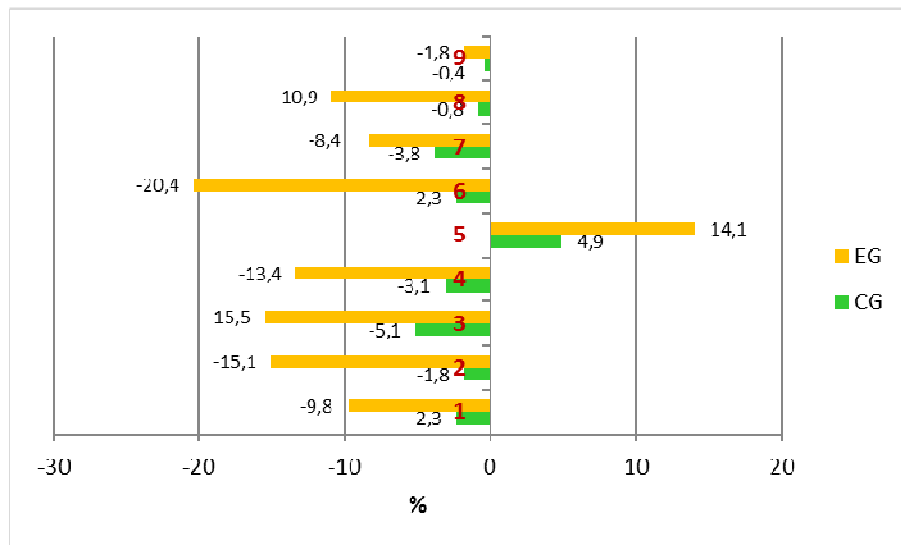
Table 3. Values of psychomotor high-stakes testing indicators of extroverted hockey players in CG and EG (M±m)

| No | Psychomotor tests | CG (n=12) | | EG (n=12) | |
|----|--|-----------------------|----------------------|-----------------------|----------------------|
| | | Before the experiment | After the experiment | Before the experiment | After the experiment |
| 1 | Time of simple visual-motor response, ms | 43.6±2.9 | 42.6±2.2 | 43.7±2.7 | 39.4±2.2* |
| 2 | Time of simple auditory-motor response, ms | 53.5±4.9 | 52.5±3.8 | 55.8±4.0 | 47.4±3.3* |
| 3 | Response speed to a moving object, ms | 34.08±1.4 | 32.34±2.3 | 33.56±2.6 | 28.34±2.2* |
| 4 | Time of complex visual-motor response, ms | 59.27±3. | 57.45±3.4 | 58.0±3.5 | 50.22±3.4* |
| 5 | Tapping test, the number of pressures | 50.5±4.9 | 53.0±5.6 | 55.2±4.2 | 63.0±6.3 |
| 6 | Running 18 m face forward, s | 3.40±0.39 | 3.32±0.2 | 3.38±0.30 | 2.69±0.2* |
| 7 | Running 18 m backwards, s | 4.18±0.33 | 4.02±0.3 | 4.17±0.42 | 3.82±0.3 |
| 8 | Shuttle running 4 x 9 m face forward, s | 9.34±0.37 | 9.26±0.4 | 9.28±0.37 | 8.26±0.4* |
| 9 | Shuttle running 4 x 9 m back forward, s | 12.53±0.62 | 12.48±0.7 | 12.24±0.58 | 12.02±0.7 |

Note: *significant difference in the values of the indicators before and after the experiment ($p < 0.05$)

At the beginning of the pedagogical experiment, there were no significant differences in the values of psychomotor test scores between extroverted hockey players in CG and EG, $p > 0.05$. It indicates an approximately homogeneous composition of both observation groups.

At the end of the pedagogical experiment, an improvement in the values of indicators in all psychomotor tests was found in both observation groups. A significant difference in the increase in the indicators values was registered only among hockey players in EG, where a modified methodology of the educational and training process was used for 6 months. In this group, hockey players had significant differences in the values of indicators in six of the nine psychomotor tests. The comparative difference in the increase in psychomotor test scores among hockey players in CG and EG is shown in Figure 1.



Note. 1, 2, 3, 4, 5, 6, 7, 8, 9 numbers of psychomotor tests

Fig. 1. The increase in the indicators values in psychomotor tests among extroverted hockey players at the end of the pedagogical experiment

The largest increase in the indicators values in psychomotor tests was found in EG hockey players compared with CG. The most pronounced increase in EG was in tests No. 6 ("Running 18 m face forward"), No. 3 ("Response speed to a moving object") and No. 2 ("Time of simple auditory-motor response"). The results of the milestone testing of psychomotor qualities in introverted hockey players in CG and EG are presented in Table 4.

