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FORMATION OF PSYCHOEMOTIONAL STABILITY AMONG STUDENTS OF HIGHER EDUCATIONAL INSTITUTIONS

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Abstract

The analysis of contemporary research has shown that the problem of psychoemotional stability among students of higher educational institutions remains not completely investigated. This situation has a negative impact on the efficiency of these students’ further professional activity. In this regard the research objective was to develop the system of psychoemotional stability (PES) formation by means of movements visual control shutdown (MVCS) in the course of physical training containing exercises of multidirectional character. The formation of PES was carried out with visual control of physical actions until now, but the similar investigations without visual control over movements were not conducted. The students were distributed into two study groups. The control group comprised 16 persons, who were asked to carry out a set of exercises with visual control. The experimental group comprised 19 people, who were asked to carry out similar
exercises without visual control over movements (blindfold). The results of the research demonstrate that shutdown of visual control over movements not only authentically improves psychoemotional stability and reduces anxiety of students, but also increases the level of their motive readiness.

**Keywords:** psychoemotional stability, visual control over movements, jumps through obstacles, motive readiness

**Relevance**

Experts of different scientific fields nowadays turn more and more attention to various aspects of professional training of students of higher education institutions. In particular, a number of scientific papers describe the personal focused systems of strengthening of physical, mental, social and moral health (Kudryavtsev, Kopylov, Kuzmin, Ionova, Yermakova, 2016), systems of physical training of the students having lag in the level of development of motive qualities (Kuzmin, Kopylov, Kudryavtsev, Galimov, Iermakov, 2015), systems of professionally important qualities formation of the personality in the course of sports activity for students (Kuzmin, Kopylov, Kudryavtsev, Tolstopyatov, Galimov, Ionova, 2016; Volkova, 2011, 2015), structure of diversified professional and applied physical training (Kokova, Kopylov, 2014), strategies for taking into account social and psychological characteristics of students of higher education institutions (Kokova, Kopylov, 2015; Volkova, 2014, 2015). Level of physical fitness, and, therefore, success of professional activity of the modern personality (Kudryavtsev, Kuzmin, Kopylov, 2014; Volkova, 2011, 2014) corresponds to psychophysiological indicators that are necessary to be considered in the course of training of specialists in higher education institutions of various profile (Kokova, Kopylov, 2016).

**Statement of the problem**

Currently the contradiction appears between the importance of psychoemotional stability formation in future professionals in various fields of the national economy and lack of conditions for its practical implementation in the system of higher education. Psychophysiological formation is known to be carried out by means and methods of psychophysical training. The psychophysical training is a set of exercises, which train mentality
by means and on the background of various physical actions. Exercises represent a complex of physical actions performed in the conditions of the increased danger (risk) and associated with considerable physical and mental tension. Physical indicators are influenced to a large extent by a mental factor (Abayev, Harry, 1991). Among methods of such training jumps in depth, through obstacles, acrobatic jumps, backfall, movement at height without any safety equipment, jumps from moving transport are the most common (Burns, & Rapee, 2016; Cortina, & Fazel, 2015; Shi, Liu, Wang, & Wang, 2015; Madhyastha, Latha, & Kamath, 2014).

Among psychophysical training exercises used in special higher educational institutions there are overcoming obstacles, hand-to-hand fight, military and applied swimming, inland navigation in difficult and extreme conditions against the background of great physical exhaustion, overcoming water barriers in day and night-time, development of motive qualities, battle marches, development of fighting techniques of single combats (Metelitsky, 2015). However, these methods demand significant amount of time, and the final results does not always correspond to the requirements of reality. The literature review has shown that process of psychoemotional stability formation of the person takes a long period whether it concerns an autogenic training, exercises for correction of height fear or other methods. All methods of formation of mental resistance to extreme activity which are presented in studies have one common sign - existence of control over an extreme situation by all sense organs (Neveu, Doron, Visier, Boiché, Trouillet, Dujols, & Ninot, 2012; Brockelman, & Scheyett, 2015; Giangrasso, & Casale, 2013; Kolkova, & Kokourova, 2014).

At the same time, it is known that from 70% to 90% of information is obtained by means of sight (Bragina, Dobrokhotov, 1988). The human sight (visual perception) is psychophysiological processing of the world image around objects by means of visual system which allows getting an idea of size, form (prospect) and color of objects, their relative positioning and distance between them. The sense of sight provides a person with the main information about the situation in which the person is involved. In this research it was assumed that in the conditions of movements visual control shutdown the formation of psychoemotional stability in the course of its training will take place more intensively.
In this regard the research objective was to develop the system of psychoemotional stability (PES) formation by means of movements visual control shutdown (MVCS) in the course of physical training containing exercises of multidirectional character.

**Materials and methods**

The research was conducted with the assistance of 35 students of pedagogical faculties of the higher education institutions at the age of 20-22 years, who were included into the basic medical group. The students were distributed into two study groups. The control group comprised 16 persons, who were asked to carry out a set of exercises with visual control. The experimental group comprised 19 persons, who were asked to carry out similar exercises without visual control over movements (blindfold). Experimental classes were given twice a week within the period of 8 weeks. In total 16 training classes were given. Duration of one class was 60 minutes in both groups of students.

Assessment of psychoemotional stability. First of all, run time with the maximum speed on the balance beam established on a floor was measured. Then the students carried out run on a balance beam at the height of 125 cm. The difference between run time on a low and high crossbeam was calculated. Minor difference between these two indicators corresponded to high psychoemotional stability demonstrated by the examinees.

Level of the current anxiety was measured in points, by means of a questionnaire, according to the following gradation: 1 – total anxiety, the respondent is frightened of non-overcoming problems; 2 - some concern, light anxiety, worry; 3 – feeling as held a little down, mild anxiety; 4 – generally self-assured, free from concern; 5 - full tranquility, extremely self-assured. The examinees needed to choose one from five offered options (Kokova, Kopylov, 2013).

The level of the main motive qualities formation was defined by means of pedagogical motive tests: a 30 m run, “shuttle” run of 3x10 m, a long jump, bending and extension of arms in lying position. Testing according to all tests was held at the beginning and upon termination of the experiment.

Training programme.

At the beginning of the training warm-up within 10 minutes (moves by hands and legs, slow run, squats, attacks, inclinations) was carried out. Then training programme
itself was implemented. Examinees of both groups carried out physical exercises at seven stations. Duration of the exercises at each station was 5 minutes. The execution of the exercises involved 30 seconds of activity and 30 seconds of rest (Gurevich, 1976). The examinees could choose the duration of the exercises themselves. During the execution of the exercises by students of the experimental group the safeguarding was carried out by their partners.

After the execution of the exercises at each station the examinees had a 2 minutes break in the prone position. Exercises at each station were executed as follows:

1. Jumps through a vaulting-horse 1.3 m high. The examinee settles down before a vaulting-horse, having put his/her hands on its surface. Then the swoop on a vaulting-horse in sitting position, and then dismount forward are carried out. After that the examinee turns facing a vaulting-horse and carries out one more jump in a similar way.

2. Climbing up 2.6 m high wall bars, hanging on straight arms and dismounting down. Duration of the exercise is 5 minutes.

3. Reception and depreciation by a stomach of the stuffed ball weighing 1 kg falling from height of 1.2 m. Duration of the exercise is 6 minutes. Starting position: a stuffed ball in the partner’s hands. Holding a ball with both hands, the partner releases a ball which has to land to the area of the stomach of the partner lying on a back.

4. Jumps over a 30 cm high barrier. Standing facing a barrier, the examinee executes an upward jump of both feet over the barrier, then he/she turns to face the barrier and executes one more jump. Duration of the exercise is individual.

5. Falling forward from a standing position on a 30 cm high hill of gymnastic mats in prone position with support on both arms. Duration of the exercise is individual.

6. Jumps over a trench using upward jump of both feet arriving on two legs. Two 40 cm high hills are built using the gymnastic mats, the distance between hills being 40 cm. The examinee executes an upward jump of both feet jump from one hill of mats to another one. After that turn on 180° and jump on other hill are made. Duration of the exercise is individual.
7. Running over a 10 m distance. There are two vertically placed gymnastic mats, the distance between the mats is 10 m. Running is carried out facing one of the mats to touch it, then the examinee turns round and runs 10 m to touch the second mat. The running speed is maximum.

Results and their discussion

Psychoemotional stability There was no statistically significant difference between the initial levels of psychoemotional stability in both groups (Table 1).

Table 1.
Psychoemotional stability test results in control (C) and experimental (E) groups of students at the beginning and at the end of the experiment (M ± m)

<table>
<thead>
<tr>
<th>The stage of experiment</th>
<th>Group</th>
<th>Difference</th>
<th>Reliability of difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>C</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13.7± 0.3</td>
<td>14.2± 0.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Final</td>
<td>C</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13.4± 0.3</td>
<td>12.3± 0.2</td>
<td>1.1</td>
</tr>
</tbody>
</table>

After carrying out the experimental work the representatives of the experimental group demonstrated significantly higher results than the control group subjects (p < 0.01) (Table 1).