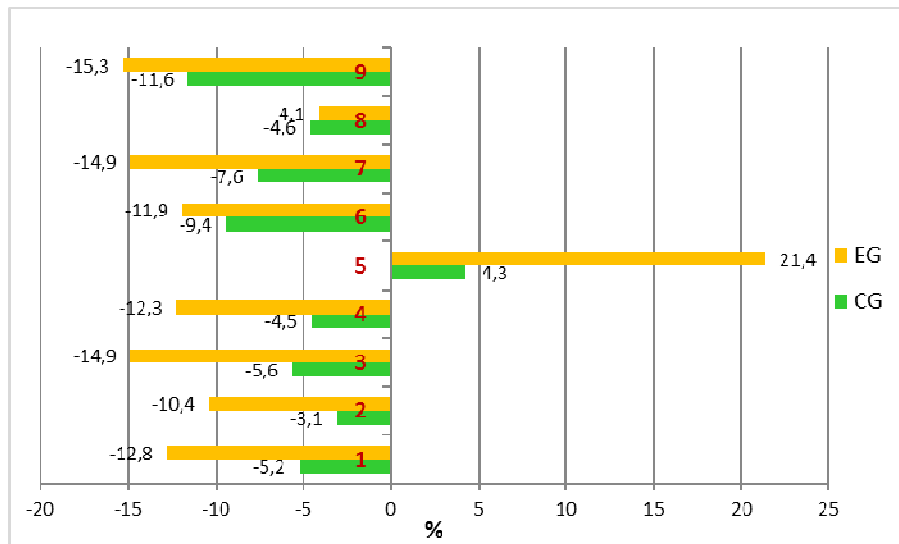
Table 4. Values of indicators of high-stakes psychomotor testing of introverted hockey players CG and EG (M±m)

| No | Psychomotor tests | CG (n=6) | | EG (n=6) | |
|----|--|-----------------------|----------------------|-----------------------|----------------------|
| | | Before the experiment | After the experiment | Before the experiment | After the experiment |
| 1 | Time of simple visual-motor response, ms | 49.9±2.8 | 47.3±2.5 | 49.8±2.8 | 43.4±2.6* |
| 2 | Time of simple auditory-motor response, ms | 57.2±4.6 | 55.4±4.3 | 57.5±4.4 | 51.5±4.2 |
| 3 | Response speed to a moving object, ms | 39.24±2.8 | 37.04±2.7 | 40.15±2.9 | 34.15±2.9* |
| 4 | Time of complex visual-motor response, ms | 66.50±3.7 | 63.50±3.4 | 66.8±3.6 | 58.6±3.5* |
| 5 | Tapping test, the number of pressures | 46.5±4.1 | 48.5±4.0 | 45.8±4.1 | 55.6±4.1* |
| 6 | Running 18 m face forward, s | 3.42±0.21 | 3.10±0.12 | 3.54±0.20 | 3.12±0.20* |
| 7 | Running 18 m backwards, s | 3.27±0.37 | 3.02±0.36 | 3.34±0.27 | 2.84±0.22* |
| 8 | Shuttle running 4 x 9 m face forward, s | 9.49±0.38 | 9.05±0.33 | 9.56±0.36 | 9.17±0.34 |
| 9 | Shuttle running 4 x 9 m back forward, s | 11.14±0.81 | 9.85±0.70 | 11.10±0.49 | 9.40±0.47* |

Note: *significant difference in the values of the indicators before and after the experiment ($p < 0.05$)

At the beginning of the pedagogical experiment, there were no differences in the indicators values of psychomotor abilities between athletes of the experimental and control groups, $p > 0.05$. At the end of the experiment, an improvement in the values of indicators was registered in all tests in both observation groups.

Significant improvement was recorded only in EG hockey players in seven out of nine psychomotor tests, $p < 0.05$. At the end of the experiment, the increase in the indicators values in psychomotor tests for introverted hockey players in both observation groups is illustrated in Figure 2.



Note. 1, 2, 3, 4, 5, 6, 7, 8, 9 numbers of psychomotor tests

Fig. 2. The increase in the indicators values in psychomotor tests for introverted hockey players at the end of the pedagogical experiment

The largest increase in the indicators values in psychomotor tests was found in introverted hockey players in the EG compared with the CG. The largest increase in EG was noted in tests No. 5 ("Tapping test"), No. 9 ("Running 18 m backwards») and No. 3 ("Response speed to a moving object") and No. 7 («Running 18 m backwards»).

The changes that have occurred as a result of the pedagogical impact of the modernized methodology on the educational and training process indicate a positive dynamic in the level of development of young hockey players' aged 10-11 psychomotor abilities compared with the traditional training program

Dicussion

In many countries of the world, there is an increase in the number of children and adolescents who play ice hockey (Lipovský & Tóth, 2022). This fact puts forward the need for careful sports selection of young people for training with respect for the health of young hockey players to sports specialists (Surina-Marysheva et al., 2021). The task of modernizing the educational and training process for children involved in hockey remains urgent. The use of athletes' psychological testing allows not only to identify promising athletes (Lemoyne et al., 2022; Fortin-Guichard et al., 2023), but also to use the obtained data in the educational and training process. Insufficient coverage in the scientific literature of the issues of using the psychological testing results in young hockey players' training indicates the relevance of our chosen scientific research.

The results of our research project indicate significant differences in the young hockey players' psychomotor qualities from the individual typological characteristics of their psychological status. It is consistent with the results obtained by other researchers of the psychomotor and psychoemotional sphere of athletes (Burriss et al., 2020; Reid et al., 2021). According to our data, the response time of the visual-motor reaction among extroverted hockey players was 14.3% less than among introverts. This reaction plays an important role in hockey, because the earlier he saw the puck, the earlier the athlete began a counter motor action.

When analyzing the motor reaction time using an auditory analyzer, there were no significant differences between hockey players of different psychological status, $p > 0.05$. It indicates a closer relationship between the motor functions of the athlete's body and the visual perception of an external stimulus. These data are consistent with the findings of other researchers who have used visual-motor and auditory-motor responses in testing athletes (Korobeynikov et al., 2020; Janicijevic & Garcia-Ramos, 2022).

According to our data, when performing a test to determine the time for a moving object, extroverts and introverts revealed significant differences between them. It indicates that the speed of the response to a stimulus in athletes has a close relationship with nervous processes. For extroverts, it was 18.1% less compared to

introverted athletes. Extroverts have 13.3% less complex visual-motor response time compared to introverted athletes.

We found that in the special motor tests «Running 18 m backwards» and «Shuttle running 4 x 9 m backwards», the test results were significantly better for hockey players of an introverted mental organization, compared with extroverts. These data indicate the need to use the identified features in the educational and training process for the development of young athletes' psychomotor fitness. An important feature of the proposed modified methodology is the ability to dose training loads, in particular: by the number of repetitions and methodological features for extroverted and introverted hockey players; by the number of repetitions of exercises in the first three months of classes according to the developed methodology; by the number of repetitions of exercises in the second three months of classes.

The use of a modified methodology in the educational and training process of young hockey players, which is based on athletes' identified psychomotor characteristics, confirmed the positive impact of the proposed means, methods and organizational forms of sports training.

The positive results of the psychomotor abilities development established at the end of the research project reflect the influence of the pedagogical influence proposed by us. It is evidenced by more pronounced significant changes in the indicators of hockey players' psychomotor qualities in the experimental group compared to the result in the control one. The growth rates of psychomotor test scores in the experimental group of extroverts and introverts were significantly higher than in the control group. Such dynamics allows us to conclude that not only the quantitative parameters of psychomotor training have improved, but also their qualitative change in the hockey players of the experimental group, where a modified technique based on the characteristics of their psychological status has been tested. Each psychomotor feature is based on individual characteristics that need to be taken into account by the coaching staff. With this in mind, we agree with the opinion of many researchers (Korobeynikov et al., 2020; Hülzdünker & Mierau, 2021; Janicijevic & Garcia-Ramos, 2022) on the need to take into account the individual typological and psychological characteristics of the athlete's body when planning the training process.

Conclusions

The obtained results of the research project indicate that young hockey players have significant differences in psychomotor qualities due to the individual typological characteristics of their psychological status. Extroverted hockey players have a higher rate of simple and complex visual-motor response, the speed of response to a moving object, than introverted hockey players.

It was found that in the special tests «Running 18 m backwards» and "Shuttle running 4 x 9 m backwards", the running time was 18.7 and 12.0% less, respectively, for hockey players of an introverted mental organization compared with extroverts, $p < 0.05$.

The revealed features of the young hockey players' psychomotor status were used in the planning and construction of a modified methodology of the educational and training process, designed for 6 months of initial sports training (75 training sessions).

The approbation of the proposed methodology for the psychomotor abilities development based on the revealed mental status of young hockey players showed a significant improvement in the psychomotor development of the experimental group of players, both extroverts and introverts, compared with the results in the control group, where the traditional training program for athletes was used.

The increase in young hockey players' aged 10-11 psychomotor abilities indicators will be most effective if various methodological techniques are applied in the training process, taking into account the type of mental regulation of a young hockey player's activity, such as extraversion and introversion.

Increasing the indicators of psychomotor abilities will be most effective in 10-11-year-old young hockey players if various methodological techniques are used in the training process that take into account the types of mental regulation of behavior and temperament of the young hockey player, such as extraversion and introversion. Extroverted hockey players are recommended to conduct classes on the psychomotor abilities development by using a holistic method with a slow pace while repeating and learning motor actions. For hockey players, introverts are recommended to use in the training process a dismembered method of learning motor actions at an average pace with an extensive arsenal of preliminary exercises.

Conflicts of interest. The authors declare no conflict of interest.

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