Current anxiety. At the beginning of the experiment there was no statistically significant difference between the initial levels of the current anxiety (p > 0.05) (Table 2).

Table 2.
Test results on the current anxiety in control (C) and experimental (E) groups of students at the beginning and at the end of implemented experiment (M ± m)

<table>
<thead>
<tr>
<th>The stage of experiment</th>
<th>Group</th>
<th>Differences</th>
<th>Distinctions reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>3.6±0.2</td>
<td>3.7±0.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Final</td>
<td>3.4±0.3</td>
<td>2.3±0.2</td>
<td>1.1</td>
</tr>
</tbody>
</table>

At the end of the experiment the current anxiety in control group was significantly higher (p < 0.01) in comparison with the experimental group (see Table 2). Thus, subjective feelings of anxiety to some extent correspond to a test indicator of psychoemotional stability.

Motive readiness. At the beginning of the experiment the difference between the control group and the experimental groups was not revealed (Table 3).
Table 3.
The motive tests scores in control (C) and experimental (E) groups of students at the beginning of the experiment (M ± m)

<table>
<thead>
<tr>
<th>Tests</th>
<th>Group</th>
<th>Differences</th>
<th>Distinctions reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>t</td>
</tr>
<tr>
<td>Run on 30 m, s</td>
<td>C</td>
<td>4.6 ± 0.1</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>4.5 ± 0.1</td>
<td></td>
</tr>
<tr>
<td>Longjump, cm</td>
<td>C</td>
<td>212 ± 9.5</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>209 ± 10.0</td>
<td></td>
</tr>
<tr>
<td>Bending and extension of arms in lying position, n</td>
<td>C</td>
<td>15.8 ± 3.1</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>18.6 ± 4.6</td>
<td></td>
</tr>
<tr>
<td>&quot;Shuttle&quot; run of 3x10 m, s</td>
<td>C</td>
<td>8.3 ± 0.4</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>8.1 ± 0.3</td>
<td></td>
</tr>
<tr>
<td>Forward bend, cm</td>
<td>C</td>
<td>9.7 ± 2.9</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>9.1 ± 3.1</td>
<td></td>
</tr>
</tbody>
</table>

After carrying out the experiment the scores of the motive test in the students of the experimental group were significantly higher (p < 0.05), as it is shown in Table 4. However, no significant difference was revealed in the results of bending forward of a standing position.

Table 4.
The motive tests scores in control (C) and experimental (E) groups of students at the end of the experiment (M ± m)

<table>
<thead>
<tr>
<th>Tests</th>
<th>Group</th>
<th>Differences</th>
<th>Distinctions reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>t</td>
</tr>
<tr>
<td>Run on 30 m, s</td>
<td>C</td>
<td>4.2 ± 0.1</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>3.9 ± 0.1</td>
<td></td>
</tr>
<tr>
<td>Longjump, cm</td>
<td>C</td>
<td>218.6 ± 9.1</td>
<td>33.7</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>252.3 ± 11.6</td>
<td></td>
</tr>
<tr>
<td>Bending and extension of arms in lying position, n</td>
<td>C</td>
<td>21.3 ± 2.5</td>
<td>8.2</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>29.5 ± 2.9</td>
<td></td>
</tr>
<tr>
<td>&quot;Shuttle&quot; run of 3x10 m, s</td>
<td>C</td>
<td>8.0 ± 0.3</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>7.2 ± 0.2</td>
<td></td>
</tr>
<tr>
<td>Forward bend, cm</td>
<td>C</td>
<td>11.3 ± 1.6</td>
<td>4.6</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>15.9 ± 1.4</td>
<td></td>
</tr>
</tbody>
</table>

Implementation of standard motive tests is defined by, mainly, central nervous mechanisms that can serve as an explanation of improvement of motive readiness against the background of psychoemotional stability and the current anxiety.

**Conclusion**

1. During the experiment it was revealed that movements visual control shutdown not only authentically improves psychoemotional stability (p < 0.01) and reduces anxiety (p < 0.01), but also increases the level of students’ motive readiness (p < 0.05).

2. The obtained data give the grounds to recommend the use of the system of movements visual control shutdown (MVCS) in higher education to form psychoemotional stability in students.
3. Indicators of psychoemotional stability, current anxiety and motive readiness are interdependent, and this needs to be considered when forming training loads.

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